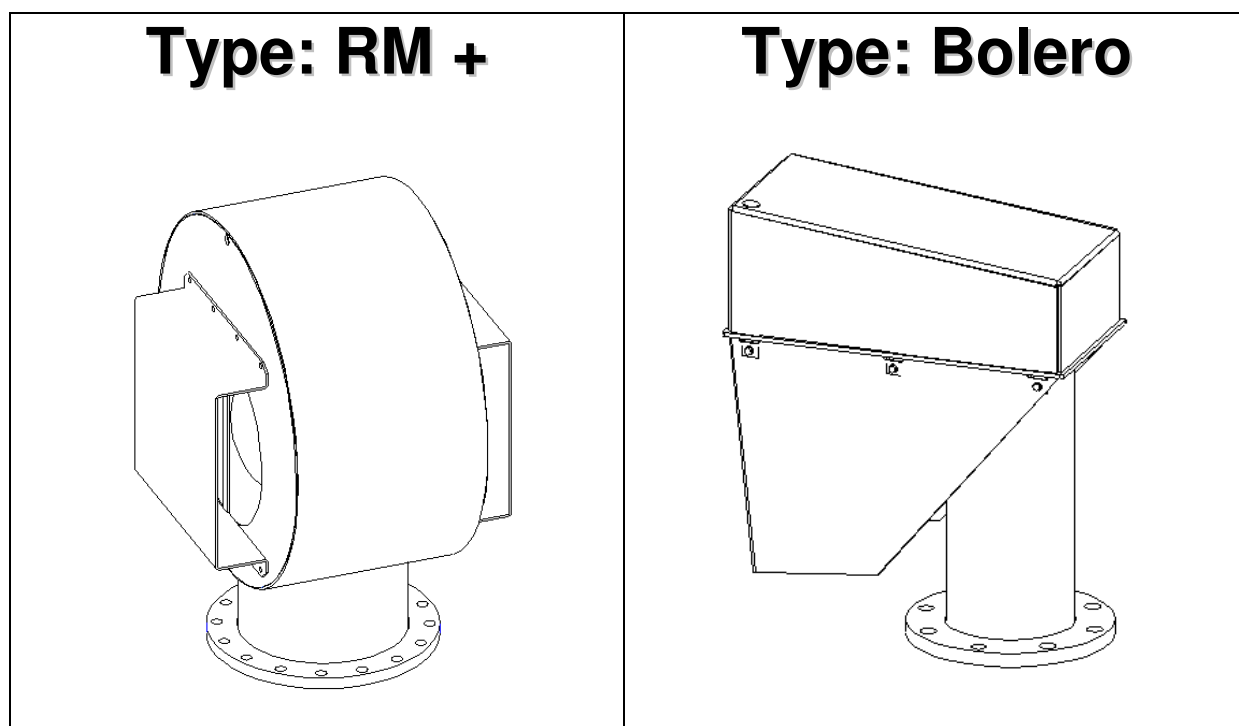


Instructions & Maintenance Manual.

Incl. spare parts list.



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Instructions & Maintenance
Manual
Tank Vent Check Valves.

WINE L B.V.

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2. General information

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For the world wide network of agents, dealers and service support centres
please visit our web-site for morde information.

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3. General product information:

3.1 The **WINEL B.V. Tank Vent Check valves** are designed and tested for a long and trouble-free lifetime. However, to keep the valves in the best possible condition we recommend maintenance as per enclosed maintenance instructions.

3.2. WINEL B.V. Tank Vent Check valves types RM ® and BOLEREO ® are made of the finest materials in state-of-art manufacturing facilities.

Please understand that the **WINEL B.V. Tank Vent Check valves** have been installed by the shipyard facility and will be used according owners instructions. As a result Winel B.V. does not necessarily know the detailed application of the **WINEL B.V. Tank Vent Check valves**. In respect to that fact WINEL B.V. cannot be held responsible for any damage to the ship, its crew and/or its contents.

For the above-mentioned reason, installation and operating personnel should carefully read the instructions on integrated systems before using the **WINEL B.V. Tank Vent Check valves**.

3.3. WINEL B.V. Tank Vent Check valves work by means of a PE or SS (stainless steel) floating ball situated in the ball holder compartment. *In case* (sea-) water enters the **WINEL B.V. Tank Vent Check valve** the ball floats up to the Neoprene seat and closes the tank.



3.4. WINEL B.V. Tank Vent Check valves can be used on amongst others Ballast water tanks, Drinking water tanks, Fuel oil tanks, Lubricating Oil tanks, Grey water tanks, to let air flow in and out the tank while preventing overcoming (sea-) water to enter the tanks.

