→ Series 40000

Product group diaphragm valves

Tank bottom valve
D.V0201XNL



FDA USP

SUITABLE FOR

Liquids	neutral and non-neutral	
Air, gases and vapours	neutral and non-neutral	
Steam		

EXAMPLES OF USE

Processes, plants and tanks in the food and pharmaceutical industries for neutral and non-neutral vapours, gases and liquids

- Biopharmaceuticals
- Pharmaceutical industry
- Food industry
- Dairies
- Breweries and beverage industry
- Cosmetics industry
- Medical technology
- Clean-Service applications

FEATURES

- Modular system for customer-specific solutions
- Compact design for confined installation spaces
- Versatile actuator range for specific requirements
- Defined diaphragm compression
- CIP/SIP capable (no retightening of bolts required)
- Controlled exhaust air flow possible
- Extensive adaptation options for accessories and components
- Manual actuators with retrofittable closing and stroke limitation
- Autoclavable (optional)

SPECIFICATION

Nominal pipe sizes
DN 4 - DN 65

Temperature range (operating medium)
-10 to +100 °C
Sterilisation with saturated steam max. 160°C depending on sealing material

System pressure
0 - 10 bar

Control pressure
4,5 - 7 bar

CONFORMITIES / TESTS

FDA – Code of Federal Regulations (CFR)	Title 21, Section 177.2600/177.1550
USP – Class VI	
EG 1935/2004 **EU 10/2011** **BSE/TSE** **EMA/410/01/Rev. 2**	

MATERIALS

Component	
Valve body*	available in different materials according to customer specifications
Diaphragms	made of soft elastomer or sandwich construction PTFE with soft elastomer

*Valve body available in various surface finishes.

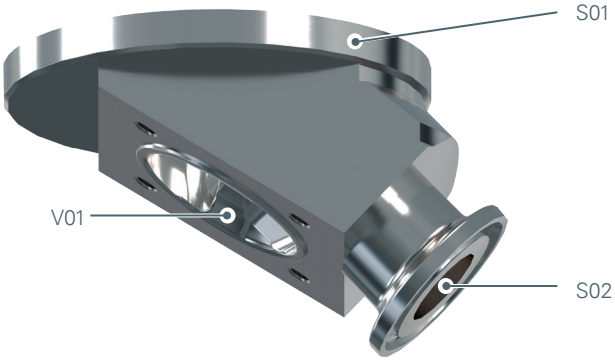
VALVE BODY

BODY DESIGN

Body design: Tank bottom valve
Connections: .02
Valve function: .01



D.V



Body design 0201XNL



Actuator



Shut-off diaphragm

MATERIAL / VALVE BODY MATERIAL

Material	Code
1.4435 BN 2 (δ Fe < 0.5%) / 316L ASME BPE DT3	**.3L**

Other materials on request.

SURFACE FINISH OF VALVE BODY

Inner surface[1]	ASME BPE	Hygiene class DIN11866	Code
Ra < 0.76 Internal surface mechanically polished	SF3	H3	**.8N**
Ra < 0.64 Internal surface mechanically polished + electro-polished inside and outside	SF6	HE3	**.8E**
Ra < 0.38 Internal surface mechanically polished	SF1	H4	**.4N**
Ra < 0.38 Internal surface mechanically polished + electro-polished inside and outside	SF4	HE4	**.4E**
Ra < 0.25 Internal surface mechanically polished + electro-polished inside and outside	-	HE5	**.2E**

[1] Surface finishes of custom valve bodies may be restricted in special cases.

Or any other surface finish that meets the Ra value (as per ASME BPE). The minimum Ra value for internal tube diameter < 6 mm is 0.38 µm. With these surfaces, the bodies are marked according to ASME BPE. The surfaces are only available for valve bodies that are not made from investment casting (.3L) and with connections (A...) according to ASME BPE. Not possible for internal diameters <6 mm. Ra according to DIN EN ISO 4288 and ASME B46.1

Others on request.

MANUFACTURING METHOD / SEMI-FINISHED PRODUCT

Manufacturing process / Semi-finidshed product	Code
Forged body	**.S**
Solid material body	**.V**

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TUBE CONNECTION (S01/S02)

PIPE STANDARD

Standard	Code
ASME-BPE/DIN-11866 R-C	A
BS-4825 Part 1	B
ASME-B36.19M Sch. 10s	C
DIN-11866 R-A (11850 R-2)	D
EN-10357 S-B (DIN 11850 R-1)	E
TBV-Weld area	T
EN-10357 S-B (DIN 11850 R-3)	F
Dairy tube	G
ISO-1127 / DIN 11866 R-B	I
JIS-G 3459	J
JIS-G 3447	K
SMS-3008	S

Others on request.

