



ABO

SERIES 500

Class 150 // PN 6/10/16
DN 50–400 (NPS 2"–16")
Chemical industry
Aggressive media
Acids



PTFE LINED HIGH PERFORMANCE
BUTTERFLY VALVES

WWW.ABOVALVE.COM

DESIGN BENEFITS

SAFETY FEATURES

A key element of the ABO butterfly valve Series 500 is the sealing capsule, which forms the secondary seal. This capsule fully isolates the valve body and stem from the working media. The capsule is consisting of a stainless steel safety ring which is supplemented by a silicone energizer ring.

DISC

The one-piece shaft/disc as well as the safety seat are coated with PTFE. The thickness of the PTFE coating on the disc is at least 3 mm. All sealing surfaces are machined to precision.

ENERGIZER

An elastic energizer secures constant pressure around the perimeter of the liner.

FUNCTIONAL AREAS

The sealing element around the shaft (functional areas) is secured via precise machining and exact alignment of the sealing components.

INTERNATIONAL STANDARDS COMPATIBILITY

Top flange according to Standard ISO 5211 enables direct mounting of manual operators and power actuators. Longer necks of ABO butterfly valves result in insulation of ISO top flange (protection of mounted actuator).

PROTECTION AGAINST ABRASIVE PARTICLE INTRUSIONS

A duster in an „O“ ring shape protects shaft bearings against intrusion of abrasive particles.

SPRING LOADING STUFFING BOX

Loaded springs situated in the valve neck prevent axial movement of the shaft. A standard feature is a double seal on both shaft passages. The stuffing box is supplemented with a silicone energizer.

BALL SEALING PRINCIPLE

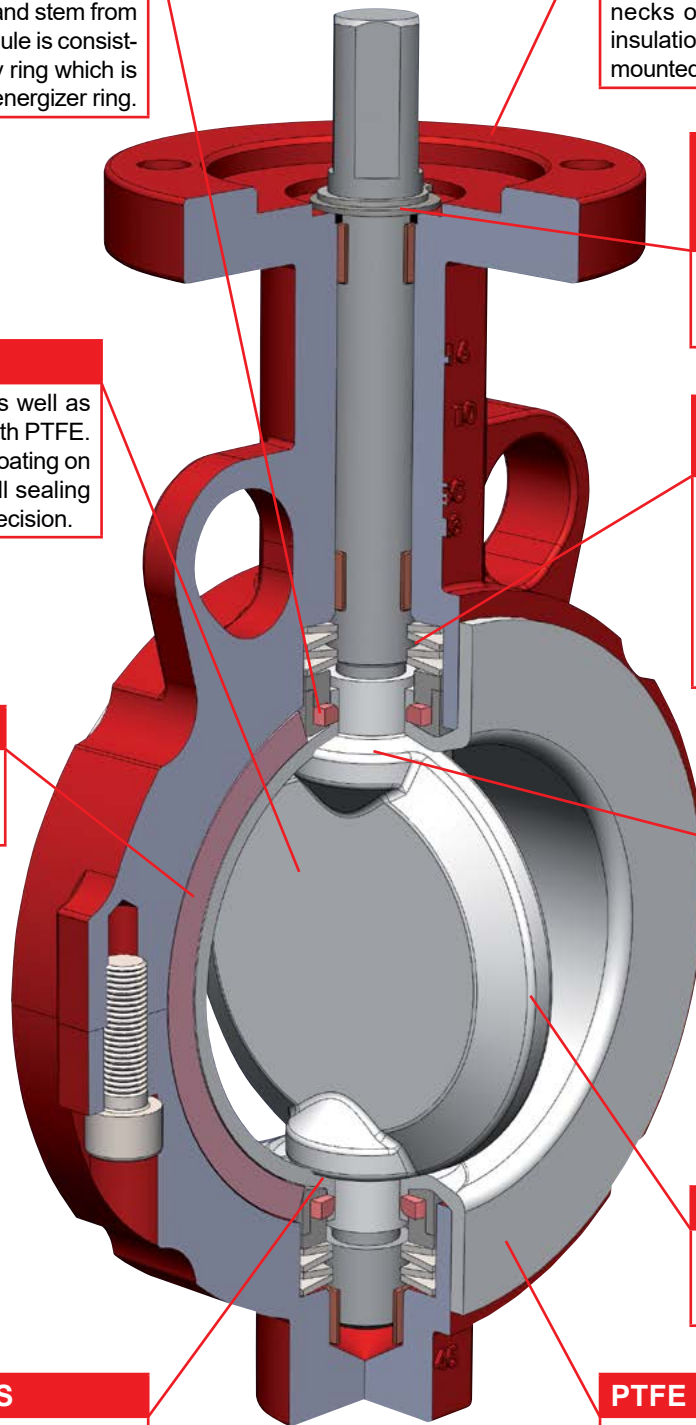
Sealing surface of the Teflon liner in the shaft area has a defined ball geometry which accurately reproduces the disc geometry, does not include critical transitions, and thus ensures long-term operations.

