

## **Operating Manual**

# DELTA MS4

Diaphragm Valve with fan support













# Declaration of Conformity for Valves and Valve Manifolds

APV Rosista GmbH, Zechenstr. 49, D-59425 Unna-Königsborn as manufacturer with sole responsibility declares that the

double seat valves of the series D2, SD4, SDT4, SDM4, SWcip4, DSV, DA3, DE3, DEU3, DET3, DKR2, DKRT2, DKRH2 in the nominal diameters DN 25 - 150, 1" - 6" and 1 Sh5 - 6 Sh5

butterfly valves of the series SV1 and SVS 1 F in the nominal diameters DN 25 - 100, DN 125 - 250 and  $1^{\circ}-4^{\circ}$ 

ball cocks of the series KH, KHV in the nominal diameters DN 15 - 100

single seat, diaphragm and spring loaded valves of the series S2, SW4, SWmini4, SWT4, M3, MF3, M4, MF4, MP4, MS4, AP1, APT1, CPV, RG4, RGM4, RGE4, RGEM4, PR2, PR3, PR4, SI2, UF3, VRA, VRAH in the nominal diameters DN 10 - 150, 1/2" – 4" and 1 Sh5 - 6 Sh5

and the valve manifolds installed thereof

meet the requirements of the Directives 89/392/EEC (amendment 93/44/EEC), replaced by 98/37/EC and GSG - 9.GSGV.

For official inspections, APV Rosista GmbH presents a technical documentation according to appendix V of the Machinery Directive, this documentation consisting of documents of the development and construction, description of measures taken to meet the conformity and to correspond with the basic requirements on safety and health, incl. an analysis of the remaining risks as well as an operating manual with safety instructions.

The conformity of the valves and valve manifolds is guaranteed.

D-59425 Unna-Königsborn, June 04, 2008 APV Rosista GmbH

Manager Research and Development







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MS4 and MSE4 - Inch design RN 01.064.9-2





#### 1. **General Terms**

This operating 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 operating manual.

Descriptions and data given herein are subject to technical changes.

#### 2. Safety Instructions



## **DANGER!**

- The technical safety symbol draws your attention to important directions for operating safety. You will find it wherever the activities described are bearing risks of personal injury.
- Electric and pneumatic connections must be separated.
- Before any maintenance of the valve, the line and cleaning systems must be depressurized and discharged if possible.



Do not reach into the open valve. Risk of injury!

- Observe service instructions to ensure safe maintenance of the valve. The valve must only be assembled, disassembled and reassembled by persons who have been trained in APV valves or by APV service team members. If necessary, contact your local APV representative.
- When the diaphragm is damaged, leakages drain off the leakage bore in the yoke area.
- Attention!

Valve design NC (normally closed): Control the actuator with air before releasing the housing screws.

Attention!

Welded actuators are preloaded by spring force.



## Opening of the actuators is strictly forbidden. Danger to life!

Actuators which are no longer used and / or defective must be disposed in professional manner.

Defective actuators must be returned to your APV Sales & Service company for their professional disposal and free of charge for you.

Please address to your local APV representative.





## 3. Mode of Operation

## **DELTA MS4**



The diaphragm valves DELTA MS4 have been designed for use in the brewing and beverage industries, in the dairy and food industries as well as for chemical and pharmaceutical applications.

The field of application of the DELTA MS4 valve comprises the safe shut-off of pipeline sections.

DELTA MS4 diaphragm valves offer optimum product protection in hygienic and aseptic applications.

Product safety is provided by the hermetic separation of the product chamber to the exterior (atmosphere) by means of a diaphragm with fan support.

- Operation by pneumatic actuator with air connection, reset by spring force.
- Through different assembly of the actuator, the following designs are possible:

**NC**: actuator normally closed (NC); air-to-raise, spring-to-lower **NO**: actuator normally open (NO); air-to-lower, spring-to-raise

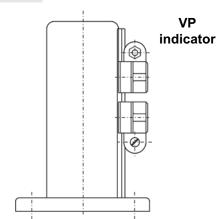
- The inner parts of the actuator are maintenance-free.
- Cleaning of the valve interior is undertaken by CIP cleaning of the pipeline system.
- Leakages at the diaphragm are indicated in the yoke area through a leakage drain.
- For the pneumatic control of the valve, a control unit is mounted on top of the actuator.
- The yellow luminous diodes in the control unit indicate the position of the valve shaft.





## 4. Auxiliary Equipment

## fig. 4.1



## 4.1 Valve position indication (fig. 4.1)

A valve position indicator can be installed direct at the actuator. Proximity switches to signal the limit position of the valve seat can be installed at the proximity switch holder (PSH) if required.

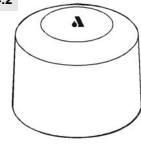
We recommend to use one of our APV standard types: operating distance: 5mm / diameter: 11mm. If the customer decides to use a valve position indicator other than APV type, we cannot take over any liability for any malfunctions.

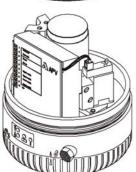
## 4.2 Control Unit (fig. 4.2)

The MS4 valve can be equipped with a control unit.

## The following different designs are available:

fig. 4.2





	solenoid valve			
Direct Connect refNo.	CU31 Direct Connect 16 - 31 - 232/93			
<b>Profibus</b> refNo.	CU31V 08 - 45 - 001/93			
<b>Device Net</b> refNo.	CU31 Device Net 16 - 31 - 240/93			
AS-interface refNo.	CU31 AS-interface 2.1 08 - 45 - 020/93			

- For the assembly of the control unit on the MS4 valve an adapter is required.

	adapter			
<b>Designation:</b> refNo.	CU2 - Adapter SW4 / SD4 / M4 08-48-415/93			

## 4.3 Connections:

Beside the housings with weld ends, the following connections are alternatively available:

- threaded connection according to DIN 11851
- threaded connection IDF / ISS according to ISO 2853
- threaded connection RJT according to BS 4825-5
- threaded connection SMS
- threaded connection according to DS 722
- flange connection FGN1 DIN
- flange connection FGN1 Inch
- clamp connection according to DIN 32676
- clamp connection according to ISO 2852





## 5. Installation

- Installation has to be undertaken in such a way that fluids can drain off the valve housing and should preferably be done in vertical position.
- The valve housing can be welded direct into the pipeline (completely dismantable valve insert).
- Attention: Observe welding instructions.

## 5.1 Welding Instructions

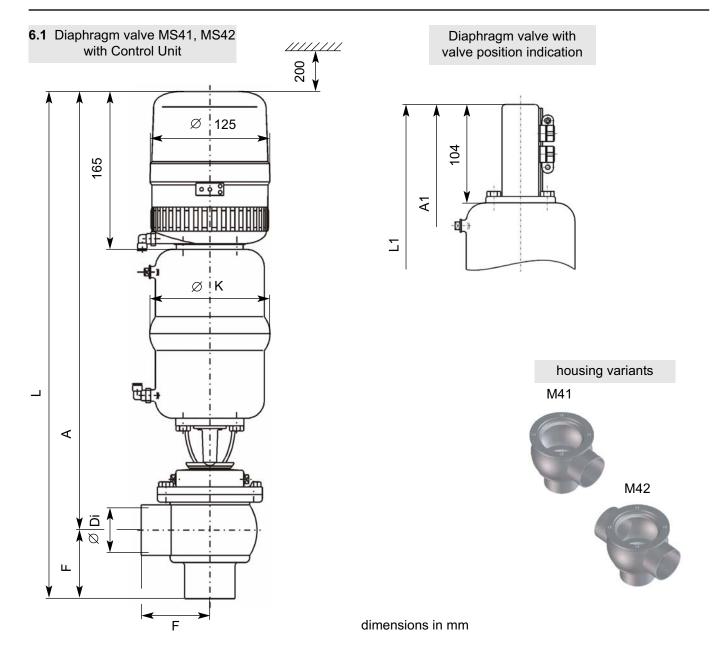
#### MS4

- Before welding of the valve, the valve insert must be dismantled from the housing. Careful handling to avoid damage to the parts is necessary.
- Welding should only be carried out by certified welders (EN 287-1). (seam quality EN 25817 ,,B")
- 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 in butt manner 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 or pipeline must be cleaned from welding residues and soiling. 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.