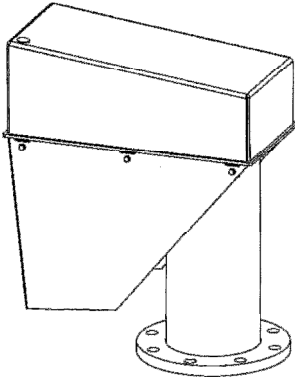
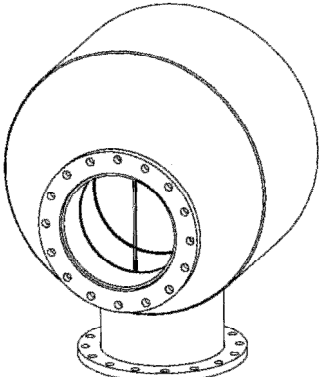
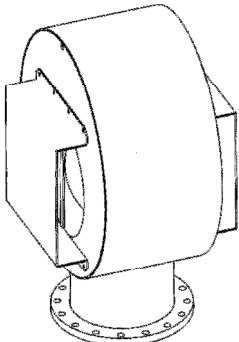
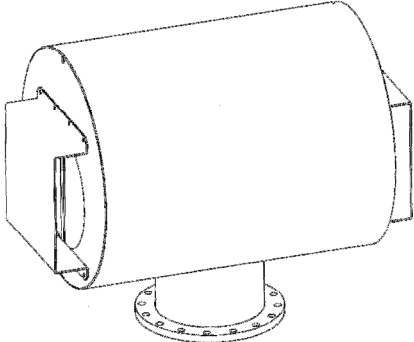
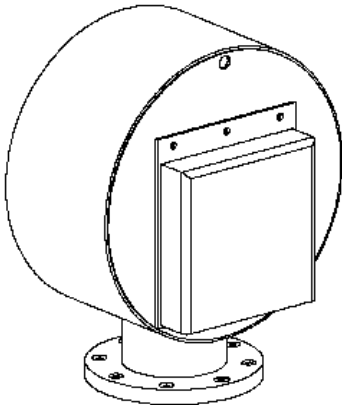
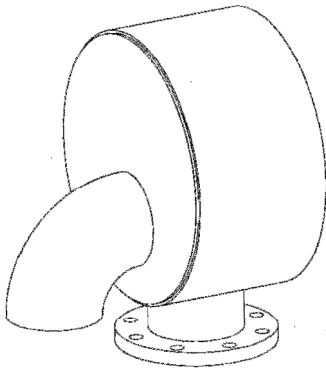
WINEL B.V. Tank Vent Check valves should **NEVER** be used for any other purpose then indicated in these instructions. In case of doubt, you are advised to consult Winel B.V. and/or the surveyor responsible.



3.5. WINEL B.V. Tank Vent Check valves are not designed for overflow purposes of fluids. While filling a.o. the ballast tanks, the responsible officer on the vessel should prevent an overflow situation. In case of frequent or continuous overflows with fluids the Neoprene seats and the floating balls may be damaged

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4. Types of Winel B.V. tank vent check valves

	
Bolero	RMO
	
RM1	RM2
	
RMD	RMOE

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5. Safety and Warranty

5.1. Abbreviations and symbols.

	This symbol denotes safety precautions, the non-observance of which can endanger persons and the environment.
	This symbol denotes safety precautions, the non-observance of which can endanger persons by electrical voltage.
	This symbol marks an important note for the proper use of the system. The non-observance of these notes can lead to damage or failures.
	User tips and particularly useful information follow this symbol.



5.2. General safety instructions.

- Always READ INSTRUCTIONS BEFORE OPERATING any WINEB B.V. product. **Note:** NOT following the instructions can endanger persons and the environment.
- Be aware that screens installed in the valves might freeze in winter conditions. Always check the free airflow of the valves, *especially* before filling or emptying any tanks.
- *Be aware that dust etc might pollute screens installed in the valves. Always check the free airflow of the valves, especially before filling or emptying any tanks.*



5.3. Use of replacement- and spare parts.

Use only original WINEB B.V. parts or WINEB B.V. recommended parts. The use of any other kind of parts may result in unsafe operations and severe damage to equipment, operating personnel and the environment. All damages resulting from using non-original parts are beyond the responsibility of WINEB B.V.

5.4 WINEB B.V. will only accept warranty claims if the maintenance instructions are carefully followed and original **Wineb B.V.** parts have been used. *In case of neglected maintenance procedures and mounting non-Wineb B.V. parts, WINEB B.V. will not accept any responsibility. Please note that a proper execution of these maintenance instructions is the interest of the ship's – and its crew's safety and reliability.*

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6. Installation, assembly- and disassembly instructions.



6.1 Installation

6.1.1. Type: RM / RMO / RM / RMOE;

- The valves have to be fitted properly on the flanges using fitting bolts in all boltholes.
- Make sure a proper gasket is fitted between the two flanges.
- The valves have to be fitted in such a way that the in-/outlet is not blocked or *hindered* to allow free flow.
- Always install the *valves in accordance to the class society regulations*.

6.1.2. Type Bolero:

- The valves have to be fitted properly on the flanges using fitting bolts in all boltholes.
- Make sure a proper gasket is fitted between the two flanges.
- The valves have to be fitted in such a way that the in-/outlet is not blocked or hindered to allow free flow.
- Always install the valves in accordance to the class society regulations.
- Always install the valve in such a way that the “hood” is facing forward (See fig. 6.1.2.1).



If the valves need to be painted, make sure any screen is covered or removed before painting. Paint on the *screen can block, but will most certainly reduce, the capacity of the valve and it's flame-retarding function. Uncover and clean the screen before replacing it after painting.*