PROFILED DISC

A profiled disc assures lower pressure drops and higher Cv/Kv values.

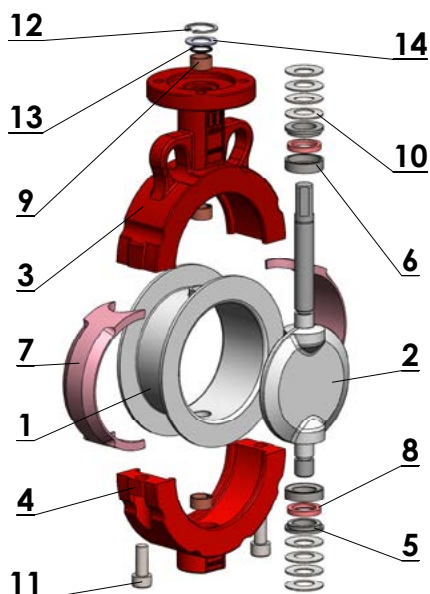
PTFE LINER

The Teflon liner is min. 3 mm thick and is manufactured via isostatic pressing. The sealing strips function as doubled-sided flange seals.



MATERIALS & TECHNICAL INFORMATION

DRAWING & MATERIALS



Item	Name	Material
1	Liner	PTFE
2	Disc	PTFE coated stainless steel 1.4469 / Stainless steel 1.4469 with polished edges
3	Upper body part	Ductile iron 0.7043 (GGG40.3)
4	Lower body part	Ductile iron 0.7043 (GGG40.3)
5	Pressure element	Stainless steel 1.4021 (AISI 420)
6	Seal capsule	Stainless steel 1.4021 (AISI 420)
7	Energizer	Silicone rubber / VITON
8	Ring	Silicone rubber
9	Bearing	Steel, PTFE coated
10	Disc spring	Carbon steel 1.8159
11	Screw	Stainless steel A4
12	Retaining ring	Stainless steel A2
13	O-ring	NBR
14	Lock washer	Stainless steel A2

Other material execution upon request. Please consult with us material selection suitable for various media.

ABO VIRGIN PTFE PROPERTIES

In order to assure long-life span and superior quality, all PTFE parts (seats as well as encapsulated discs) for ABO Series 500 valves are moulded from pure, virgin PTFE material. Virgin PTFE provides for an excellent chemical resistance and can be used with aggressive media. Typical characteristics of fluoropolymer resins include chemical inertness, exceptional dielectric properties, toughness and flexibility, low coefficient of friction, negligible water absorption and non-stick characteristics. All these properties provide increased protection against permeation of the line media. Further, low coefficient of friction reduces valve operation torque.

