

APV DELTA VPN

NON-RETURN VALVE

FORM NO.: H324445 REVISION: UK-3

READ AND UNDERSTAND THIS MANUAL PRIOR TO OPERATING OR SERVICING THIS PRODUCT.



Content	Page
1. General Terms	2
2. Safety Instructions	2
3. Mode of Operation	2
4. Installation	3
4.1 Welding Instructions	
5. Dimensions	4
6. Technical Data	5
7. Materials	6
8. Maintenance	6
9. Service Instructions	7
9.1 Dismantling from the line system	
9.2 Dismantling of wear parts	
9.3 Installation of seals and assembly of the valve	
10. Trouble Shooting	8
11. Spare Parts Lists	8
VPN 12S DN25-100, 1"-4"	
VPN 1CL 2S 1"-4"	

1. General Terms

This instruction manual should be read carefully by the competent operating and maintenance personnel.

We point out that we will not accept any liability for damage or malfunctions resulting from the non-compliance with this instruction manual.

Descriptions and data given herein are subject to technical changes.

2. Safety Instructions



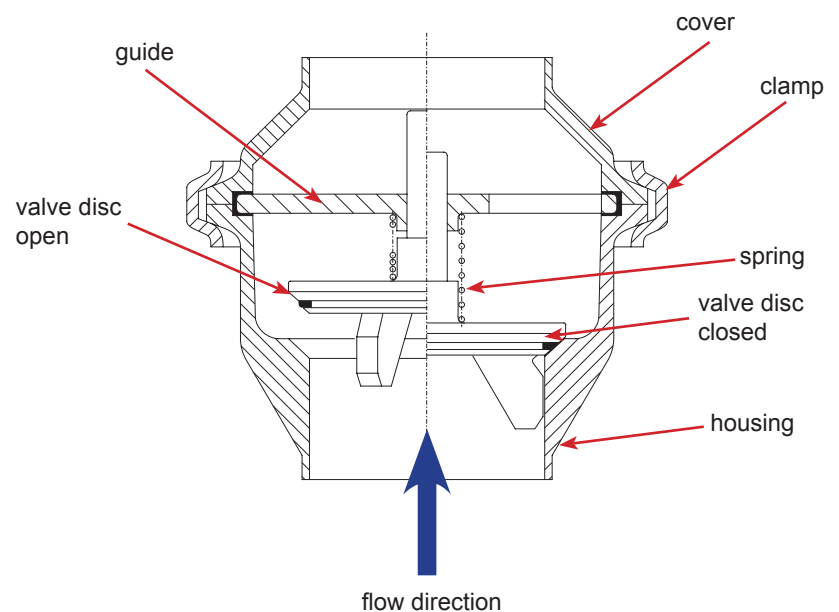
Danger!

- Before any maintenance of the valve, the line system must be depressurized and drained if possible.
- Observe Service Instructions to ensure safe maintenance of the valve.

3. Mode of Operation

The DELTA VPN valve is used in places at which the reflux into the pipelines must be prevented. The valve opens through the pressure of the liquid against the spring-loaded valve disc.

The closing process is introduced by the preloaded spring when the liquid flow into the flow direction stops.



4. Installation

- The VPN should be installed in vertical position with flow direction from the bottom to the top. In other installing positions, proper closing and/or emptying is not provided.
- For the valve design with two weld ends (DIN and ISO) a separate connection (e.g. clamp connection) must be provided in the continuing pipe system.
- The 1CL 2S version is already equipped with a clamp connection at the supply side so that the pipeline must also be provided with a clamp flange.

Attention! Observe welding instruction.