AVAILABLE NOMINAL DIAMETERS

Nominal diameter DN	4	6	8	10	15	20	25	32	40	50	65
	-	-	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
Code	004	006	008	010	015	020	025	032	040	050	065

LENGTH

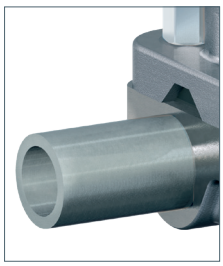
Length	Code
Standard connection length	N
Short connection length	S
Connection length of welding centring	Z

* see dimension table in technical document 'Body'.

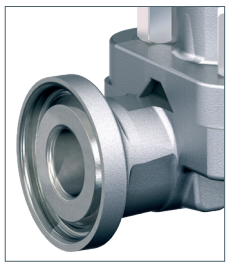
CONNECTION

Connection	Code
Weld end	W
Clamp ASME Contour	A
Flange with collar DIN 11864-2 Form A	B
Clamp DIN Contour	D
Flange EN 1092, PN 16, Form B, length FTF EN 558 Series 1, ISO 5752, basic series 1	F
Dairy pipe thread	G
Dairy tube, cone nozzle with union nut	K
Flange with groove DIN 11864-2 Form A	N

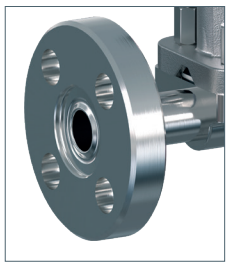
Others on request.



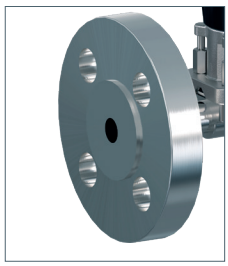
W = Weld end



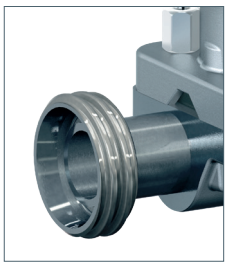
A = Clamp ASME Contour
D = Clamp DIN Contour



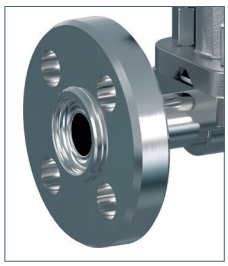
B = Flange with collar DIN 11864-2 Form A



F = Flange EN 1092, PN 16, Form B, length FTF EN 558 Series 1, ISO 5752, basic series 1



G = Dairy pipe thread



N = Flange with groove DIN 11864-2 Form A

Example of a connection code: **A015NW**
A = ASME-BPE/DIN-11866 R-C | **015** = Nominal width of connection DN15 | **N** = Standard connection length | **W** = Nozzle connection Weld end

EXAMPLES BOTTOM VALVE

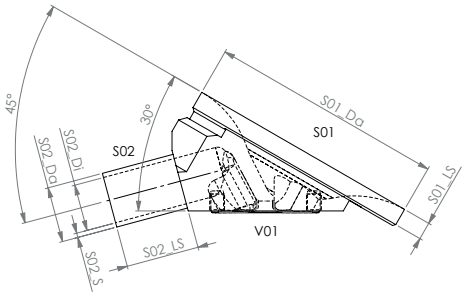


EXAMPLES WALL VALVE



DIMENSIONS

SERIES 40000 ■ VALVE BODY DIMENSIONS



V01 DS	S01 Da [mm]	S01 LS
010	50	5
015	80	6
020	110	9
025	120	11
032	150	11
040	160	11
050	200	13

Please refer to the customer drawing for the exact dimensions.

SHUT-OFF DIAPHRAGM

■ AVAILABLE DIAPHRAGM SIZES

DS	010	015	020	025	032	040	050

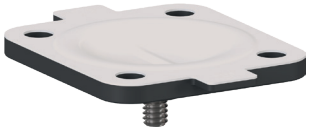
■ DIAPHRAGM MATERIAL

Diaphragm material			Code
EPDM	FDA + USP Class 6	Sterilisation temperature 140 °C / 180 min[1]	**.E1**
PTFE / EPDM	FDA + USP Class 6	Sterilisation temperature 150 °C[1]	**.FE**
PTFE / EPDM in two parts	FDA + USP Class 6	Sterilisation temperature 160 °C[1]	**.SE**

[1] Sterilisation temperature applies to saturated steam or superheated water.