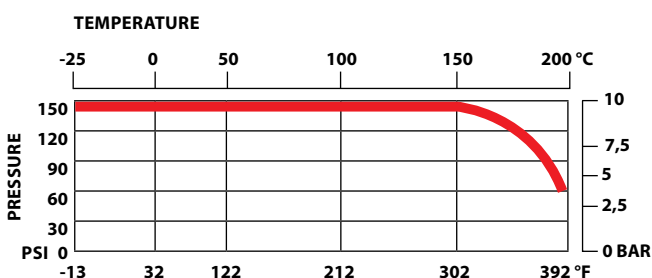
INSTALLATION BETWEEN FLANGES (DN 50–400)

Vers.	PN / DN	50	65	80	100	125	150	200	250	300	350	400
B	PN 6											
	PN 10											
	PN 16											
	Class 150											
	JIS 10 K											
	JIS 16 K											

standard

WORKING CONDITIONS

- Maximum working pressure: 10 bar
- Temperature range: max. -25 °C to +200 °C (-13 °F to +392 °F), depending on medium



COATING OPTIONS

ABO's standard product offers valve bodies with a high quality epoxy coating, providing excellent wear and corrosion resistance. ABO epoxy coating is executed in orange finish RAL 2002 with a minimum thickness of 80 µm. Based on customer requirement, other customer specific coatings or colors are available. ABO epoxy coating has the following features:

- Excellent corrosion and wear resistance
- Resistance of chemicals including diluted acids and alkalis, petroleum solvents, alcohols, greases and oils
- Resistance to humidity & water
- Resistance to ultraviolet radiation
- Excellent resistance to abrasion
- Impact resistance without chipping or cracking



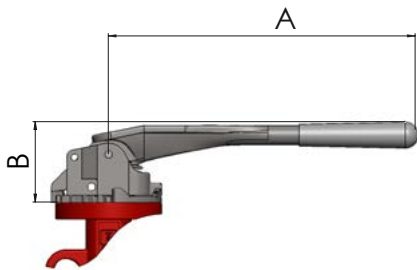
ACTUATION & TORQUES

ACTUATION POSSIBILITIES

All ABO handles, manual gear operators, pneumatic and electric actuators can be mounted directly to ABO butterfly valves. This feature eliminates the need for brackets or couplings, allows for simple installation in the field, minimizes possible misalignment, and decreases overall height.

HANDLEVER

For manual actuation, ABO offers levers in carbon steel material with protective coating for excellent corrosion, abrasion and impact resistance. A lever in stainless steel material is an option. ISO top flange connection is F05 for sizes DN 50 and 65, and F07 for sizes DN 80-200, respectively.

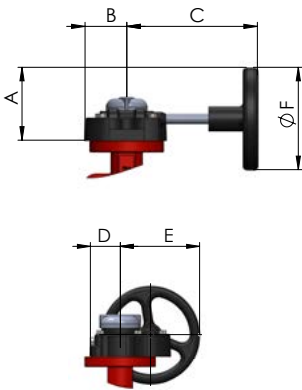


DN	mm	50-65	80-125	150-200	250
	inch	2"-2 1/2"	3"-5"	6"-8"	10"
A		270	270	362	750
B		75	80	90	105
Weight (kg)		1,24	1,24	1,4	2,2

Dimensions mentioned in mm, weight in kg.

MANUAL GEARBOX WITH HANDWHEEL

ABO gearbox series of manual actuators combines state of the art production technology, with cast iron and pressed steel construction, to provide a smooth and trouble-free operation for heavy duty on-off and throttling service of ABO valves. The rugged, cast iron body seal is weatherproof to IP 67. A self-locking gearing holds the valve in the desired position. Further features include a readily accessible handwheel, adjustable stopscrew for closed position, removable splined drive bush with indexing facility and a facility to lock the handwheel with padlock and chain. Gearboxes, as well as handlevers, can be supplemented with contacts for signalization of endpoints.