## 6. Dimensions / Weights

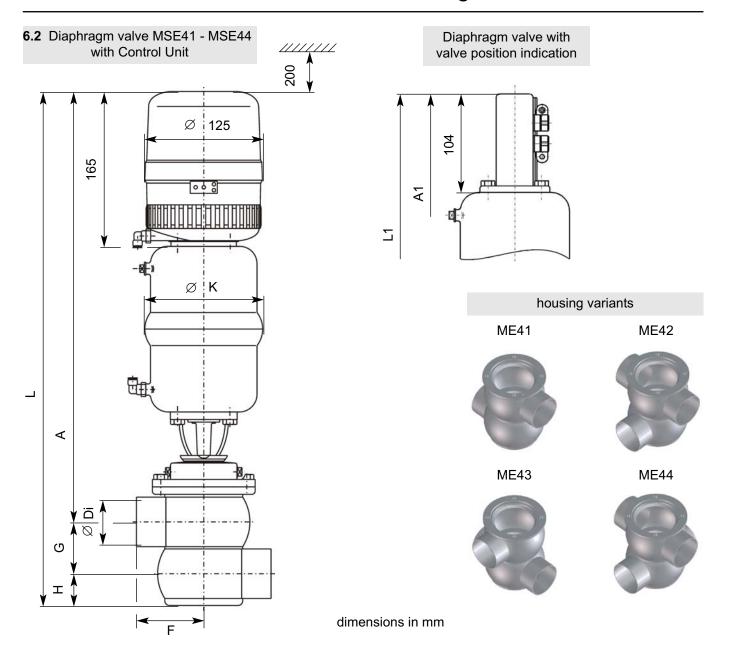


DN	Α	A1	ø Di	F	øΚ	L	L1	weight in kg
25	408	347	26	50	86	458	397	4,2
40	455,5	394,5	38	67	126	522,5	461,5	7,1
50	461,5	400,5	50	72	126	533,5	472,5	7,1
65	518	457	66	85	189	603	542	7,9
80	527	466	81	98	189	625	564	14,2
100	544	483	100	111	189	655	594	15,2
Inch								
1"	406	345	22,2	50	86	456	395	4,2
1,5"	454	393	34,9	67	126	521	460	7,1
2"	460	399	47,6	72	126	532	471	7,1
2,5"	515	454	60,3	85	189	600	539	7,9
3"	521	460	72,9	100	189	621	560	14,5
4"	543	482	97,6	111	189	654	593	15,2





## 6. Dimensions / Weights



DN	Α	A1	ø Di	F	G	Н	øΚ	L	L1	weight in kg
25	408	347	26	50	32	19	86	459	398	4,7
40	455,5	394,5	38	67	44	28	126	527,5	466,5	7,7
50	461,5	400,5	50	72	56	34	126	551,5	490,5	7,7
65	518	457	66	85	74	42	189	634	573	8,5
80	527	466	81	98	91	49,5	189	667,5	606,5	14,8
100	544	483	100	111	110	59	189	713	652	15,9
Inch										
1"	406	345	22,2	50	28,6	17,3	86	452	391	4,7
1,5"	454	393	34,9	67	41,1	26,5	126	521,6	460,6	7,7
2"	460	399	47,6	72	53,8	32,9	126	546,7	485,7	7,7
2,5"	515	454	60,3	85	68,3	39,1	189	622,4	561,4	8,5
3"	521	460	72,9	100	80,1	45	189	646	585	14,8
4"	543	482	97,6	111	107,6	57,8	189	708,4	647,4	15,9





## 7. Technical Data

## 7.1 General

Product-wetted parts: 316 L, 1.4404

Other parts: 1.4301

Seals: standard design: EPDM

Options: HNBR, VMQ, FPM

Diaphragm: TFM/PTFE 1705

Actuator: 1.4301

max. line pressure: 10 bar

max. operating temperature: 140°C EPDM, HNBR

\*FPM, \*VMQ

short-term load: 150°C EPDM, HNBR

\*FPM, \*VMQ \*(no steam)

air connection (for hose): 6 x 1mm max. pneumatic air pressure: 8 bar min. pneumatic air pressure: 6 bar

Leakage indicator

in yoke area: G1/8"

## 7.2 Specification of compressed air

compressed air quality: quality class according to

DIN/ISO 8573-1

content of solid particles: quality class 3

max. size of solid particles per m<sup>3</sup> 10000 of 0,5µm <d<1,0µm 500 of 1,0µm <d<5,0µm

content of water: quality class 4

max. dew point temperature + 3°C

For installations at lower

temperatures or at higher altitudes, additional measures must be considered to reduce the pressure

dew point accordingly.

content of oil: quality class 1

max. 0,01mg/m<sup>3</sup>

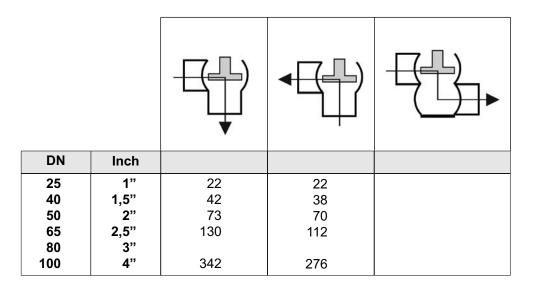
(The oil applied must be compatible with Polyurethane elastomer materials.)



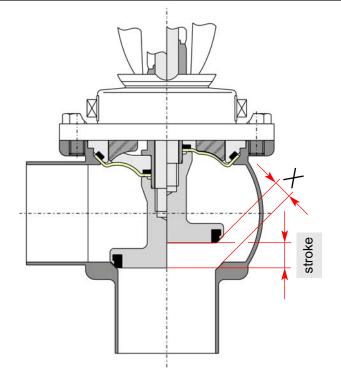


## 7. Technical Data

7.3 DELTA MS4 kvs - values in m<sup>3</sup> / h



## 7.4 Valve stroke / Opening cross section (X)



	dimensions in mm					
DN	stroke	X				
25	8	5,5				
40	13	10				
50	13	10				
65	16	13				
80	22,5	19,5				
100	28	25				
Inch						
1"	8	5,5				
1,5"	13	10				
2"	13	10				
2,5"	16	13				
3"	17	14				
4"	28	25				



## 7. Technical Data

**7.5** For valves equipped with a control unit DELTA CU, the

## opening and closing times

can be increased by adjustment of the throttling screw at the solenoid valve.

closing times in sec. air pressure 6 bar hose length 1m and 10m.

DN	Inch	1m	10m
25	1"	1	2
	1,5"	1	2 2
40		3	4
50	2"	3 3 3	4
40 50 65	2,5" 3"	3	4
80	3"	5	6
100	4"	5	6

## 8. Maintenance

- The **maintenance intervals** depend on the corresponding application and are to be determined by the user himself carrying out temporary checks.
- The valve must not be cleaned with products containing abrasive or polishing material. Especially the valve shaft must not, under any circumstances, be cleaned with such agents.
   Damage of the valve shaft can lead to leakages.
- Replacement of seals according to Service Instructions.
   Customer stock keeping of spare seals is recommended.
   For valve service we supply complete seal kits including seal grease (see spare parts lists).



## Required tools:

- 1x wrench SW13
- 1x wrench SW17
- 1x wrench SW19
- 1x wrench SW30
- 1x strap wrench
- cleaning rag as well as a low solution of a suitable cleaning agent (observe safety data sheet of cleaning liquid manufacturer).



## 8. Maintenance

- All seals must be provided with a thin layer of grease before their installation.