.E1 = EPDM
DS 010 - DS 050



.FE = PTFE / EPDM
DS 010 - DS 050



.SE = PTFE / EPDM in to parts
DS 015 - DS 050

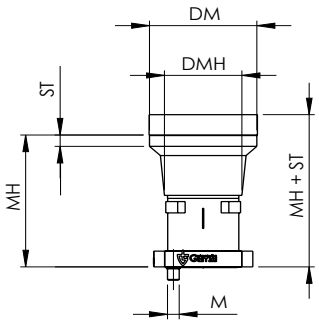
ACTUATOR

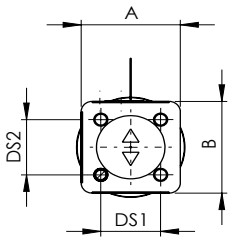
■ MANUAL ACTUATOR

Actuator	Code
Manual actuator, standard version	.MNN
Manual actuator, standard version with stainless steel handwheel	.MSN
Manual actuator, standard version with smooth stainless steel handwheel	.MSH
Handwheel actuator with spacer, without nut holder, smooth stainless steel handwheel	.HSH
Handwheel actuator with spacer, without nut holder, stainless steel handwheel	.HSN

Ambient temperature -10°C to 60°C and system pressure up to 10 bar.
Autoclavable up to 121°C.

Series 40000 ■ DIMENSIONS OF MANUAL ACTUATOR

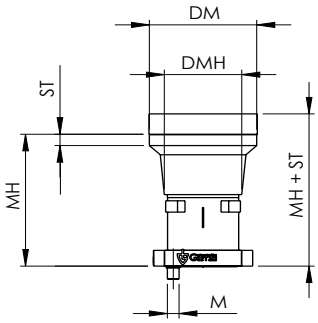


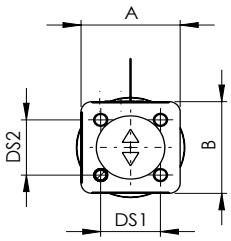


Type code	Diaphragm size DS		A	B	DS1	DS2	DM	DP	PH	PH2	MH	ST	C1	C2	M	Weight [kg]
Manual actuator .MNN																
010-.MNN-01	010		36,5	36,5	22,0	22,0	39,5	38,0	77,7	65,6	56,1	4,5	19,3	59,7	M4	0,16
015-.MNN-01	015		55,6	53,6	37,0	33,0	60,0	56,0	90,0	77,9	68,7	7,0	22,9	72,9	M5	0,5
020-.MNN-01	020		69,2	64,2	45,0	40,0	78,0	66,0	99,4	87,4	82,8	9,0	27,9	82,4	M6	0,95
025-.MNN-01	025		81,2	75,2	54,0	46,0	90,0	76,0	109,8	97,7	95,0	11,0	29,3	87,2	M8	0,95
032-.MNN-01	032		96,2	89,7	67,0	60,0	100,0	92,0	120,1	108,1	103,7	13,0	32,9	97,6	M8	1,7
040-.MNN-01	040		109,8	99,8	70,0	65,0	118,0	107,0	133,9	121,8	119,4	16,0	37,4	111,3	M10	2,26
050-.MNN-01	050		130,4	116,4	82,0	78,0	148,0	122,0	158,5	146,4	129,6	22,0	48,3	135,9	M12	3,74
Manual actuator .MSN																
010-.MSN-01	010		36,5	36,5	22,0	22,0	39,5	38,0	77,7	65,6	56,1	4,5	19,3	59,7	M4	0,16
015-.MSN-01	015		55,6	53,6	37,0	33,0	60,0	56,0	90,0	77,9	68,7	7,0	22,9	72,9	M5	0,5
020-.MSN-01	020		69,2	64,2	45,0	40,0	78,0	66,0	99,4	87,4	82,8	9,0	27,9	82,4	M6	0,95
025-.MSN-01	025		81,2	75,2	54,0	46,0	90,0	76,0	109,8	97,7	95,0	11,0	29,3	87,2	M8	0,95
032-.MSN-01	032		96,2	89,7	67,0	60,0	100,0	92,0	120,1	108,1	103,7	13,0	32,9	97,6	M8	1,7
040-.MSN-01	040		109,8	99,8	70,0	65,0	118,0	107,0	133,9	121,8	119,4	16,0	37,4	111,3	M10	2,26
050-.MSN-01	050		130,4	116,4	82,0	78,0	148,0	122,0	158,5	146,4	129,6	22,0	48,3	135,9	M12	3,74
Manual actuator .MSH																
010-.MSH-01	010		36,5	36,5	22,0	22,0	28,7	38,0	77,7	65,6	56,1	4,5	19,3	59,7	M4	0,16
015-.MSH-01	015		55,6	53,6	37,0	33,0	37,7	56,0	90,0	77,9	68,7	7,0	22,9	72,9	M5	0,5