DN	mm	50-125	150-200	250	300	350	400
	inch	2"-5"	6"-8"	10"	12"	14"	16"
A		70	78	133	133	287	287
B		35	46	57	62,5	77,5	77,5
C		91	110	156	156	275	335
D		38	46	60	62,5	181	181
E		84	91	155	155	319	319
F		100	100	200	200	500	500
Weight (kg)		1,6	3,7	6,6	6,6	10	10,5

Dimensions mentioned in mm, weight in kg. Weight is approximate – total weight depends on the customer's selection of gearbox.

ACTUATORS

- PNEUMATIC ACTUATORS – ABO pneumatic actuators series 95 are rack and pinion, opposed-piston pneumatic actuators available in two versions: single acting spring-return & double acting.
- ELECTRIC ACTUATORS – ABO Series 97 electric actuators are designed for quarter-turn operating application. Electric actuators of 24V, 110V, 230V and 400V can be installed on ABO butterfly valves.

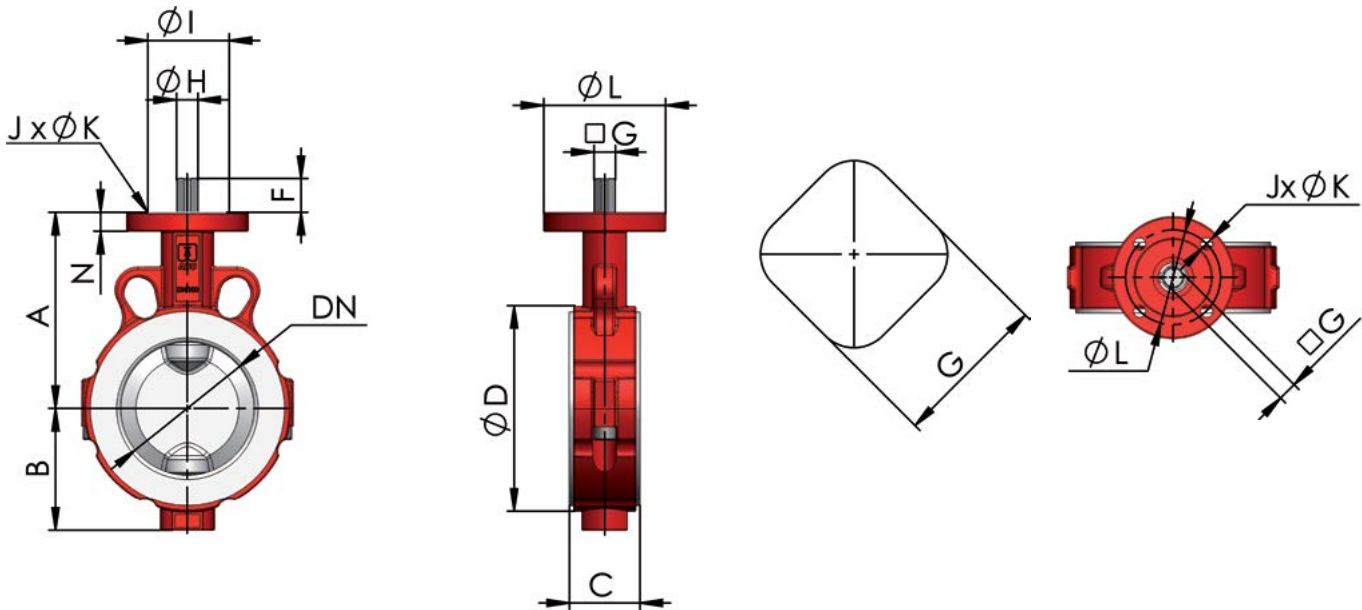
OPERATING TORQUES [Nm] vs. WORKING PRESSURE [bar]

DN	50	65	80	100	125	150	200	250	300	350	400
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
pMAX 10 bar	34	41	66	85	113	153	195	354	470	850	1 000

* pMAX – maximum allowable pressure

For pressure 10 bar – water at 20 °C only. Operating torques are mentioned without safety reserve.