## **Recommendation:**

APV food-grade grease for EPDM, HNBR and FPM (Viton)

(0,75 kg/ tin - ref.-No. 000 70-01-019/93) (60 g/ tube - ref.-No. 000 70-01-018/93)

## APV food-grade grease for VMQ (Silicone)

(0,60kg/ tin - ref.-No. 000 70-01-017/93) (60 g/ tube - ref.-No. 000 70-01-016/93)

- ! Do not use grease containing mineral oil for EPDM seals.
- ! Do not use grease on Silicone oil basis for VMQ seals.
- ! No matter what type of application, use only those greases being suited for the respective seal material!

#### Recommendation for screw retention:

Type: Loctite 243 semi-solid

(5ml - ref.-No. 00070-01-110/93) (50ml - ref.-No. 00070-01-111/93)

## 8.1 Assembly tool

To simplify the installation of the seat seal, the following assembly tools are available:

M4 assembly tool					
DN	Inch	reference No.			
25	1"	000 51 - 13 - 110/17			
40	1,5"	000 51 - 13 - 111/17			
50	2"	000 51 - 13 - 112/17			
65	2,5"	000 51 - 13 - 113/17			
	3"	000 51 - 13 - 121/17			
80		000 51 - 13 - 114/17			
100	4"	000 51 - 13 - 115/17			



## control unitt actuator screw hex. nut centering washer guide rod CU adapter actuator yoke · III guide bush upper o-ring shaft diaphragm support o-rina diaphragm fan

# PSH housing actuator screw hex. nut centering washer guide rod actuator

o-ring

seat seal

housing

## 9.1. Dismantling from the line system DELTA MS4

The reference numbers refer to the spare parts drawings MS4: DIN design RN 01.064.9

## DIN design RN 01.064.9 Inch design RN 01.064.9-1

3A- Inch design RN 01.064.9-2

1. Shut off the line pressure and discharge lines if possible.

2. NC version: Control actuator with air.

Do not touch movable parts! Risk of injury.

**3.** Remove the hex. screws **(14)** and lift the complete valve insert with actuator out of the housing.

4. NC version: Shut off compressed air and remove compressed air connection.

## 5. Design with Control Unit:

Remove the control unit.

(Turn safety ring in anticlockwise direction, see symbols on the control unit).

## - Design with valve position indicator:

Remove the proximity switches. Detach the indicator housing **(proximity switch holder)** from the actuator.

## 9.2. Dismantling of wear parts (product-wetted parts )

## 1. Design with control unit and valve position indication:

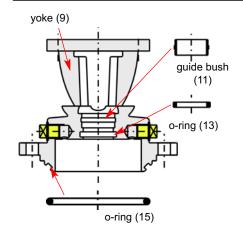
At first, unscrew the actuator screw. Release the hex. nut (22), while holding up the centering washer (21). Remove the centering washer.

- 2. Extract the shaft with guide rod (3), diaphragm (5), fan (6), upper shaft (4) and diaphragm support (7) from the actuator (14). Remove the seat seal (2) and o-ring (16).
- 3. Remove the yoke (9) from the actuator (17).
- Actuator can be maintained.
   (see 10. Service Instructions Actuator).
- 4. Detach the o-rings (15, 13) and guide bush (11) from the yoke (9).
- Clean the valve housing, yoke, actuator and shaft with a low solution of a cleaning agent. Never use cleaning agents containing abrasive or polishing material.

shaft







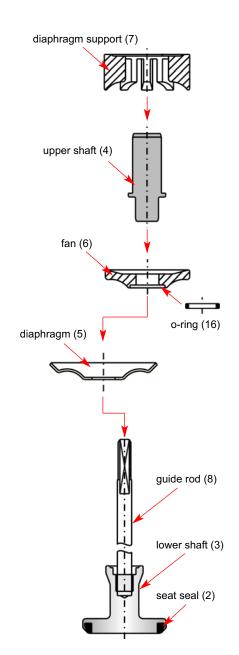
## 9.3. Installation of seals and assembly of valve

All seals must be provided with a thin layer of grease before their installation.

- Insert the guide bush (11) and o-ring (13) in the yoke (9).
   Insert the o-ring (15) in the groove of the yoke.
   Fasten the yoke (9) at the actuator (17).
- 2. Install the seat seal (2) in the lower valve shaft (3). (see Service Instructions 11.)
- 3. Install the o-ring (16) in the fan (6).

  Place diaphragm and fan on the upper shaft.
- **4.** Wind the protective pipe over the thread of the guide rod.
- **5.** Pass the guide rod through the upper shaft with diaphragm and fan until it stops on the lower shaft. Insert the diaphragm support into the fan.
- ! Toothing of fan and diaphragm support must interlock.
- **6.** Insert the pre-assembled lower shaft with guide rod, diaphragm, fan, upper shaft and diaphragm support through the yoke (9) and actuator (17).
- The upper shaft must be guided through the guide bush into the yoke in smooth-running manner. In case of mechanical stiffness, check the right fit of the guide bush.
- 7. Design with control unit and valve position indication Place the centering washer (21). Apply a drop of a screw locker, e.g. type Loctite, semi-solid, on the thread of the guide rod. Screw on the hex. nut (22) and fasten it with a tightening torque of Md = 40 Nm. Hold up the centering washer during this process.
- ! Control Unit: Fasten the plastic actuator screw.
- ! Valve position indicator:

Fasten the metallic actuator screw.







#### 9.4. Installation of DELTA MS4 valve

## 1. Design with Control Unit:

Fasten the adapter on the actuator. Place the control unit **(26)** on the adapter **(27)** and fasten it with the ring.

## Design with valve position indication:

Fasten the housing of the valve position indication (24).

## 2. Version NC: During the assembly of the valve insert observe the following:

Control the actuator (version: NC) with pneumatic air min 6bar.
 Carefully place the valve insert into the valve housing.
 The diaphragm (5) must not be damaged during the installation in the valve housing. Tighten the hex. screws (14) crosswise in the housing flange.



Do not reach for movable parts! Risk of injury.

Version NC: Shut off air supply.

#### 3. Check the basic adjustment of the valve position indication.

- By turning the positioning screw in the control unit, the shift points can be adjusted.

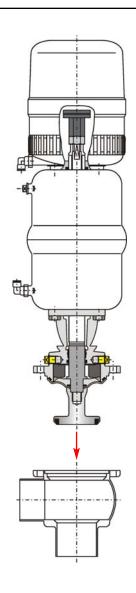
## 4. Design with valve position indication:

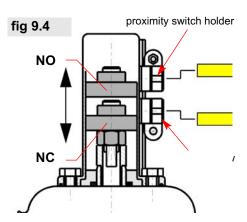
Push in the proximity switches and fasten them.

- Readjust the proximity switches if necessary.

## 5. Adjustement of proximity switches: (fig. 9.4)

- Drive the actuator into a limit position.
- Drive the corresponding proximity switch into the corresponding position. For this purpose release the positioning screw and move the holder until the corresponding signal is indicated. Then, continue to slide the holder by 2 to 3 mm in order to secure the indication. Fasten the positioning screw.
- Position the actuator in the other limit position and carry out the positioning of the second proximity switch.
- Upper valve position indication: valve NO "normally open" (air-to-lower, spring-to-raise)
- Lower valve position indication: valve NC "normally closed" (air-to-raise, spring-to-lower)





piston rod



seal screw

v-seal

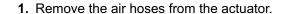
air connection

o-ring



## 10. Service Instructions - Actuator

## 10.1. Maintenance of Actuator



**2.** Remove the inner hexagon screws from the adapter of the control unit. - Remove the adapter.

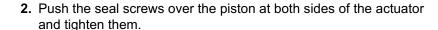
#### 10.2. Dismantling of seals

- **1.** Unscrew the two seal screws with a spanner SW 30 while holding up the actuator with a strap wrench.
- 2. Remove o-rings and v-seals.