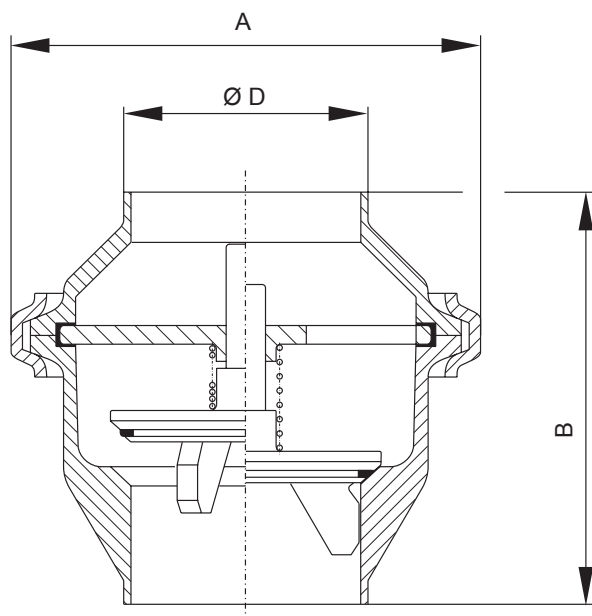
4.1 Welding instructions

VPN

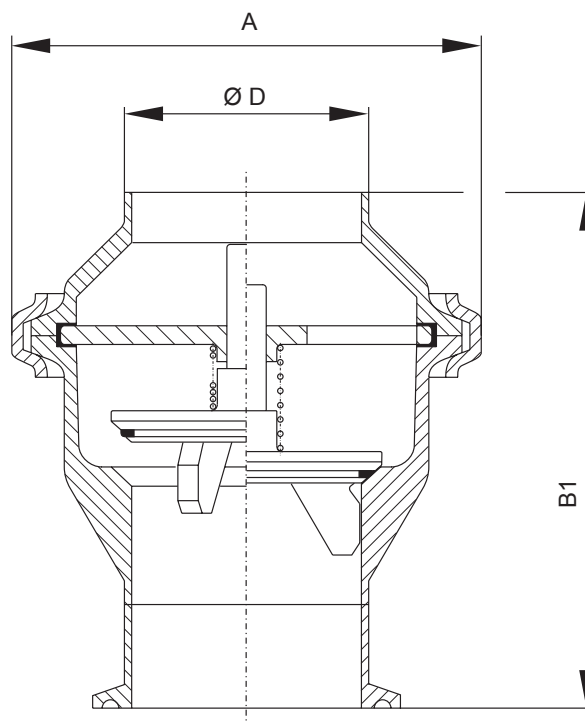
- Before welding, the guide with seal and the valve disc with spring must be dismantled from the housing.
- Welding should only be carried out by certified welders (DIN EN ISO 9606-1). (Seam quality DIN EN ISO 5817).
- The welding of the valve housings must be undertaken in such a way that the valve body is not deformed.
- The preparation of the weld seam up to 3 mm thickness must be carried out as a square butt joint without air. (Consider shrinkage!)
- TIG orbital welding is best!
- After welding of the valve housing or of the mating flanges and after work at the pipelines, the corresponding parts of the installation and pipelines must be cleaned from welding residues and soiling before operation of the valves to avoid damage to the valves and seals. If these cleaning instructions are not observed, welding residues and dirt particles can settle in the valve and cause damage.
- Any damage resulting from the non-observance of these welding instructions is not subject to our guarantee.

5. Dimensions

DELTA VPN II – DIN and ISO
with weld ends



DELTA VPN II 1CL 2S
with clamp connection and weld ends

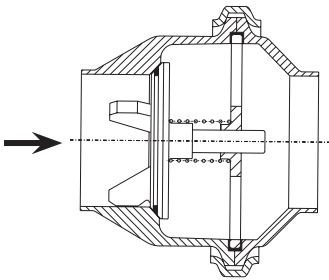


DN	A	B	B1	Ø D
25	72,5	71,2	92,7	29
40	86,0	80,2	101,7	41
50	100,0	87,5	109,0	54
65	129,0	100,7	122,2	70
80	160,0	131,2	152,7	85
100	156,0	141,0	162,5	104
Inch				
1"	72,5	71,2	92,7	25,4
1,5"	86,0	80,2	101,7	38,1
2"	100,0	87,5	109,0	50,8
2,5"	129,0	100,7	122,2	64,1
3"	160,0	131,2	152,7	76,7
4"	156,0	141,0	162,5	102,5