6.2 Dis- and assembly:

6.2.1 Type RM etc.

See fig. nr 6.2.1.2

6.2.2 Type Bolero

See fig. nr 6.2.1.3

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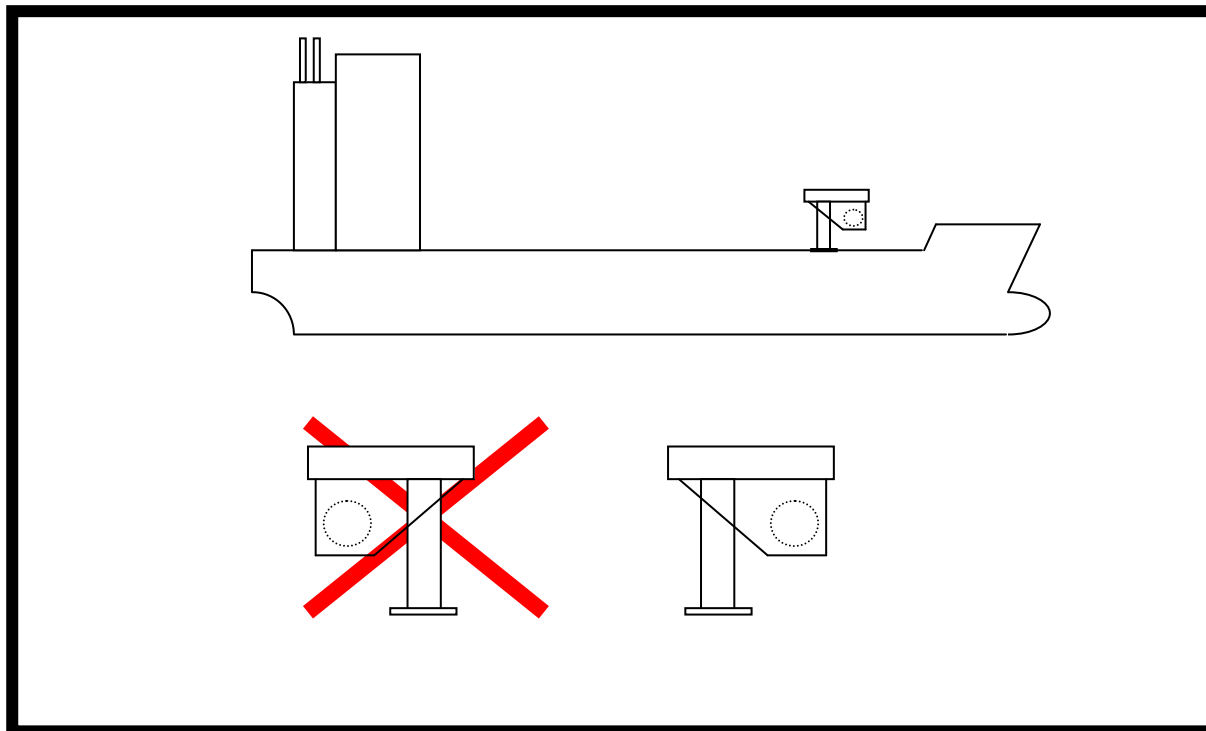


Fig. 6.1.2.1

“HOOD” of BOLERO always facing forward.

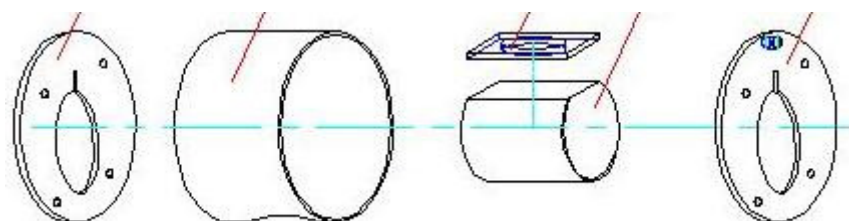


Fig. 6.1.2.2

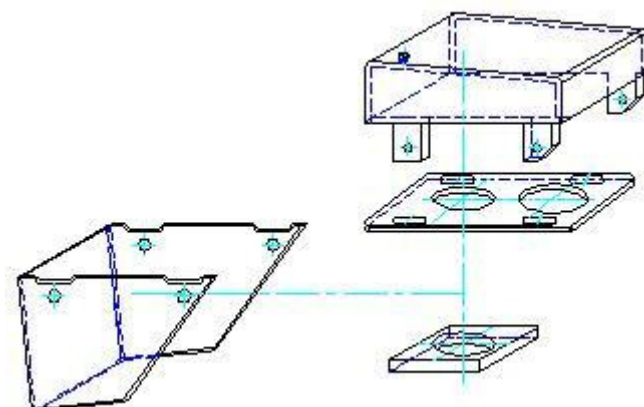


Fig. 6.1.2.3

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7. Basic Operation Characteristics.

WINEL B.V. Tank Vent Check valves work by means of a PE or SS (stainless steel) floating ball situated in the ball holder compartment. When seawater enters the **WINEL B.V. Tank Vent Check valve** the ball floats up to the Neoprene seat, closing the tank.



The floating balls and Neoprene gaskets are subject to wear and tear. Check operation of the parts regularly. The **Winel B.V. Tank Vent Check valves** are designed and tested for a long and trouble-free lifetime. However to keep the valves in the best possible condition under the corrosive conditions at sea keep all metal part well coated.

7.1. Type RM / RMO:

For velocity and pressure characteristics see from page 22

7.2. Type Bolero:

For velocity and pressure characteristics see from page 22

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8. Recommended regular Maintenance:

8.1. ROUTINE MAINTENANCE & INSPECTION TABLE

Item	monthly	1 year	2 years	6 years	8-10 years
Screen	●	● ■	● ■	◆	
Seat	●	●	● ■	◆	
Float ball	●	●	●	◆	
Complete valve					◆

- = inspection / replace when damaged ■ = clean
◆ = replace

This is a recommended maintenance - and inspection table for general use. In case of special conditions, the inspection frequency has to be intensified. Screens may become polluted sooner, therefore we recommend regular sampling of screens. *In case of hindering pollution on the screens, intensify the screen-cleaning table.* This frequency has to be determined by the ship's management

8.2. Inspection of the float ball and seal

While inspecting the float ball also inspect the neoprene seal inside the top of the valve. The seal is a neoprene ring glued to the valve. If the floating ball is damaged, replace it. If the seal has been damaged or if it is loose, replace it.

8.3. Steps to take (also see Chapter 6.2.)

- 1) Remove one of the cover plates on one of the sides of the valve.
- 2) Remove the screen if present.
- 3) Take out the float ball, inspect for surface damages and check if the float ball is still round.
- 4) If the float ball has been damaged, replace it.
- 5) Mount the cleansed screen and cover plates, use new bolts.
- 6) Make sure the screen is properly mounted.

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During load line-surveys/classification the valves have to be examined upon correct functioning. In practice this means that the valves have to meet the following requirements:

- ➔ The valves may not have been rusted through
- ➔ The ball has to be in good condition
- ➔ The seat has to seal
- ➔ If present the screen may not have been painted tight or polluted by other substances

To examine the valves upon these requirements mind the following:

- The cover plate of type RM must be removed
- The ball holder of type Bolero must be removed



If the valve has been damaged by rust or corrosion check for holes in the valve body. When holes are discovered the valve has to be replaced.