## 10.3. Installation of seals and assembly of actuator

1. Install the slightly greased o-rings and v-seals in the seal screws (fig. 10.3).

See to the right direction of installation of the v-seal.



**3.** Fasten the adapter of the control unit and the yoke on the actuator.

Attention: Observe the position of the adapter.

Attention: Consider the required valve design NC or NO

during the installation of the adapter and the

yoke.

NC (FS) = normally closed

(air-to-raise, spring-to-lower)

**NO** (FH) = normally open

(air-to-lower, spring-to-raise)

4. Fix the air hoses.

## 10.4. Reconstruction of valve design from normally closed (NC) to normally open (NO)

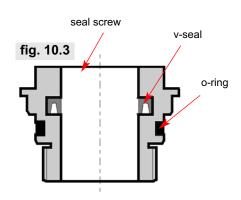
By turning the actuator by  $180^{\circ}$  the required design NC or NO can be selected.

NC (FS) = normally closed

(air-to-raise, spring-to-lower)

**NO** (FH) = normally open

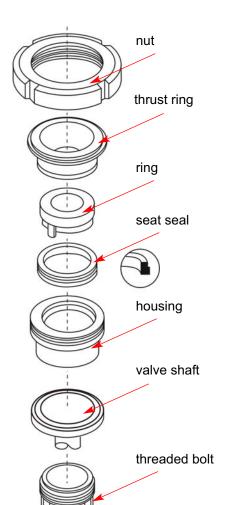
(air-to-lower, spring-to-raise)



actuator







Attention: By means of the assembly tool the seat seal of single seat valves can be installed, only.

## The assembly tool consists of:

- nut
- thrust ring
- ring with venting plug
- housing
- threaded bolt.

## 11.1. Installation of the seat seal in the valve shaft

- **1.** Insert the valve shaft into the housing in such a manner that the seal groove is in the valve housing.
- Clamp the shaft in the housing by the threaded bolt. Clamp the housing in a vice.
- **3.** Slightly grease the seat seal with APV food-grade grease. Then pull the seal onto the ring until stop by means of the venting plug.
- **4.** Introduce the ring with the seat seal into the housing and press it down until it stops.
- **5.** Insert the thrust ring into the housing. Screw on the nut and tighten it until stop by means of a hook spanner.
- **6.** Release the nut. Pull the ring and thrust ring out of the housing.
- **7.** Take the housing out of the vice, unscrew the threaded bolts. Take the valve shaft out of the housing.

Check the correct fit of the seat seal.





## 12. Trouble Shooting

Failure	Remedy				
Valve closed and pressure in upper housing					
Valve is untight.	Replace seat seal (2). Check line pressure (max. 10bar).				
Leakage at the leakage bore in the area of the valve yoke	Check tightening torque of locknut.  Replace diaphragm (5) and o-ring (16).				
Leakage between housing and yoke flange	Replace o-rings (15).				
Actuator					
Air escapes at the actuator rod.	Replace o-ring (2) at the upper part of the actuator.				
Actuator does not work (air escapes permanently from the venting plug).	Replace the complete actuator.				
Valve position indication					
No feedback.	Carry out fine adjustment.				

## 13. Spare Parts Lists

## (see annex)

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

Please indicate the following data to place an order for spare parts:

- required number of parts
- reference number
- designation.

Data are subject to change.



BA MS4 0000002 ID-No.: H 3 2 3 2 7 8



Translation of original manual

Rev. 0





Your local contact:

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# **DELTA MS4**

# Ersatzteillisten/Spare Parts Lists









02/94

APV Roeista GmbH P D-59425 Urna Germany

Schulz Trytko Name

Datu

01.064.9

Z Z

Blatt Blatt 7 Besteht aus Membranventil fan support MS4 FS-CU und VSM Ersatzteilliste: spare parts list:

15.06.07 26.09.07 Gezeichnet Normgepr. Geprüft 20/90 Trytko Datum Name Diaphragm valve fan support MS4 FS-CU and PSH DN25-100

Dichtungswerkstoffe zur Verfügung. Es stehen verschiedene

Bitte WS-Nr. ergänzen

are available (fill in last two digits of ref.-no.)

Dichtungswerkstoff: material seals: ./33-HNBR ./73-FPM ./13-VMQ \*

./93-EPDM

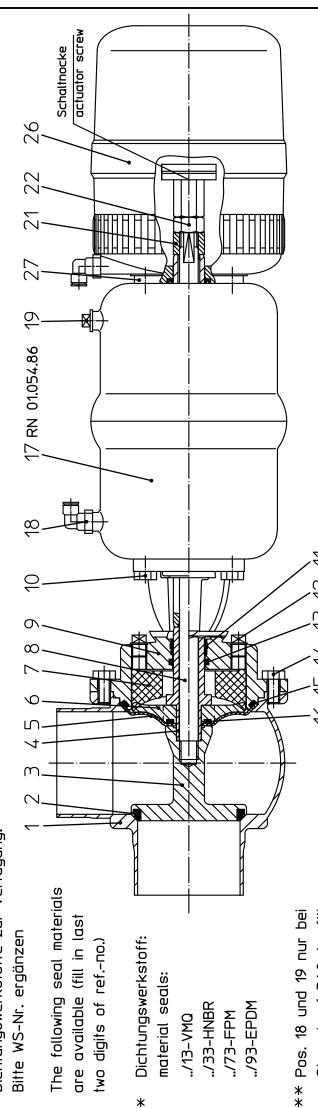
Steuerkopf 3A0-Ausführung item. 18 and 19 only for actuator 3A0-design Ventil Standardversion / valve in standard design

000-Ausführung: 1.4404 Außenoberfläche matt-glänzend 000-design: 1.4404 outer surface satin finisch.

Ventil in 3A-Version / valve in 3A-design

3A0-Ausführung: 1.4404 Außenoberfläche blank geschliffen

3A0-design: 1.4404 outer surface bright ground finish.