DIMENSIONS



DN	mm	50	65	80	100	125	150	200	250	300	350	400	
	inch	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	
Version B	A	120	128	135	145	164	176,5	234	274	299	331	361	
Valve dimensions	B	61	74	78	90	106	126	152	186	214	245	280	
	C	43	46	46	52	56	56	60	70	76	78	102	
	D	96	115	131	152	181	207	257	314	364	408	468	
	E	106	115	131	152	181	207	257	314	364	408	468	
Endshaft dimensions	F	25	25	25	25	25	25	25	31	31	42	42	
	G	11	11	14	14	14	14	17	22	22	27	27	
	H	-											
Top flange	I	50	50	70	70	70	70	70	102	102	125	125	
	J	4	4	4	4	4	4	4	4	4	4	4	
	K	7	7	9	9	9	9	9	12	12	14	14	
Flange dimensions	L	70	70	90	90	90	90	90	125	125	155	155	
	M	-											
	N	14	14	14	14	14	14	14	14	18	20	20	20
	ISO flange	F05	F05	F07	F07	F07	F07	F07	F07	F10	F10	F12	F12
Weight (kg)		2,3	3,0	3,5	5,0	6,5	7,8	13,2	23,6	30,9	40,1	59,7	



EUROPEAN UNION
European Regional Development Fund
Operational Programme Enterprise
and Innovations for Competitiveness

All statements, technical information in this brochure are tentative and for general use only and do not constitute a recommendation or guarantee for any specific service or application requirement. Consult ABO representative or factory for specific requirements and material selection for your intended application. The right to change or modify product design or product without prior notice is reserved. Binding specification will be provided in each offer. ABO valve accepts no liability for damages caused by bad interpretation or use of the information included in this brochure.

30.4.201

Data subject to change.

Company HQ – Czech Republic:
ABO valve, s.r.o.
Dalimilova 285/54, 783 35 Olomouc
Tel.: +420 585 224 087
Email: export@abovalve.com
www.abovalve.com

USA:
ABO Controls, LLC
Houston, Texas
Tel.: +1 (281) 930-7126
Email: salesUSA@abovalve.com
www.abocontrols.com

Singapore:
ABO Valve Pte. Ltd.
Singapore
Tel.: +65 9169 4562
Email: lsw@abovalve.com
www.abovalve.com

Slovakia:
ABO Slovakia s.r.o.
Banská Bystrica
Tel.: +421 484 145 633
Email: aboslovakia@aboslovakia.sk
www.aboslovakia.sk

Bahrain:
ABO Middle East
Manama
Tel.: +973-3444 9065
Email: jimichen@abovalve.com
www.abovalve.com

United Arab Emirates:
ABO UAE
Abu Dhabi
Tel.: +971 56 9207964
Email: bharti@abovalve.com
www.abovalve.com

Germany:
ABO Armaturen GmbH
Mönchengladbach
Tel.: +49 2166 3101676
Email: salesDE@abovalve.com
www.abo-armaturen.de

Russia:
ABO ARMATURA LLC
Smolensk
Tel.: +7(4812) 240 020
Email: aboarmatura@yandex.ru
www.aboarmatura.ru

Brazil:
ABO do Brasil Válvulas
Industriais Eireli
Valinhos
Tel.: +55 11 4908 4444
Email: export@abovalve.com
www.abovalve.com

Ukraine:
ABO Ukraine LLC
Dnipro
Tel.: +38 056 733 95 70
Email: a.marushchak@abovalve.com
www.abovalve.com.ua

Turkey:
ABO Armaturen LTD STI
Istanbul
Tel.: +90-216 527 36 34
Email: m.sahin@abovalve.com
www.abovalve.com

China:
ABO Flow Control
Shanghai
Tel.: +86 13601522831
Email: wen@abovalve.com
www.abovalve.com

India:
ABO Controls Pvt. Ltd.
Mumbai
Tel.: +91 99 2002 9994
Email: dsouza@abovalve.com
www.abovalve.com