8.4. Exchange of the neoprene seat

- Remove the used seal.
- Remove the glue-remainder with a filling-knife or by sandpapering.
- Clean both surfaces by sandpapering carefully.
- Both surfaces need to be dry, dust free and grease free.
- Mix the glue and hardener.
 - The proportion hardener: *glue equals to 1:20.*
 - **Safety precautions: wear suitable gauntlets do not inhale vapour.**
- Apply the glue with a paintbrush or spatula on both surfaces (the rubber seal and the surface of the valve). The best adhesion of the glue on both surfaces will be achieved in *15-30 minutes drying time* after adding the hardener.
- It is recommended to apply the glue twice on both surfaces with a short break of 10 minutes.
- Wait until the glue gets sticky (approximately 10 minutes).
- Apply the seal on the valve.

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For reasons of safety, complete replacement of the valve is recommended after 8-10 years.



Note:




**Repair costs can go beyond
purchasing costs of a new valve.**

**Please contact WINE B.V. sales department or your
local representative for up-dated price information.**

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9. SPARE PARTS

 <p>Float ball See PE Float Balls and Stainless Steel Float Balls</p>	 <p>Seal See Neoprene seals 10 mm</p>	 <p>Glue, two-components, base and hardener See Glue</p>
 <p>Repair kit The repair kits consist of float balls, seals and taptipe bolt sets See Repair kits</p>		 <p>Cover plate steel galvanised (example type RM) See Cover Plates Steel Galvanised</p>
 <p>Screen kit for type Bolero The screen kits consist of screens and taptipe bolt sets See Screen kits</p>	 <p>Screen kit for remaining types The screen kits consist of screens and taptipe bolt sets See Screen kits</p>	

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9.1. PE Float Balls

Size	Suitable for tank vent check valve type ...	Article code
50 mm		9553.1010.050
70 mm	Bolero DN 40 / DN 50	9553.1010.070
75 mm		9553.1010.075
85 mm	RM / RMO/E DN 40 / DN 50; Bolero DN 65	9553.1010.085
100 mm	Bolero DN 80	9553.1010.100
115 mm		9553.1010.115
120 mm	RM / RMO/E DN 65 / DN 80	9553.1010.120
130 mm	Bolero DN 100	9553.1010.130
145 mm	RM / RMO/E DN 100	9553.1010.145
150 mm		9553.1010.150
155 mm	Bolero DN 125	9553.1010.155
175 mm		9553.1010.175
185 mm	RM DN 125 / DN 200; RMO/E DN 125; Bolero DN 150	9553.1010.185
240 mm	RM DN 150 / 175 / 250 RMO/E DN 150 / 175 Bolero DN 200	9553.1010.240
300 mm	RM DN 300 RMO/E DN 200 Bolero DN 250 / DN 300	9553.1010.300
325 mm	RM DN 350 / DN 400 RMO/E DN 250 Bolero DN 350	9553.1010.325
340 mm		9553.1010.340
360 mm	RM DN 450 RMO/E DN 300	9553.1010.360
400 mm		9553.1010.400

Prices on request

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9.2. Stainless Steel Float Balls

Size	Suitable for tank vent check valve type ...	Article code
50 mm		9553.1050.050
70 mm	Bolero DN 40 / DN 50	9553.1050.070
75 mm		9553.1050.075
85 mm	RM / RMO/E DN 40 / DN 50; Bolero DN 65	9553.1050.085
100 mm	Bolero DN 80	9553.1050.100
115 mm		9553.1050.115
120 mm	RM / RMO/E DN 65 / DN 80	9553.1050.120
130 mm	Bolero DN 100	9553.1050.130
145 mm	RM / RMO/E DN 100	9553.1050.145
150 mm		9553.1050.150
155 mm	Bolero DN 125	9553.1050.155
175 mm		9553.1050.175
185 mm	RM DN 125 / DN 200; RMO/E DN 125; Bolero DN 150	9553.1050.185
240 mm	RM DN 150 / 175 / 250; RMO/E DN 150 / 175; Bolero DN 200	9553.1050.240
300 mm	RM DN 300; RMO/E DN 200; Bolero DN 250 / DN 300	9553.1050.300
325 mm	RM DN 350 / DN 400; RMO/E DN 250; Bolero DN 350	9553.1050.325
340 mm		9553.1050.340
360 mm	RM DN 450; RMO/E DN 300	9553.1050.360

Prices on request

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9.3. Neoprene seals 10 mm

Suitable for tank vent check valve type ...	Article code
Bolero DN 40	9553.1511.040
Bolero DN 50	9553.1511.050
Bolero DN 65	9553.1511.065
Bolero DN 80	9553.1511.080
Bolero DN 100	9553.1511.100
Bolero DN 125	9553.1511.125
Bolero DN 150	9553.1511.150
Bolero DN 200	9553.1511.200
Bolero DN 250	9553.1511.250
Bolero DN 300	9553.1511.300
Bolero DN 350	9553.1511.350
RM / RMD DN 40 / DN 50	9553.1515.040
RM / RMD DN 65 / DN 80	9553.1515.065
RM / RMD DN 100	9553.1515.100
RM / RMD DN 125	9553.1515.125
RM / RMD DN 150 / DN 175	9553.1515.150
RM / RMD DN 200	9553.1515.200
RM / RMD DN 250	9553.1515.250
RM / RMD DN 300	9553.1515.300
RM / RMD DN 350	9553.1515.350
RM / RMD DN 400	9553.1515.400
RM / RMD DN 450	9553.1515.450
RMO/E DN 40 / DN 50	9553.1519.040
RMO/E DN 65 / DN 80	9553.1519.065
RMO/E DN 100	9553.1519.100
RMO/E DN 125	9553.1519.125
RMO/E DN 150 / DN 175	9553.1519.150
RMO/E DN 200	9553.1519.200
RMO/E DN 250	9553.1519.250
RMO/E DN 300	9553.1519.300