APV Roelsta GmbH
PV D-59425 Uma
Germany WS-Nr. ref.-no. 150 01.064.9 WS-Nr. ref.-no. 125 Z 26.09.07 Schulz rytko Name design 38-42-495/43|340 39-42-295/43|340 39-42-395/43|340 39-42-445/43|340 39-42-495/43|340 39-42-545/43|340 39-42-645/43| 3A0 39-40-042/43|3A0 39-40-043/43|3A0 39-40-044/43| Januari nuusi. illaii-yi. 1000 39-42-295/47 000 39-42-395/47 000 39-42-445/47 000 39-42-495/47 000 39-42-545/47 000 39-42-645/47 standard design satin fin 340 39-41-295/43|340 39-41-395/43|340 39-41-445/43|340 39-41-495/43|340 39-41-545/43|340 39-41-645/43 340 39-22-295/43340 39-22-395/43340 39-22-445/43340 39-22-495/43340 39-22-545/43340 39-22-645/43 58-23-052/23|58-23-053/23|58-23-054/23 000 39-22-295/42|000 39-22-395/42|000 39-22-445/42|000 39-22-495/42|000 39-22-545/42|000 39-22-645/42 000 39-40-042/47|000 39-40-043/47|000 39-40-044/47 DIN EN 24017-M10×16-A2-70 standard design satin fin 000 39-41-295/47 000 39-41-395/47 000 39-41-445/47 000 39-41-495/47 000 39-41-545/47 000 39-41-645/47 39-22-072/12 |39-22-073/12 |39-22-074/12 08-48-512/93 | 08-48-513/93 | 08-48-514/93 08-48-522/12 |08-48-523/12 |08-48-524/12 DIN EN 24017-M8x20-A2-70 39-23-130/12 58-33-643/ WS-Nr. ref.-no. 90 II II 15.06.07 Datum Gezeichnet Normgepr. 58-33-543/ WS-Nr. Geprüft 80 II П II 39-23-083/12 58-33-493/ 65 X X П II II DIN EN 24017-M8×16-A2-70 58-33-443/ WS-Nr. ref.-no. 7 20 II II II II Ш II II II II П II Blatt Trytko 06/07 3A0 39-40-040/43|3A0 39-40-041/43| 3A0 08-01-177/23 3A0 08-01-178/23 15,3-2,4 20,2-3 58-06-052/64 58-06-078/64 000 39-40-040/47 000 39-40-041/47 58-23-050/23|58-23-051/23 39-22-070/12 |39-22-071/12 08-48-520/12 |08-48-521/12 08-48-510/93 | 08-48-511/93 39-23-080/12 |39-23-081/12 DIN EN 24017-M8×16-A2-70 000 08-01-177/23 |000 08-01-178/23 58-33-393/ Name WS-Nr. ref.-no. 40 Diaphragm valve fan support MS4 FS-CU and PSH Membranventil fan support MS4 FS-CU und VSM 08-60-005/94 4x DIN EN 24017 -M6x12-A2-70 58-33-293/ WS-Nr. ref.-no. 25 design 3A-bright fin. design 3A-bright fin. Standardausführung Ausführung -3A design -3A Standardausführung Ausführung 3A design satin fin. standard design standard design Ausf.3A-blank Ausf.3A-blank Ausf. 3A-blank <u>design</u> –3Ã Ausf. matt-gl. Ersatzteilliste: spare parts list: Benennung description DN25-100 <u> 1 Yembranunterstützung</u> Gehäuse M42 1+2+3S Gehäuse M42 1+2+3S ower valve shaft Entlüftungsstopfen ower valve shaft Joper valve shaft gehäuse M41 1+2S Gehäuse M41 1+2S -uhrungsbuchse -ührungsbuchse <u>0-ring</u> |Skt. Schraube Skt. Schraube **Tellerdichtung** Schaft unten Schaft unten 'enting plug Schaft oben -an support Zugstange Guide rod Hex. screw embrane Diaphraam Seat seal Housing Housing Housing aterne. aterne. Bushing Bushing Housing **3-Ring** Stern 9 Ke Star Menge Juantity 2 Pos. tem ( 4 9 7  $\overline{\omega}$ 2 m ഗ Ø ^ ω σ F



02/94

APV Rosista GmbH
APV 0-59425 Urna
Germany WS-Nr. ref.-no. 150 RN 01.064.9 WS-Nr. ref.-no. 125 Schulz Trytko Name 120-3,5 58-06-580/64 58-06-083/64|58-06-098/64|58-06-140/64 WS-Nr. ref.-no. 90 15.06.07 26.09.07 II II П Date 58-06-491/64 Gezeichnet Normgepr. Geprüft WS-Nr. ref.-no. 80 П П II П 76-3,5 58-06-347/64 000 15-32-052/17 3A0 15-32-061/13 WS-Nr. ref.-no. 65 II П II II WS-Nr. ref.-no. 20 Ш II Ш II Ш II II II II П Blatt Trytko Datum | 06/07 58-06-277/64 58-06-038/64|58-06-067/64 08-52-290/97 08-52-291/97 OR 66x2 NBR 70-75-Shore DIN EN 24017-M8×16-A2-70 Name WS-Nr. ref.-no. DIN EN ISO 10511-M12-A2 40 П Diaphragm valve fan support MS4 FS-CU and PSH Membranventil fan support MS4 FS-CU und VSM 35-2,5 58-06-154/64 <u>\*</u>\*|08-60-005/93| 15-33-932/93 08-48-415/93 08-60-811/93 15-28-940/12 16-31-232/93 WS-Nr. ref.-no. 25 G1/8" 1/4"OD CU31 Direct-Connect Proximity switch holder housing SW4 SKt. Schraube schwenkbar **G1/8** Ersatzteilliste: spare parts list: Benennung description DN25-100 Entlüftungsstopfen W-Verschraubung W-Union slewable /SM Gehäuse-SW/ Zentrierscheibe Doerating cam <u>Centering nut</u> Skt. Mutter Ventina plua Schaltnocke **Control-Unit** ontrol-Unit J-Adapter CV-adapter SCrew Steuerkopf Steuerkopf **Actuator** Actuator dex. nci <u>0-Ring</u> )-Ring )-ring 0-Ring 0-ring 0-ring Hex. P. So B. So Aenge Ytitnbup 20 25 26 22 27 冇 9 8 6 4 7



Membranventil fan support MS4 FS-CU und VSM

02/94

APV Rocieta GmbH
D-59425 Uma
Germany

Trytko Schulz

15.06.07 26.09.07

Gezeichnet

7

Blatt

Geprüft

Name

WS-Nr. ref.-no. 150 01.064.9 WS-Nr. ref.-no. Z 125 |3A0 58-36-780/00|3A0 58-36-781/00|3A0 58-36-782/00|3A0 58-36-783/00|3A0 58-36-784/00|3A0 58-36-785/00 3A0 58-36-780/02|3A0 58-36-781/02|3A0 58-36-782/02|3A0 58-36-783/02|3A0 58-36-784/02|3A0 58-36-785/02 3A0 58-36-780/06|3A0 58-36-781/06|3A0 58-36-782/06|3A0 58-36-783/06|3A0 58-36-784/06|3A0 58-36-785/06 58-36-780/00|58-36-781/00 |58-36-782/00|58-36-783/00|58-36-784/00|58-36-785/00 58-36-780/02|58-36-781/02 |58-36-782/02|58-36-783/02|58-36-784/02|58-36-36-785/02 58-36-780/06|58-36-781/06 |58-36-782/06|58-36-783/06|58-36-784/06|58-36-36-785/06 340 58-36-780/01|340 58-36-781/01|340 58-36-782/01|340 58-36-783/01|340 58-36-784/01|340 58-36-785/01 |58-36-780/01|58-36-781/01|58-36-782/01|58-36-783/01|58-36-784/01|58-36-785/01 WS-Nr. ref.-no. 90 Normgepr. WS-Nr. ref.-no. 80 WS-Nr. ref.-no. 65 WS-Nr. ref.-no. ည Pos. 2, 5, 11, 13, 15, 16, 22 nur im kompletten Dichtungssatz erhältlich Item. 2, 5, 11, 13, 15, 16, 22 available es complete seal kits only Pos. 2, 5, 11, 13, 15, 16, 22 nur im kompletten Dichtungssatz erhältlich Item. 2, 5, 11, 13, 15, 16, 22 available es complete seal kits only Dichtungssatz Standardausführung / seal kit standard design Trytko 06/07 Dichtungssatz Ausführung -3A / seal kit design -3A Name WS-Nr. ref.-no. 40 Diaphragm valve fan support MS4 FS-CU and PSH WS-Nr. ref.-no. 25 TFM/EPDM **TEM/HNBR** TFM/FPM TFM/EPDM-3A TFM/VMQ TFM/HNBR-3A TFM/VMQ-3A TFM/FPM-3A Benennung description DN25-100 Dichtungssatz Seal kit **Dichtungssatz** Dichtungssatz Dichtungssatz **Dichtungssatz** Dichtungssatz Dichtungssatz Seal kit Dichtungssatz Seal kit Seal kit Seal kii P P O P Penge Mengtity  $\overline{\phantom{a}}$ 



Membranventil fan support MS4, MSE4 FS-CU und VSM Ersatzteilliste: spare parts list:

80/90 | 20/90 Besteht aus Datum Diaphragm valve fan support MS4, MSE4 FS-CU and PSH 1-4 zoll / inch