Note: Drive components begin with the code D-AP-

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Type code	Diaphragm size DS		A	B	DS1	DS2	DM	DP	PH	PH2	MH	ST	C1	C2	M	Weight [kg]
Manual actuator .HSH																
010-.HSH-01	010		36,5	36,5	22,0	22,0	28,7	38,0	77,7	65,6	56,1	4,5	19,3	59,7	M4	0,16
015-.HSH-01	015		55,6	53,6	37,0	33,0	37,7	56,0	90,0	77,9	68,7	7,0	22,9	72,9	M5	0,5
Manual actuator .HSN																
010-.HSN-01	010		36,5	36,5	22,0	22,0	39,5	38,0	77,7	65,6	56,1	4,5	19,3	59,7	M4	0,16
015-.HSN-01	015		55,6	53,6	37,0	33,0	60,0	56,0	90,0	77,9	68,7	7,0	22,9	72,9	M5	0,5
020-.HSN-01	020		69,2	64,2	45,0	40,0	78,0	66,0	99,4	87,4	82,8	9,0	27,9	82,4	M6	0,95
025-.HSN-01	025		81,2	75,2	54,0	46,0	90,0	76,0	109,8	97,7	95,0	11,0	29,3	87,2	M8	0,95
032-.HSN-01	032		96,2	89,7	67,0	60,0	100,0	92,0	120,1	108,1	103,7	13,0	32,9	97,6	M8	1,7
040-.HSN-01	040		109,8	99,8	70,0	65,0	118,0	107,0	133,9	121,8	119,4	16,0	37,4	111,3	M10	2,26

Note: Drive components begin with the code D-AP-

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ACTUATOR

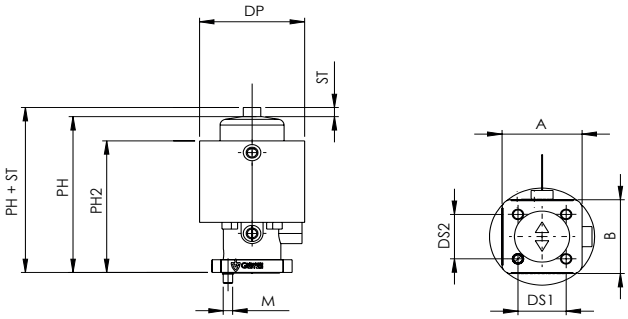
■ PNEUMATIC ACTUATOR

Actuator	Code
Pneumatic actuator NC (spring-to-close) | PS 10 bar Pst 4.5 bar -7 bar	.CNN
Pneumatic actuator NO (spring-to-open) | PS 10 bar Pst 4.5 bar -6 bar	.ONN
Pneumatic actuator NC compact version (spring-to-close) | PS 6 bar Pst 5.5 bar -7 bar	.RNN



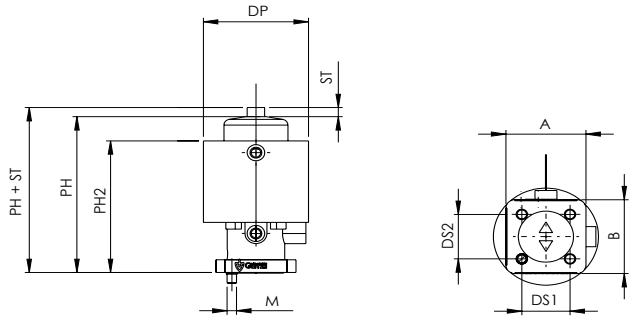
Control medium for pneumatic drives: neutral gases such as compressed air 4.5 bar or 5.5 bar at a maximum of 60°C.
Ambient temperature -10°C to 60°C and system pressure up to 10 bar.