9.4. Glue, two-components, base and hardener, for tank vent check valves

(neoprene seal 10 mm)

Size	Article code
1 litre can	9553.25

Prices on request

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9.5. Cover Plates Steel Galvanised

Suitable for tank vent check valve type ...	Article code
RM DN 40 / DN 50	9553.2010.040
RM DN 65 / DN 80	9553.2010.065
RM DN 100	9553.2010.100
RM DN 125	9553.2010.125
RM DN 150 / DN 175	9553.2010.150
RM DN 200	9553.2010.200
RM DN 250	9553.2010.250
RM DN 300	9553.2010.300
RM DN 350	9553.2010.350
RM DN 400	9553.2010.400
RM DN 450	9553.2010.450
RM DN 500	9553.2010.500
RMD DN 40 / DN 50	9553.2050.040
RMD DN 65 / DN 80	9553.2050.065
RMD DN 100	9553.2050.100
RMD DN 125	9553.2050.125
RMD DN 150 / DN 175	9553.2050.150
RMD DN 200	9553.2050.200
RMD DN 250	9553.2050.250
RMD DN 300	9553.2050.300
RMD DN 350	9553.2050.350
RMD DN 400	9553.2050.400
RMD DN 450	9553.2050.450
RMO DN 40 / DN 50	9553.2090.040
RMO DN 65 / DN 80	9553.2090.065
RMO DN 100	9553.2090.100
RMO DN 125	9553.2090.125
RMO DN 150 / DN 175	9553.2090.150
RMO DN 200	9553.2090.200
RMO DN 250	9553.2090.250
RMO DN 300	9553.2090.300

Prices on request

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9.6. Repair kits

Contents: float balls, seals and taptide bolts

Suitable for tank vent check valve type ...	Article code
BOLERO DN 40	9553.3010.040
BOLERO DN 50	9553.3010.050
BOLERO DN 65	9553.3010.065
BOLERO DN 80	9553.3010.080
BOLERO DN 100	9553.3010.100
BOLERO DN 125	9553.3010.125
BOLERO DN 150	9553.3010.150
BOLERO DN 200	9553.3010.200
BOLERO DN 250	9553.3010.250
BOLERO DN 300	9553.3010.300
BOLERO DN 350	9553.3010.350
RM/RMD DN 40 / DN 50	9553.3050.040
RM/RMD DN 65 / DN 80	9553.3050.065
RM/RMD DN 100	9553.3050.100
RM/RMD DN 125	9553.3050.125
RM/RMD DN 150 / DN 175	9553.3050.150
RM/RMD DN 200	9553.3050.200
RM/RMD DN 250	9553.3050.250
RM/RMD DN 300	9553.3050.300
RM/RMD DN 350	9553.3050.350
RM/RMD DN 400	9553.3050.400
RM/RMD DN 450	9553.3050.450
RMO DN 40 / DN 50	9553.3090.040
RMO DN 65 / DN 80	9553.3090.065
RMO DN 100	9553.3090.100
RMO DN 125	9553.3090.125
RMO DN 150 / DN 175	9553.3090.150
RMO DN 200	9553.3090.200
RMO DN 250	9553.3090.250
RMO DN 300	9553.3090.300

- Additional: glue, two-components, base and hardener; to use for 40-60 pcs. valves
- If applicable: screen kit

Prices on request

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9.7. Screen kits

Contents: screens and taptide bolts

Suitable for tank vent check valve type ...	Article code
BOLERO DN 40	9553.3510.040
BOLERO DN 50	9553.3510.050
BOLERO DN 65	9553.3510.065
BOLERO DN 80	9553.3510.080
BOLERO DN 100	9553.3510.100
BOLERO DN 125	9553.3510.125
BOLERO DN 150	9553.3510.150
BOLERO DN 200	9553.3510.200
BOLERO DN 250	9553.3510.250
BOLERO DN 300	9553.3510.300
BOLERO DN 350	9553.3510.350
RM/RMD DN 40 / DN 50	9553.3550.040
RM/RMD DN 65 / DN 80	9553.3550.065
RM/RMD DN 100	9553.3550.100
RM/RMD DN 125	9553.3550.125
RM/RMD DN 150 / DN 175	9553.3550.150
RM/RMD DN 200	9553.3550.200
RM/RMD DN 250	9553.3550.250
RM/RMD DN 300	9553.3550.300
RM/RMD DN 350	9553.3550.350
RM/RMD DN 400	9553.3550.400
RM/RMD DN 450	9553.3550.450
RMO DN 40 / DN 50	9553.3590.040
RMO DN 65 / DN 80	9553.3590.065
RMO DN 100	9553.3590.100
RMO DN 125	9553.3590.125
RMO DN 150 / DN 175	9553.3590.150
RMO DN 200	9553.3590.200
RMO DN 250	9553.3590.250
RMO DN 300	9553.3590.300

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10. HOW TO CONTACT WINE L B.V. (AFTER-) SALES DEPARTMENT

10.1. Ordering spare parts:

For a quick transaction of your spare parts order please use the example shown below:

EXAMPLE

Quantity : ...
Article code : ... (see spare parts lists)
Description : ... (see spare parts lists)

10.2. Ordering service:

Please use the example shown below:

EXAMPLE

Name of vessel : M/V ...
Yard / hull number : ...
WINE L B.V. original order number: ...
Reason for ordering service* : inspection 5 pcs. tank vent check valves
E.T.A. : 15-01-2003 6.00 hrs.
E.T.D. : 17-01-2003 18.00 hrs.
Harbour : ... (place) ..., harbour no. ..., ...
Tel. or fax no. agent / ship : ...