APV Roelsta GmbH
PV D-59425 Uma
Germany

26.09.08 Schulz

Trytko Name

28.06.07

Gezeichnet

Blatt

Blatt

4

**Trytko Trytko** 

Name

Normgepr. Geprüft

Datum

RN 01.064.9-1

02/94

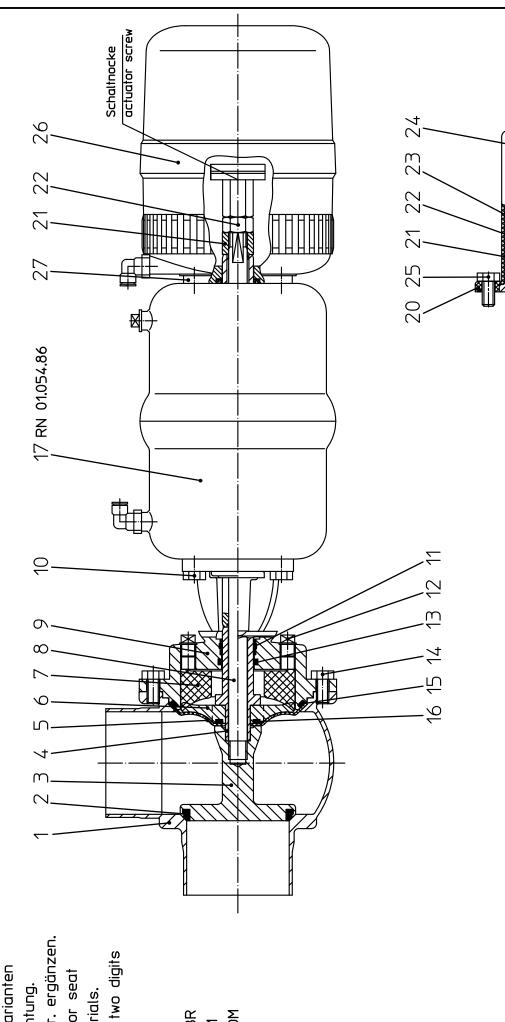
Werkstoffvarianten für Sitzdichtung.

Bitte WS-Nr. ergänzen.

Selection for seat

Fill in last two digits seals materials. of ref.-no.







02/94 WS-Nr. ref.-no. APV Roeleta
D-59425 Uma
Germany RN **01.064.9-1** WS-Nr. ref.-no. Schulz Trytko Name 39-42-320/47|39-42-420/47|39-42-470/47|39-42-520/47|39-42-570/47|39-42-670/47 39-45-320/47|39-45-420/47|39-45-470/47|39-45-520/47|39-45-570/47|39-45-670/47 39-46-320/47|39-46-420/47|39-46-470/47|39-46-520/47|39-46-570/47|39-46-670/47 39-47-320/47|39-47-420/47|39-47-470/47|39-47-520/47|39-47-570/47|39-47-670/47 39-48-320/47|39-48-420/47|39-48-470/47|39-48-520/47|39-48-570/47|39-48-670/47 39-22-320/42|39-22-420/42|39-22-470/42|39-22-520/42|39-22-570/42|39-22-670/42 58-23-054/23 39-40-042/47|39-40-046/47|39-40-044/47 39-22-074/12 08-48-524/12 08-48-514/93 58-06-580/64 39-41-320/47 |39-41-420/47 |39-41-470/47 |39-41-520/47 |39-41-570/47 |39-41-670/47 JIN EN\_24017 8xDIN EN 24017 -M10x16-A2-70 39-23-130/12 58-33-643/ WS-Nr. ref.-no. 29.09.07 II 28.06.07 7 Datu Gezeichnet Normgepr. 58-33-568/ WS-Nr. ref.-no. Geprüft × × m Ш П II Ш II II II II 58-23-052/23 39-22-072/12 08-48-522/12 39-23-083/12 58-06-347/64 08-48-512/93 58-33-493/ WS-Nr. ref.-no. 2,5 76-3,5 × × П II DIN EN 24017-M8×16-A2-70 06/08 Trytko| Trytko 58-33-443/ WS-Nr. ref.-no. ~ 5 П II II II Ш II II II II Blatt 06/07 58-06-154/64 |58-06-277/64 58-23-050/23|58-23-051/23 58-06-052/64|58-06-078/64 39-40-040/47|39-40-041/47 39-22-070/12 |39-22-071/12 38-48-520/12 |08-48-521/12 08-48-510/93 | 08-48-511/93 39-23-080/12 |39-23-081/12 DIN EN 24017-M8×16-A2-70 08-01-177/23 |08-01-178/23 Datum 58-33-393/ Name WS-Nr. ref.-no. <u>"</u> II Diaphragm valve fan support MS4, MSE4 FS-CU and PSH Membranventil fan support MS4, MSE4 FS-CU und VSM 08-60-005/94 4x DIN EN 2401 -M6x12-A2-70 58-33-293/ WS-Nr. ref.-no. 1+2+3+4S ME432 1+2+3S ME42 1+2+3S M42 1+2+3S 1-4 zoll / inch Ersatzteilliste: spare parts list: ME41 1+2S Benennung M41 1+2S description <u> Tembranunterstützung</u> <u>=ntlüftungsstopfen</u> <u>ıpper valve shaft</u> ower valve shaft -ührungsbuchse 0-ring Skt. Schraube Skt. Schraube **Tellerdichtung** Schaft unten enting plug Schaft oben an suppor Zugstange lex. SCrew SCrew <u>diaphragm</u> **Jembrane** seat seal ouide rod Gehäuse Sehäuse Sehäuse <u> Jehäuse</u> Sehäuse sehäuse pusing housing nousing nousing housing aterne. hushing pnising 0-Ring **J-Ring** Stern star hex. Menge quantity 2 Pos tem. 7 റ 9  $\omega$ 12 2 m ப Ø ω σ



Ersatzteilliste: spare parts list:

02/94

Trytko

28.06.07

Gezeichnet

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Blatt

Date

APV Roelsta GmbH
APV D-59425 Uma
Germany WS-Nr. ref.-no. RN 01.064.9-1 WS-Nr. ref.-no. Schulz 58-06-140/64 WS-Nr. ref.-no. 26.09.07 **7** II II Normgepr WS-Nr. ref.-no. Geprüft 'n II II II II 22-3,5 58-06-083/64 ø165 15-32-052/17 WS-Nr. ref.-no. 2,5 П П II II II Trytko Trytko Datum | 06/07 | 06/08 WS-Nr. ref.-no. <u>ٿ</u> II II II II II Ш OR 66x2 NBR 70-75-Shore A 11-2,5 58-06-038/64 58-06-067/64 08-52-290/97|08-52-291/97 ø110 |15-32-051/17 DIN EN 24017-M8×16-A2-70 Name WS-Nr. ref.-no. DIN EN ISO 10511-M12-A2 <u>,</u> II Diaphragm valve fan support MS4, MSE4 FS-CU and PSH Membranventil fan support MS4, MSE4 FS-CU und VSM 15-33-932/93 15-28-940/12 08-48-415/93 15-32-050/17 16-31-232/93 WS-Nr. ref.-no. CU31 Direct-Connect proximity switch holder housing SW4 1-4 zoll / inch Benennung description <u>operating cam</u> VSM Gehäuse-SW<sup>1</sup> <u>0-ring</u> Zentrierscheibe Skt. Schraube <u>centering nut</u> Skt. Mutter Schaltnocke Control-Unit CU-Adapter CU-adapter <u>0-ring</u> Steuerkopf Jex. SCrew Control-Uni actuator שר. אשר 0-Ring F Os Menge Tuantity 9 20 22 25 26 4  $\infty$ 9



Ersatzteilliste: spare parts list:

02/94

Trytko Name

28.06.07

Gezeichnet

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Datu

APV Rocieta GmbH
APV 0-59425 Urna
Germany WS-Nr. ref.-no. RN 01.064.9-1 WS-Nr. ref.-no. Schulz |58-36-780/00|58-36-781/00 |58-36-782/00|58-36-783/00|58-36-786/00|58-36-785/00 58-36-780/02|58-36-781/02 |58-36-782/02|58-36-783/02|58-36-786/02|58-36-785/02 58-36-780/06|58-36-781/06 |58-36-782/06|58-36-783/06|58-36-786/06|58-36-785/06 58-36-780/01 | 58-36-781/01 | 58-36-782/01 | 58-36-783/01 | 58-36-786/01 | 58-36-785/01 WS-Nr. ref.-no. 26.09.07 7 Normgepr. WS-Nr. ref.-no. Geprüft m WS-Nr. ref.-no. 2,5 Dichtungssatz MS4+MSE4 Standardausführung / seal kit MS4+MSE4standard design Trytko Trytko 80/90 | 06/08 WS-Nr. ref.-no. Pos. 2, 5, 11, 13, 15, 16, 22 nur im kompletten Dichtungssatz erhältlich item. 2, 5, 11, 13, 15, 16, 22 available es complete seal kits only 5 Datum Name WS-Nr. ref.-no. <u>,</u> Diaphragm valve fan support MS4, MSE4 FS-CU and PSH Membranventil fan support MS4, MSE4 FS-CU und VSM WS-Nr. ref.-no. **÷** TEM/FPM TFM/EPDM TFM/HNBR TFM/VMQ 1-4 zoll / inch Benennung description Dichtungssatz Dichtungssatz **Dichtungssatz** Dichtungssatz seal kit seal kit F OS Pos Menge Quantity  $\overline{\phantom{a}}$ 



APV Roeista GmbH
PV D-59425 Urna
Germany

15.1.98 Trytko 15.1.98 Spliethoff 19.1.98 Plümper

Name

Datu

RN 01.054.86

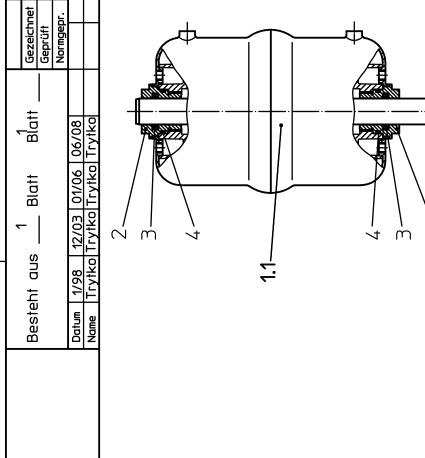
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Steuerkopf SW4

Ersatzteilliste: spare parts list:

Actuator SW4

 $\mathcal{L}_{1}$ 



}	g165	WS-Nr. refno.	15-32-052/17	15-32-087/17	3A0 15-32-061/13	3A0 15-32-066/13	II	=	=	
	0110	WS-Nr. refno.	15-32-051/17	15-32-086/17	3A0 15-32-060/13	3A0 15-32-065/13	II	II	=	
	7/0	WS-Nr. refno.	15-32-050/17	15-32-085/17	3A0 15-32-059/13	3A0 15-32-057/13	15-28-840/93	58-32-010/83	58-06-124/83	
}	Beneau	description	kpl Feder/Luft Ausf. matt-gl. omplete spring/air design satin fin.	kpl Luft/Luff Ausf. matt-gl. omplete air/air design satin fin.	Steuerkopf kpl Feder/Luft Ausf. 3A-blank 3A0 15-32-059/13 3A0 15-32-060/13 3A0 15-32-061/13 Actuator complete spring/air design 3A-bright fin.	-	:hraube	J 20x28x4	29-2,5	
I	Χιιτη	dnai	Steuerkopf kpl F Actuator complete	Steuerkopf kpl Actuator complet	Steuerkopf kpl F Actuator complete	Steuerkopf kpl Actuator comple	2 Dichtungsschraube Seal screw		2 0-Ring 2 0-ring	
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fan support Ersatzteilliste: spare parts list: Membranventil

MS4, MSE4 FS-CU und VSM

Diaphragm valve fan support MS4, and PSH 1-4



Besteht aus 90/90 Datum

4

Trytko Name 02.06.08 19.06.08 Datu Gezeichnet Geprüft Blatt

APV Rocista GmbH
PV D-59425 Urna
Germany actuator screw RN 01.064.9-2 Schaltnocke Schulz Normgepr. 7 RN 01.054.86 Blatt Trytko Name 9 zoll/inch Bitte WS-Nr. ergänzen. Fill in last two digits Werkstoffvarianten Selection for seat für Sitzdichtung.

../33-HNBR ./93-EPDM ../73-FPM ../13-VMQ \*

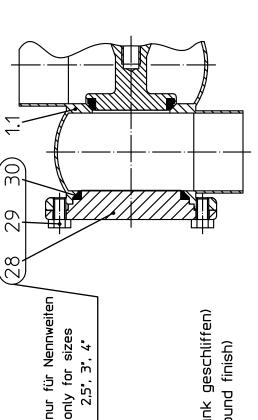
seal materials.

of ref.-no.

\*\* Metalloberfläche-außen: outer metal surfaces:

1.4404- bright ground finish. ../43 1.4404- blank geschliffen

../47 1.4404- matt-glänzend 1.4404- satin finish \*\*\*Pos. 18 und 19 nur bei Steuerkopf 3A-Ausführung (blank geschliffen) item. 18 and 19 only for actuator 3A-design (bright ground finish)





Name

Gezeichnet 02.06.08 Trytko Datum Blatt 2 ® ( Weitergabe sowie Vervielfältigung dieser Unterlage, Verwertung und Mitteilung ihres Inhalts nicht gestattet, soweit nicht schrifflich zugestanden. Verstoß verpflichtet zum Schadensersatz und kann strafrechliche Falgen haben (Paragraph 18 UWG, Paragraph 106 Urhlö. Eigentum und alle Rechte, auch für falgenterteilung und Gebrauchsmustereinfragung, vorbehalten. APV Rosista GmbH. Diese Zeichnung wurde mit CAD erstellt und darf nicht von Hand geändert werden. Ersatzteilliste: spare parts list:
Membranventil fan support

MS <sub>4</sub>	<u>∠</u>	MS4, MSE4 FS-CU und VSM					Geprüft	19.06.08 Schulz	Germany Germany	Germany
	년	Diaphragm valve fan support MS4,	\ \		80/30	-	. Idel III depi		70.00	
MSE4	7	FS-CU and PSH 1-4 zoll/inch	7	Name	Trytko				/ KN UI.U64.9-2	7-6.40
PO	agr ntity	Renenning	<del>*</del>	1,5,	7."	2,5"	m —	.,7		
item	Mer Gua		WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.
7	1	Gehäuse M41 1+2S ** housing M41 1+2S	3A0 39-41-800/	3A0 39-41-801/	3A0 39-41-802/	3A0 39-41-803/	3A0 39-41-804/	3A0 39-41-805/		
_	1	Gehäuse M42 1+2+3S **	3A0 39-42-800/	3A0 39-42-801/	3A0 39-42-802/	3A0 39-42-803/	3A0 39-42-804/	3A0 39-42-805/		
	1	Gehäuse ME41 1+2S **	3A0 39-45-320/	3A0 39-45-420/	3A0 39-45-470/	3A0 39-45-520/	3A0 39-45-570/	3A0 39-45-670/		
7	1	Gehäuse ME42 1+2+3S ** housing	3A0 39-46-320/	3A0 39-46-420/	3A0 39-46-470/	3A0 39-46-520/	3A0 39-46-570/	3A0 39-46-670/		
<u>:</u>	1	e ME43 1+2+3S	3A0 39-47-320/	3A0 39-47-420/	3A0 39-47-470/	3A0 39-47-520/	3A0 39-47-570/	3A0 39-47-670/		
	1	Gehäuse ME44 1+2+3+4S **	3A0 39-48-320/	3A0 39-48-420/	3A0 39-48-470/	3A0 39-48-520/	3A0 39-48-570/	3A0 39-48-670/		
2	1	Tellerdichtung *   seat seal	58-33-293/	58-33-393/	58-33-443/	58-33-493/	28-33-568/	58-33-643/		
Э	1	Schaft unten lower valve shaft	3A0 39-22-320/4.	3A0 39-22-320/43 <mark>3A0 39-22-420/43</mark>		3A0 39-22-470/43 <mark>3A0 39-22-520/43</mark> 3A0 39-22-570/43 <mark>3A0 39-22-670/43</mark>	3A0 39-22-570/43	3A0 39-22-670/43		
7	1	Schaft oben upper valve shaft	39-22-070/12	39-22-071/12	II	39-22-072/12	II	39-22-074/12		
2	1	ane aam	58-23-050/2	58-23-050/23 58-23-051/23	II	58-23-052/23	II	58-23-054/23		
9	1	Stern star	08-48-520/12	08-48-521/12	II	08-48-522/12	II	08-48-524/12		
7	1	Membranunterstützung fan support	08-48-510/93	08-48-511/93	II	08-48-512/93	II	08-48-514/93		
8	1	Zugstange guide rod	39-23-080/12	39-23-081/12	II	39-23-083/12	II	39-23-130/12		
O	1	Eaterne Ausf. 3A-blank Iyoke design 3A-bright fin.		3A0 39-40-040/43 3A0 39-40-041/43	=	3A0 39-40-042/43	3A0 39-40-046/43	3A0 39-40-042/43 3A0 39-40-046/43 3A0 39-40-044/43		
`	1	Laterne Ausf. matt-gl. yoke design satin fin.	000 39-40-040/4;	000 39-40-040/47 000 39-40-041/47	II	000 39-40-042/47	000 39-40-046/47	000 39-40-042/47 000 39-40-046/47 000 39-40-044/47		
10	4	Skt. Schraube hex. screw	DIN EN 24017	24017-M8×16-A2-70				DIN EN 24017- M8x20-A2-70		
1	1	Führungsbuchse bushing	000 08-01-177/23	000 08-01-177/23 3A0 08-01-178/23	II	II	II	11		
12	2	Entlüftüngsstopfen ventina plua	08-60-005/94		II	II	II	II		
13	_	0-Ring 0-ring	15,3-2,4 58-06-052/64	20,2–3 4 58–06–078/64	II	II	II	II		
14		Skt. Schraube hex. screw	4x DIN EN 24017 -M6x12-A2-70	7 4×  DIN EN 24017-M8×16-A2-70	-M8×16-A2-70	×7	<b>4</b> ×	8xDIN EN 24017 -M10x16-A2-70		