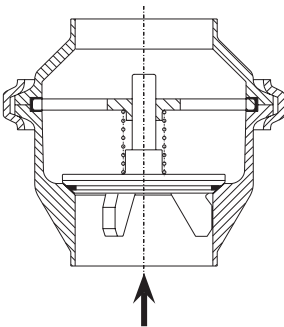
6. Technical Data

max. line pressure: 10 bar
max. operating temperature: 135 °C EPDM
short-term load: 140 °C EPDM

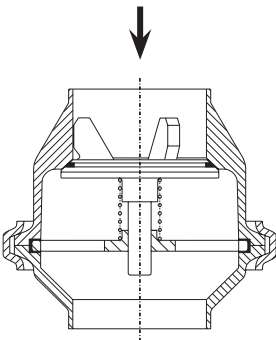
Installation position	Theoretical response pressure in (bar)
-----------------------	--



0,025



0,04



0,015

DN	Inch	kvs values in m³/h
25	1"	11
40		25
50		42
	2,5"	67
65		73
	3"	111
80		128

7. Materials

- Housing, valve disc, guide, cover: **1.4571, 1.4404**
(DIN EN 10088)
- Clamp: **1.4301**
(DIN EN 10088)
- Spring: **1.4436**
(DIN EN 10088)
- Seal standard design: **EPDM**

8. Maintenance

- The maintenance intervals depend on the corresponding application and are to be determined by the operator himself carrying out temporary checks.
- Stock keeping by the customer of certain spare seals is recommended.
For the valve service we supply complete seal kits..
- Exchange of seals is done according to service instructions
- **All seals must be provided with a thin layer of grease before their installation.**

Recommendation:

APV assembly grease for **EPDM**

(750 g / tin - ref.-No. 000 70-01-019/93; H147382)

(60 g / tube - ref.-No. 000 70-01-018/93; H147381)

Do not use grease containing mineral oil for EPDM seals!

- Assembly of valve see Service Instructions.

Seal kits for DELTA VPN

EPDM seal material

DN	ref.-No.	Inch	ref.-No.
25	H312562	1" (25)	H312556
40	H312563	1,5" (38)	H312557
50	H312558	2" (51)	H312558
65	H312564	2,5" (63)	H312559
80	H312565	3" (76)	H312560
100	H312566	4" (102)	H312561

9. Service Instructions

The item numbers refer to the spare parts drawings.

9.1 Dismantling from the line system

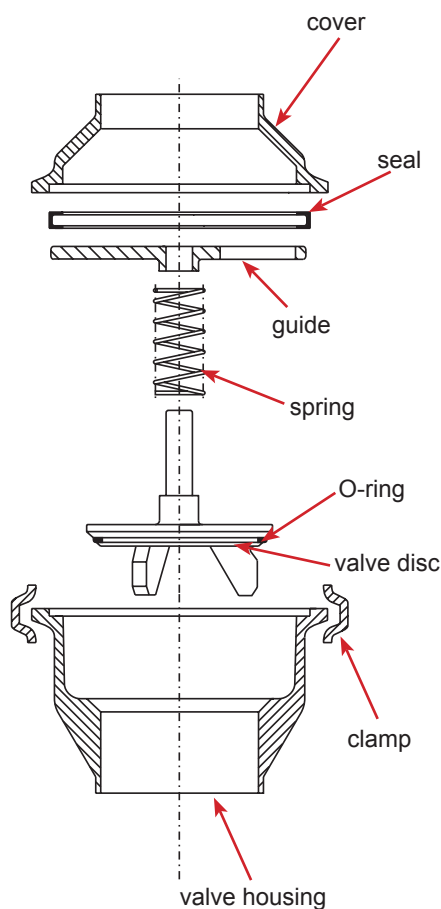
- a. Shut off the line pressure, drain the lines if possible.
- b. Remove the clamp (5).
- c. Dismantle the cover (8) from the housing (1).

9.2 Dismantling of wear parts

- a. Take the guide (7), valve disc (2) and spring (4) out of the housing.
- b. Remove the seal (6) from the guide.
- c. Dismantle the o-ring (3) from the valve disc. Stick into the o-ring with a pointed object (e.g. small screwdriver) and pull it out.