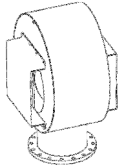
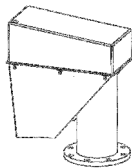

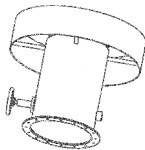
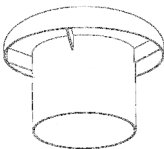
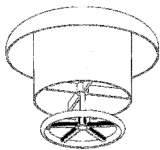
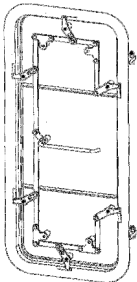
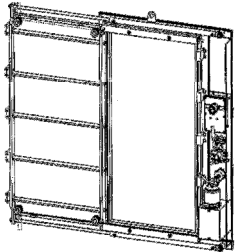
*(description of malfunction)

You can contact us by:

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Fax : 31-(0)592-340833
E-mail : sales@winel.nl
: aftersales@winel.nl
Visit our web site : <http://www.winel.nl>

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11. OTHER WINEB B.V. PRODUCTS

<p>WineB B.V. tank vent check valve type RM</p> <ul style="list-style-type: none"> • according drawing no. RMnnn.00F0.01T1 and 2 • type approved by: ABS, BV, DNV, GL, LRS and others • galvanised steel with flange DIN 2576 PN 10 • other flanges on request 			
<p>WineB B.V. tank vent check valve type BOLERO</p> <ul style="list-style-type: none"> • according drawing no. BMT1 and 2 • type approved by: ABS, BV, DNV, GL, LRS and others • galvanised steel with flange DIN2576 PN10 • other flanges on request 			
<p>WineB B.V. scupper type GSP</p> <ul style="list-style-type: none"> • steel body (black) • PVC grating & siphon 			
<p>WineB B.V. ventilation cowl type Mushroom 1</p> <ul style="list-style-type: none"> • galvanised steel body • air closure by hand wheel 			
<p>WineB B.V. ventilation cowl type Mushroom 2</p> <ul style="list-style-type: none"> • galvanised steel body • no air closure 			
<p>WineB B.V. ventilation cowl type Mushroom 4</p> <ul style="list-style-type: none"> • galvanised steel body • air closure by hand wheel 			
<p>WineB B.V. Musketeer® door</p> <ul style="list-style-type: none"> • central operation by means of a quick-acting handle • force transmission 1:33 • doorplate steel, aluminium, stainless steel or GRP 		<p>WineB B.V. electro-hydraulic operated watertight sliding door</p> <ul style="list-style-type: none"> • hand-hydraulic or electro-hydraulic operation • individual (compact) or centralized system 	

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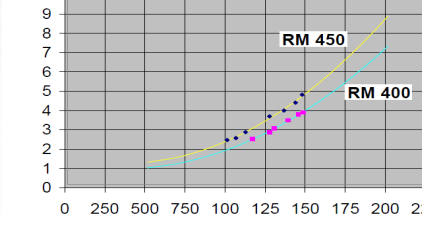
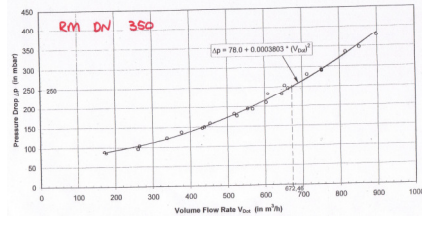
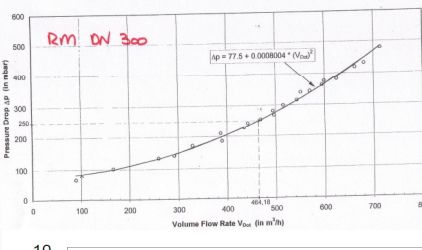
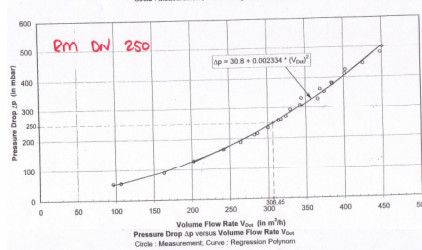
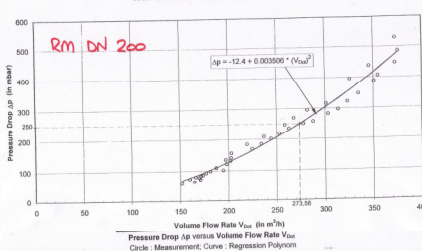
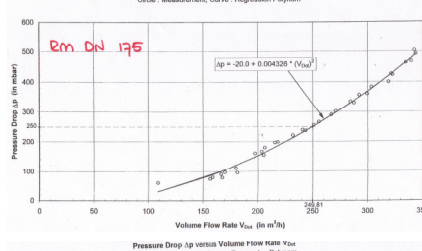
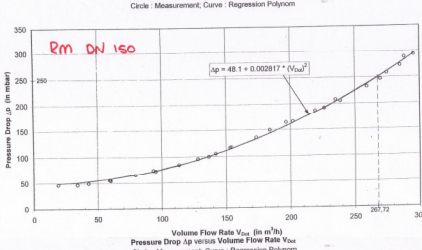
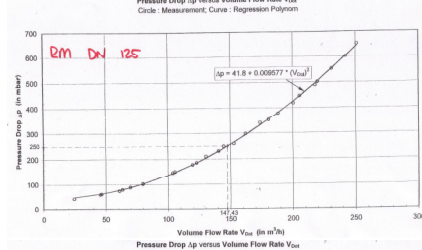
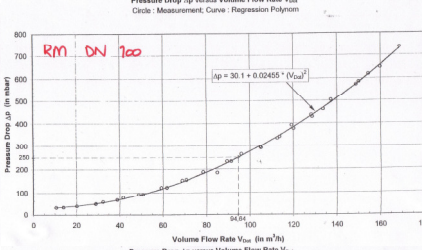
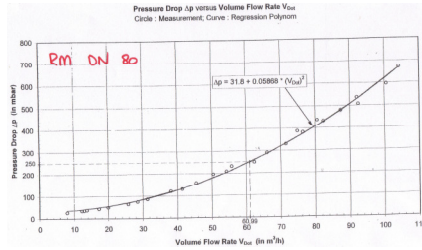
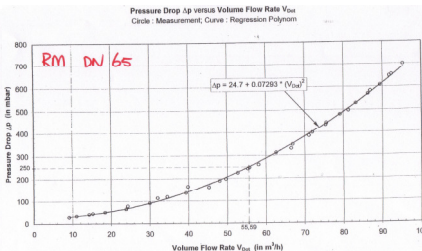
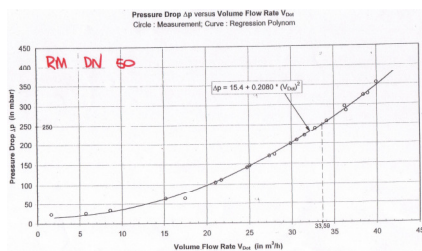