Diaphragm valve fan support MS4, MSE4 FS-CU and PSH 1-4 zoll/inch MS4, MSE4 FS-CU und VSM Ersatzteilliste: spare parts list: Membranventil fan support



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WS-Nr	JN-SM	N-SW	JN-SM	_	MS-Nr	JN-SM

əpne Yiitna	Benennung	1	1,5"	2"	2,5"	"ň	7	-	
	description	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.	WS-Nr. refno.
1 <mark>0-Ring</mark> 1 0-rina		64	60-3 58-06-277/64	II	76-3,5 58-06-347/64	II	120-3,5 58-06-580/64		
1 <mark>0-Ring</mark> 1 <u>0-rina</u>		11-2,5   58-06-038/64 58-06-067/64	18-3 58-06-067/64	II	22-3,5  58-06-083/64	II	31,1-3,5 58-06-140/64		
1 Steuerkopf actuator	Ausf. 3A-blank design 3A-bright fin.		ø110 3A0 15-32-060/13	II	ø165 3A0 15-32-061/13	II	=		
1 Steuerkopf actuator	Ausf. matt-gl. design satin fin.	ø74 000 15-32-050/17  000 15-32-051/17	ø110 000 15-32-051/17	II	ø165 000 15-32-052/17	II	=		
1 W-Verschraubung W-Union slewable	lω		=	II	II	П	II		
1 Entlüftungsstopfen Iventing olug	topfen G1/8 ***	66/500-09-80	=	II	II	II	=		
1 0-Ring 1 0-ring		OR 66x2 NBR	70-75-Shore A	<b>4</b>					
1 Zentrierscheibe Icentering nut	eibe ut	15-28-940/12	=	II	II	II	II		
1 Skt. Mutfer 1 hex. nut		DIN EN ISO 10511-M12-A2	511-M12-A2						
1 Schaltnocke 1 operatina co		08-52-290/97 08-52-291/97	08-52-291/97	II	II	II	II		
1 VSM Gehäuse-SW4 proximity switch ho	VSM Gehäuse-SW4 proximity switch holder housing SW4	15-33-932/93	=	II	II	=	II		
4 Skt. Sčhraul 4 hex. screw		DIN EN 24017-	EN 24017-M8x16-A2-70						
1 Control-Unit	CU31 Direct-Connect	16-31-232/93	II	II	II	II	II		
1 CU-Adapter 1 CU-adapter		08-48-415/93	II	11	11	II	II		
1 Gehäusedeckel 1 housing screw	:kel :ew				340 39-01-233/43	3A0 39-01-234/43			
Skt. Schraube hex. screw	be				4x 4x 4x DIN EN 24017-M8x16-A2-70	4x 48x16-A2-70			
1 0-Ring 1 0-ring					75,6-5,33 58-06-345/64	=	119,2-5,7 58-06-520/64		



Weitergabe sowie Vervielfältigung dieser Unterlage, Verwertung und Mittellung ihres Inhalts nicht gestattet, soweit nicht schriftlich zugestanden. Verston verpfülchtet zur Schadensersatz und kann strinfechtliche Zugen haben Paragraph 18 UMG. Paragraph 19 UMG. Para



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Ersatzteilliste: spare parts list:						Datum	Name		
Membranventil tan support		_ ⊛ ∕	Blatt 4		Gezeichnet	02.06.08	Trytko	₹ ? •	V Roeista GmbH
MS4, MSE4 FS-CU und VSM	$\nabla$	_			Geprüft				Germany
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MSE4 FS-CU and PSH 1-4 zoll/inch	) ] _	Name	Trytko					00.	-/-
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ם. ופנ	WS-Nr.	WS-Nr.	WS-Nr.	WS-Nr.	WS-Nr.	WS-Nr.		WS-Nr.	WS-Nr.
IIIIII 면 에 무슨 IIIIIII	refno.	refno.	refno.	refno.	refno.	refno		efno.	refno.
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ا P	חפארווטוווו	refno.	refno.	refno.	refno.	refno.	refno.	refno.	refno.
	Dichtungssatz MS4 Ausführung -3A /		seal kit MS4 desigr	-3A					
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	,-	1 Dichtungssatz TF seal kit	TFM/FPM-3A	340 58-36-780/00	340 58-36-780/00 <mark>340 58-36-781/00</mark> 340 58-36-782/00 <mark>340 58-36-783/00</mark> 340 58-36-786/00 <mark>340 58-36-785/00</mark>	40 58-36-782/00	A0 58-36-783/00	140 58-36-786/00	140 58-36-785/00		
	•	1 Dichtungssatz TF Iseal kit	TFM/EPDM-3A 3A0 58-36-780/01 3A0 58-36-781/01 3A0 58-36-782/01 3A0 58-36-783/01 3A0 58-36-786/01 3A0 58-36-785/01	3A0 58-36-780/01	3A0 58-36-781/01 34	40 58-36-782/01	A0 58-36-783/01	340 58-36-786/01	140 58-36-785/01		
	,	1 Dichtungssatz TF I seal Kit	TFM/VMQ-3A	3A0 58-36-780/02	3A0 58-36-780/02 3A0 58-36-781/02 3A0 58-36-782/02 3A0 58-36-783/02 3A0 58-36-786/02 3A0 58-36-785/02	40 58-36-782/02	A0 58-36-783/02	340 58-36-786/02	140 58-36-785/02		
		1 Dichtungssatz TF Iseal kit	TFM/HNBR-3A 340 58-36-780/06 3A0 58-36-781/06 3A0 58-36-782/06 3A0 58-36-783/06 3A0 58-36-786/06 3A0 58-36-785/06	3A0 58-36-780/06	3A0 58-36-781/06 34	40 58-36-782/06	A0 58-36-783/06	340 58-36-786/06	1A0 58-36-785/06		
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