Series 40000 ■ DIMENSIONS OF PNEUMATIC ACTUATOR



Type code	Diaphragm size DS	Options	A	B	DS1	DS2	DP	PH	PH2	ST	M	Control air connection	Weight [kg]	Air volume [cm³]
Pneumatic actuator .CNN														
010-.CNN-01	010	Stroke limiter, closing limiter, El.Po.Indicator	36,5	36,5	22,0	22,0	48,0	77,2	65,1	4,5	M4	M5	0,5	14
015-.CNN-01	015	Stroke limiter, closing limiter, El.Po.Indicator	55,6	53,6	37,0	33,0	66,0	90,5	78,5	7,0	M5	M5	0,9	38
020-.CNN-01	020	Stroke limiter, closing limiter, El.Po.Indicator	69,2	64,2	45,0	40,0	76,0	100,2	88,2	9,0	M6	M5	1,4	58
025-.CNN-01	025	Stroke limiter, closing limiter, El.Po.Indicator	81,2	75,2	54,0	46,0	92,0	115,5	103,4	11,0	M8	G1/8	2,3	93
032-.CNN-01	032	Stroke limiter, closing limiter, El.Po.Indicator	96,2	89,7	67,0	60,0	107,0	127,4	115,3	13,0	M8	G1/8	3,3	153
040-.CNN-01	040	Stroke limiter, closing limiter, El.Po.Indicator	109,8	99,8	70,0	65,0	122,0	144,3	132,2	16,0	M10	G1/8	4,7	222
050-.CNN-01	050	Stroke limiter, closing limiter, El.Po.Indicator	130,4	116,4	82,0	78,0	148,0	163,6	151,5	22,0	M12	G1/8	7,3	416
Pneumatic actuator .ONN														
010-.ONN-01	010	Stroke limiter, closing limiter, El.Po.Indicator	36,5	36,5	22,0	22,0	38,0	77,7	65,6	4,5	M4	M5	0,3	9
015-.ONN-01	015	Stroke limiter, closing limiter, El.Po.Indicator	55,6	53,6	37,0	33,0	56,0	90,0	77,9	7,0	M5	M5	0,6	40
020-.ONN-01	020	Stroke limiter, closing limiter, El.Po.Indicator	69,2	64,2	45,0	40,0	66,0	99,4	87,4	9,0	M6	M5	0,9	70
025-.ONN-01	025	Stroke limiter, closing limiter, El.Po.Indicator	81,2	75,2	54,0	46,0	76,0	109,8	97,7	11,0	M8	M5	1,3	95
032-.ONN-01	032	Stroke limiter, closing limiter, El.Po.Indicator	96,2	89,7	67,0	60,0	92,0	120,1	108,1	13,0	M8	G1/8	2,0	152
040-.ONN-01	040	Stroke limiter, closing limiter, El.Po.Indicator	109,8	99,8	70,0	65,0	107,0	133,9	121,8	16,0	M10	G1/8	2,7	247
050-.ONN-01	050	Stroke limiter, closing limiter, El.Po.Indicator	130,4	116,4	82,0	78,0	122,0	158,5	146,4	22,0	M12	G1/8	4,2	487

Note: Drive components begin with the code D-AP-



Type code	Diaphragm size DS	Options	A	B	DS1	DS2	DP	PH	PH2	ST	M	Control air connection	Weight [kg]	Air volume [cm³]
Pneumatic actuator .RNN														
010-.RNN-01	010	Stroke limiter, closing limiter, El.Po.Indicator	36,5	36,5	22,0	22,0	38,0	77,7	65,6	4,5	M4	M5	0,4	7
015-.RNN-01	015	Stroke limiter, closing limiter, El.Po.Indicator	55,6	53,6	37,0	33,0	56,0	90,0	77,9	7,0	M5	M5	0,8	26
020-.RNN-01	020	Stroke limiter, closing limiter, El.Po.Indicator	69,2	64,2	45,0	40,0	66,0	99,4	87,4	9,0	M6	M5	1,1	42
025-.RNN-01	025	Stroke limiter, closing limiter, El.Po.Indicator	81,2	75,2	54,0	46,0	76,0	109,8	97,7	11,0	M8	G1/8	1,6	65
032-.RNN-01	032	Stroke limiter, closing limiter, El.Po.Indicator	96,2	89,7	67,0	60,0	92,0	120,1	108,1	13,0	M8	G1/8	2,5	104
040-.RNN-01	040	Stroke limiter, closing limiter, El.Po.Indicator	109,8	99,8	70,0	65,0	107,0	133,9	121,8	16,0	M10	G1/8	3,6	173
050-.RNN-01	050	Stroke limiter, closing limiter, El.Po.Indicator	130,4	116,4	82,0	78,0	122,0	158,5	146,4	22,0	M12	G1/8	5,4	283