Instructions & Maintenance Manual

Tank Vent Check Valves.

WINEL B.V.

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<http://www.winel.nl>



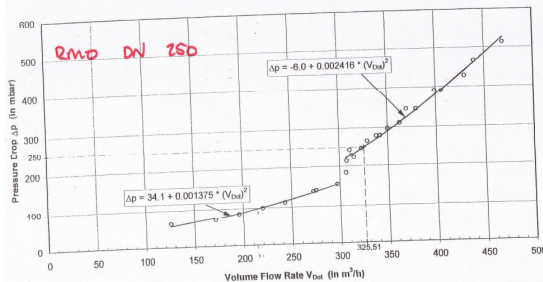
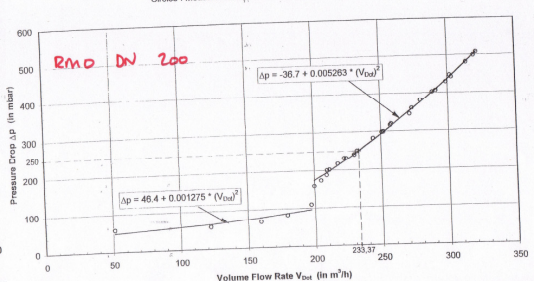
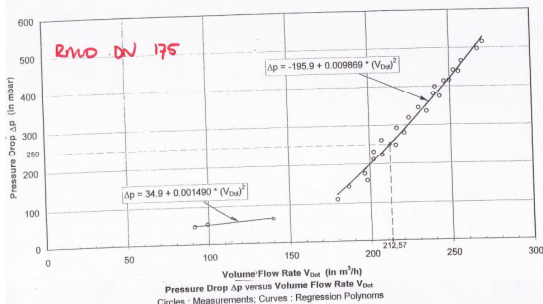
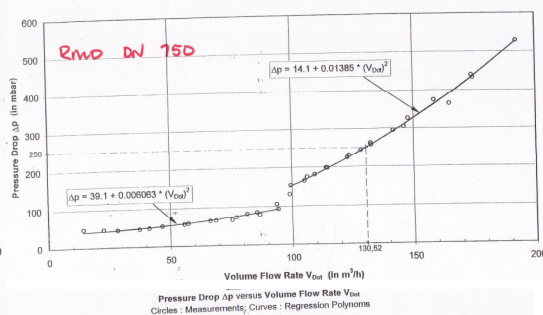
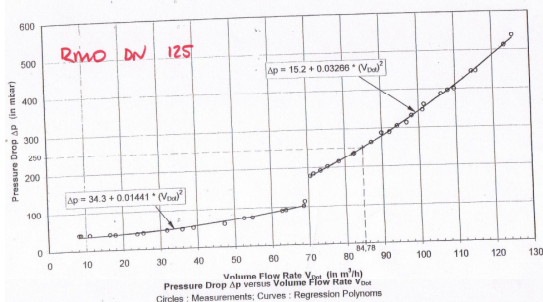
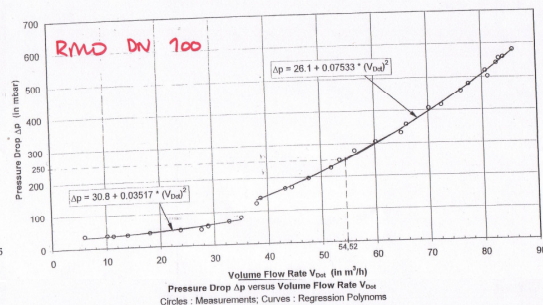
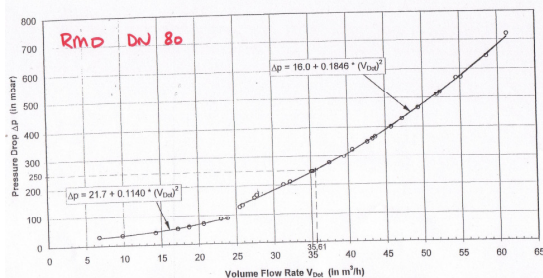
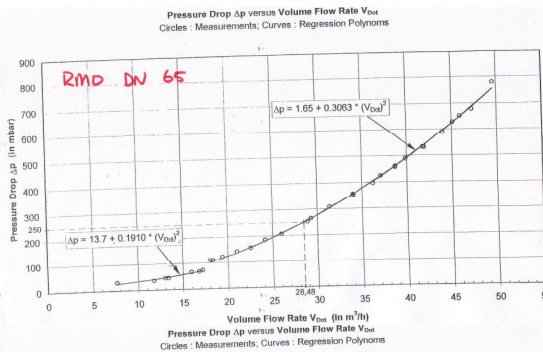
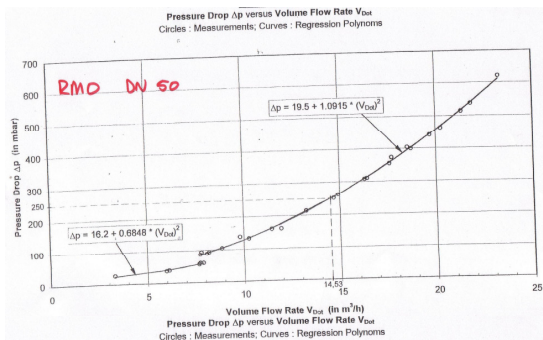
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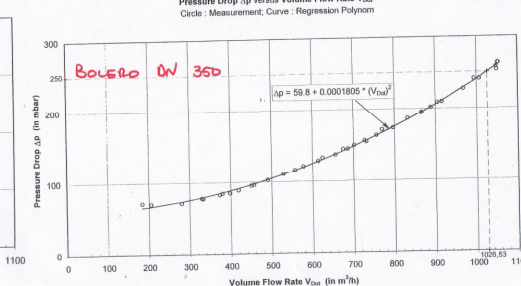
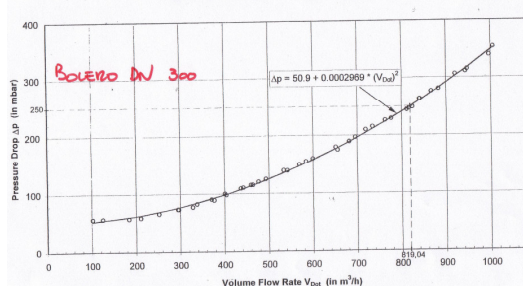
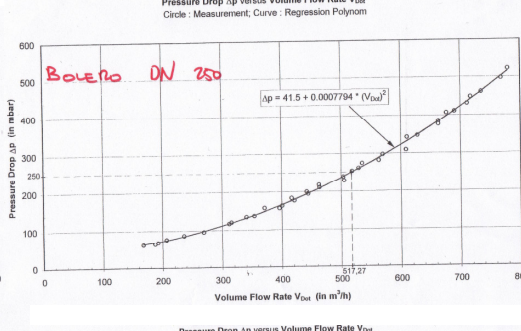
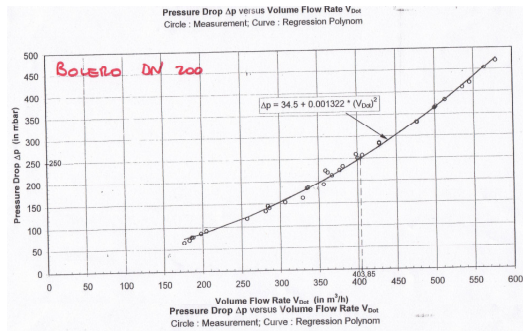
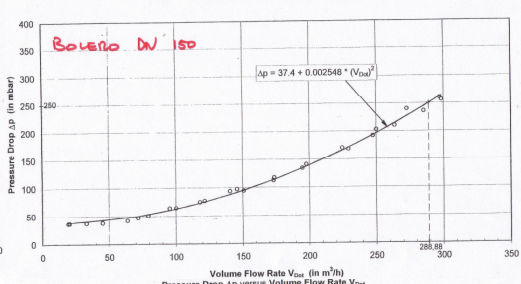
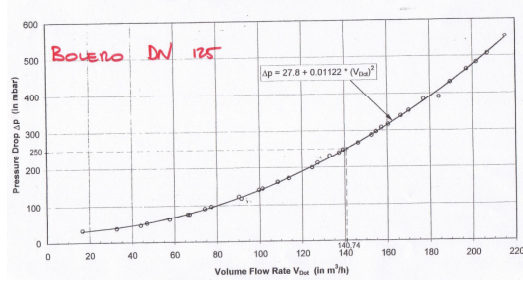
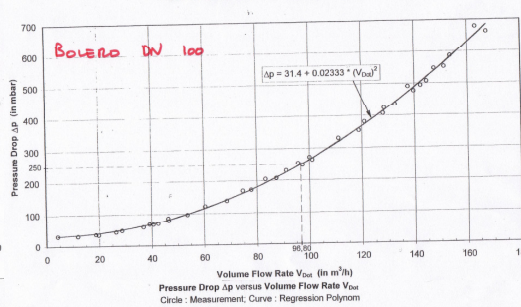
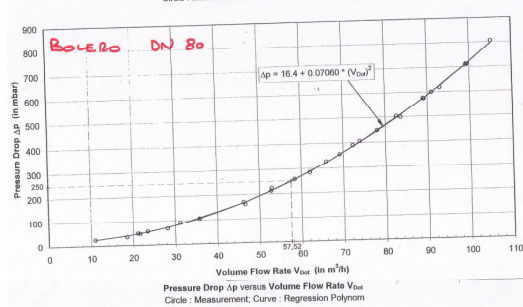
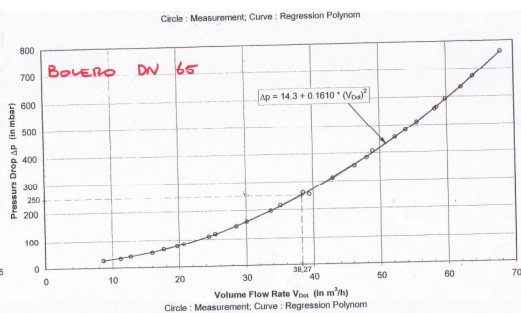
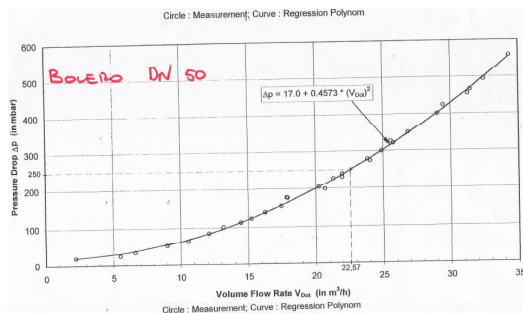


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