9.3 Installation of seals and assembly of valve

- a. Insert the slightly greased o-ring. Check the even fit of the seal after its installation.
- b. Insert the slightly greased seal into the guide. Check the even fit of the seal after its installation.
- c. Install the valve disc with spring and guide in the housing.
- d. Place the cover on the housing and fix it with the clamp.



10. Trouble Shooting

Valve does not close tightly:

Replace **O-ring (3)**.

Leakage between cover
and valve housing:

Check **seal (6)** prüfen, replace
deffective seal.

Valve does not work properly:

Check mobility of the valve
disc, replace damaged parts if
necessary.

11. Spare Parts Lists

(see annex)

The order numbers of the spare parts for the different valve designs
and sizes are indicated in the attached spare parts drawings with
corresponding lists.

When placing an order for spare parts, please indicate the following
data:

- required number of pieces
- order number
- designation

subject to change

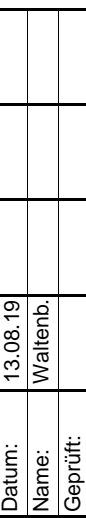
Datum:	13.08.19
Name:	Waltenb.
Geprüft:	



Blatt	2	von	3
-------	---	-----	---

RN01.102-1

Blatt	3	von	3
-------	---	-----	---



Blatt	3	von	3
-------	---	-----	---

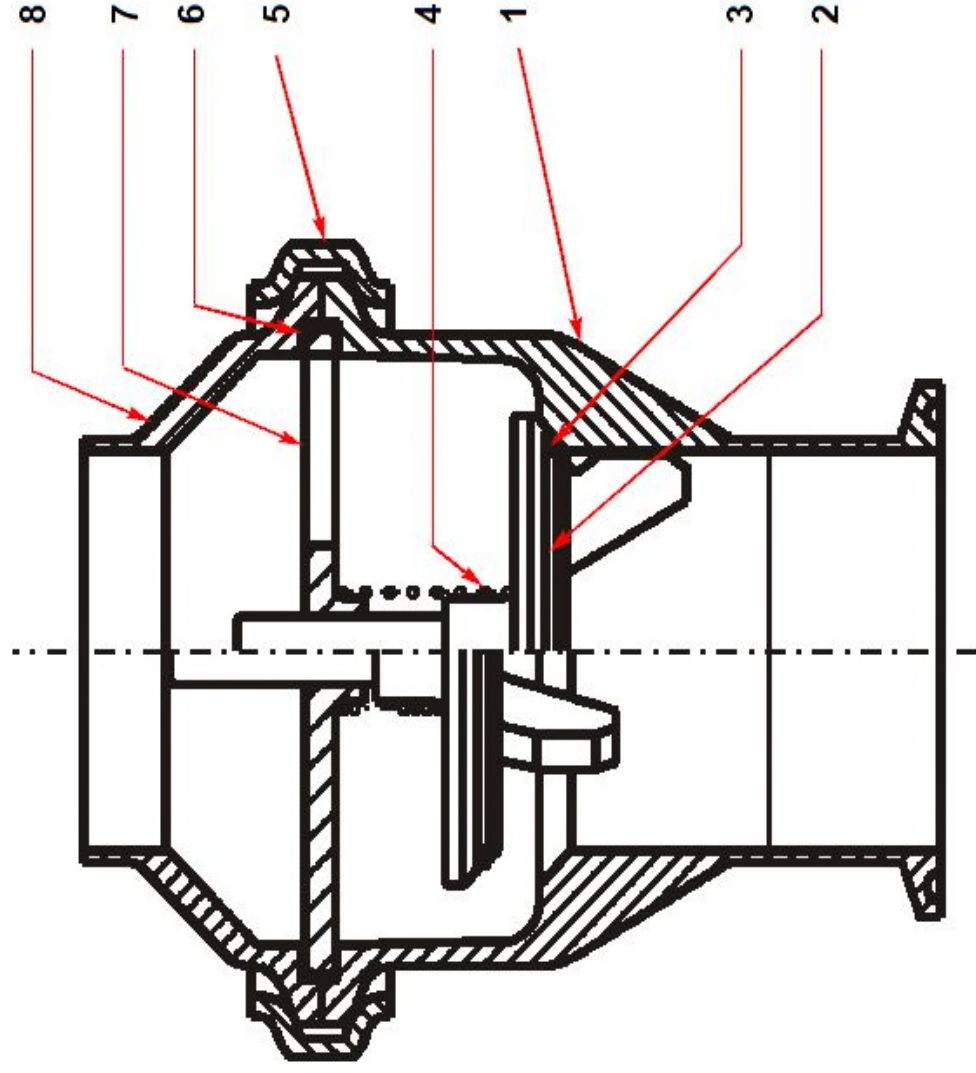
RN01.102-1

0	4"
Ir.	WS-Nr.
o.	ref.-no.
06	L267407
75	L188271
22	H470018
51	L772241
00	H121792
	L255195
	H470053
	L771170
	H209845
	L256058
	H470054
01	L254161
5/01	58-36-006/01
66	H312561

Ersatzteilliste: spare parts list

Rückschlagventil DELTA VPN 1CL 2S 1-4 Zoll
Non-return valve DELTA VPN 1CL 2S 1-4 inch


Datum:	15.08.19				
Name:	Waltenb.				
Geprüft:					
SPX [®]					
		Blatt		1	von 3
Datum:					
Name:					
Geprüft:					
RN01.102-2					



Weitergabe sowie Vervielfältigung dieser Unterlage, Verwertung und Mitteilung ihres Inhalts nicht gestattet, soweit nicht schriftlich zugestanden. Verstoß verpflichtet zum Schadensersatz und kann strafrechtliche Folgen haben (Paragraf 18 UWG, Paragraf 106 UrhG). Eigentum und alle Rechte, auch für Patenterteilung und Gebrauchsmustereintragung, vorbehalten. SPX Flow Technology Germany GmbH.

Ersatzteilliste: spare parts list

Rückschlagventil DELTA VPN 1CL 2S 1-4 Zoll
Non-return valve DELTA VPN 1CL 2S 1-4 inch

Ersatzteilliste: spare parts list													15.08.19 Waltenb.					
Rückschlagventil DELTA VPN 1CL 2S 1-4 Zoll													Blatt 2 von 3			RN01.102-2		
Non-return valve DELTA VPN 1CL 2S 1-4 inch																		
pos.	Menge	Beschreibung	Material	DN25	1"	DN40	1,5"	DN50	2"									
item	quantity	description	material	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.									
1	1	Ventilgehäuse Valve body			L188235		L188236		L188237									
2	1	Ventilteller Valve flap			L194046 H470043		L194047 H470044		L188276 H470023									
3	1	O-Ring O-ring	EPDM		58-06-078/64 H121794		L772234 H209906		L772236 H209908									
4	1	Feder Spring			L254905 H470052		L254905 H470052		L254690 H470045									
5	1	Gelenkklemme Clamp			L169847 H209620		L169848 H209621		L169849 H209622									
6	1	Dichtung Seal	EPDM		L771167 H209843		L771168 H209844		58-33-477/01 H339158									
7	1	Führungsscheibe Guide disc			L259784 H470055		L259785		L259786 H313590									
8	1	Deckel Cover			L254865		L254866		L254867									
							</											

Datum:	15.08.19
Name:	Waltenb.
Geprüft:	

[illegible][illegible]

APV DELTA VPN

NON-RETURN VALVE



SPX FLOW

Design Center

Gottlieb-Daimler-Straße 13
D-59439 Holzwickede, Germany
P: (+49) (0) 2301-9186-0
F: (+49) (0) 2301-9186-300

SPX FLOW

Production

Stanisława Jana Rolbieskiego 2
PL - 85-862 Bydgoszcz, Poland
P: (+48) 52 566 76 00
F: (+48) 52 525 99 09

SPX FLOW reserves the right to incorporate the latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this manual, are provided for your information only and should not be relied upon unless confirmed in writing. Please contact your local sales representative for product availability in your region. For more information visit www.spxflow.com.

ISSUED 08/2019 - Translation of Original Manual

COPYRIGHT ©2019 SPX FLOW, Inc.