Note: Drive components begin with the code D-AP-

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D.V0201XWL.3L.8N.V _ T050NW _ A015SA _ 010.FE.RNN

SERIES 40000

Valve body housing	
D	Product group
.V	Complete valve
02	Connections
01	Valve functions
XWL	Variant / Version of the fitting
.3L	Material
.8N	Surface
.V	Semi-finished product

Connection S01	
T	Pipe standard
050	Nominal width
N	Connection length
W	Connection

Connection S02	
A	Pipe standard
015	Nominal width
S	Connection length
A	Connection

Actuator and diaphragms	
010	Diaphragm size
.FE	Diaphragm material
.RNN	Actuator

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Series 40000 ■ INDIVIDUAL SELECTION | VALVE BODY

Product group	Component	Number of connections	Number of valve functions	Variant	Material valve body	Surface quality valve body	Manufacturing process / semi-finished product
D	.V	02	01	XWL	.3L	.8N	.S
D	.V	02	01	XWL	.3L	.8E	.S
D	.V	02	01	XWL	.3L	.4N	.S
D	.V	02	01	XNL	.3L	.4E	.S
D	.V	02	01	XNL			
D	.V	02	01	XNL			

Series 40000 ■ INDIVIDUAL SELECTION | VALVE BODY / CONNECTION

Nozzle	Pipe nominal diameter	Nominal diameter	Length	Connection
S01	.T	050	N	W
S02	.A	015	S	A

Series 40000 ■ INDIVIDUAL SELECTION | DIAPHRAGM & ACTUATOR

DS Diaphragm size	Diaphragm material	Type of actuator
010	.FE	.RNN
020	.E1	.MNN

■ OPTIONS

Labelling on request	☐		☐
	☐		☐
	☐		☐
	☐		☐

■ CERTIFICATES / APPROVALS

C50	Consists of cover sheet, 2.1 certificate, MPZ 3.1 body, 2.2 pressure, Conf. EU, proof(s) membrane	☒	☐
C51	Tool certificate 2.2 – Roughness according to DIN EN 10204	☐	☐
		☐	☐

■ ENQUIRY

Copy and send to: order@goetze.de.

→ Specification sheet
Tank bottom valve D.V0201XNL | Product group 40000

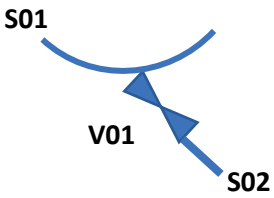
GOE project:	GOE item number:
Date:	

Customer/ interested person	Address	Contact	Project/order	Comments

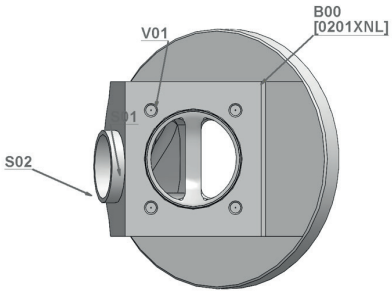
Valve specification

			System pressure		Temp-Max	Temp-Sterile	Temp-Min	Vacuum	Steam insert	Media
Delivery date w/b										
Product group 40000	**D**	**Diaphragm valve**	PS [bar]	Pst [bar]	Tmax [C]	Tst [C]	Tmin [C]	[%]	[%]	
☐ On-off valve ☐ Control valve										

Order code	**D.B0201XNL**	
Product	**.V**	Valve
Number of connections	**02**	
Number of valve functions	**01**	
Variant 1	**X**	Tank bottom valve
Variant 2	**N**	Standard
Variant 3	**L**	Left version
Body material		
Inner surface (medically exposed)		
Semi-finished product		



D.B0201XNL



Connections

		S01	S02
Pipe standard			
DN			
Connection length			
Connection			
Connection code			

Valve functions

		V01
Diaphragm size		
Sealing material		
Actuator		
Actuator_Option1		
Actuator_Option2		
Function code		
Key		

Contact	Goetze KG Armaturen	Email	Phone	Schlieffenstraße 42 71636 Ludwigsburg

Comments: