APV
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Operating Manual

DELTA M4

Membrane Valve

Read and understand this manual prior to operating or servicing this product.

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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" – 4"

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

ppa. Baumbach

Manager Research and Development

UK

Table of Contents

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.

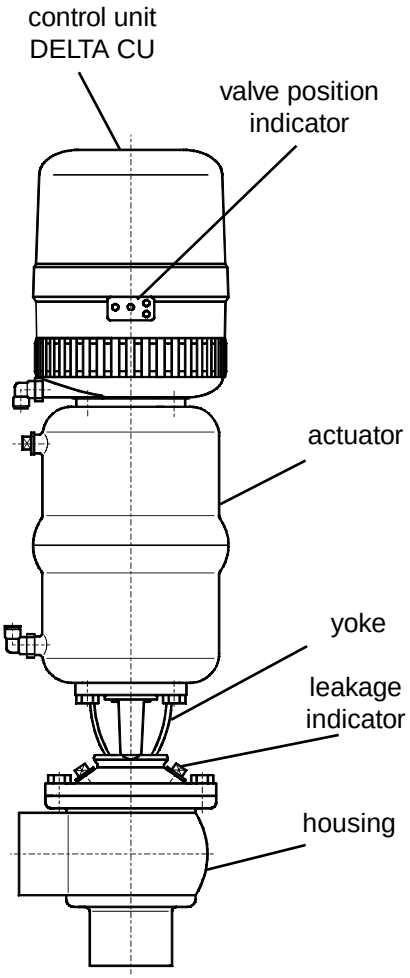
Descriptions and data given herein are subject to technical changes.

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 system 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.
- If the membrane is damaged, leakages drain off the leakage bore in the yoke area.
- **Attention!**
  With valve design NC (normally closed):
  control the actuator with air before releasing the housing screws.
- The welded actuator is under spring load, **do not** open it.

3. Mode of Operation



Membrane valves DELTA M4 have been developed for use in the brewing and beverage industries, dairy and food applications as well as in the chemical and pharmaceutical industries.

The function of the DELTA M4 valve is to shut off line sections.

The membrane valves offer optimum protection of the product in hygienic and aseptic applications. Product safety is provided by the hermetic separation of the product chamber from the environment (atmosphere) by a flexible membrane.

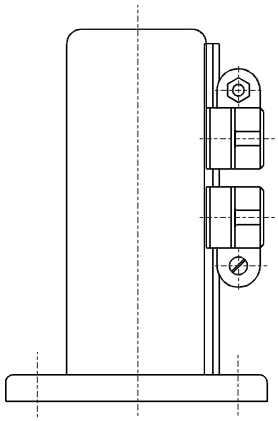
- Operation by pneumatic actuator with air connection, reset by spring force.
- By different assembly of the actuator, the following designs can be realized:

  NC: actuator normally closed
  ("fail-down": air-to-raise, spring-to-lower)

  NO: actuator normally open
  ("fail-up": air-to-lower, spring-to-raise)
- The inner parts of the actuator are maitenance-free.
- The cleaning of the inner area of the valve is undertaken during CIP cleaning of the line system.
- Leakages at the membrane are indicated at the leakage drain in the yoke area.
- For the pneumatic control of the valve, a control unit is installed on top of the actuator.
- The yellow luminous diodes installed in the control unit indicate the position of the valve rod.
- For aggressive products, the MP design of the inner parts with a membrane shaft out of TFM should be used.

4. Auxiliary Equipment

PSH



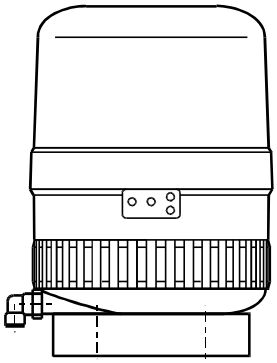
- **Valve position indication**
  For the valve position indication, a proximity switch holder **(PSH)** can be installed direct on the actuator.

  To signal the limit position of the valve seat, proximity switches can be mounted to the holder if required.
  We recommend our APV standard types:
  operating distance: 5 mm / diameter: 11 mm.

  If the user decides to apply valve position indicators other than APV type, we cannot take over the liability for any malfunctions resulting therefrom.

- **Control Unit**
  The assembly of a control unit on the M4 valve is possible.

control unit with adapter



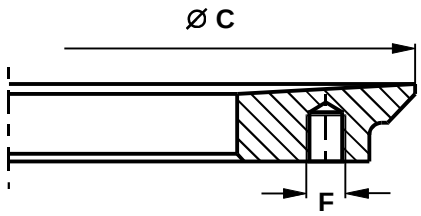
The following designs are available:

	1 solenoid valve
Direct Connect ref.-No.:	**CU31 Direct Connect** 16-31-232/93
Profibus ref.-No.:	**CU21V** 16-31-236/93
Device Net ref.-No.:	**CU31 Device Net** 16-31-240/93
AS - Interface ref.-No.:	**CU31 AS - Interface** 16-31-244/93

- For the assembly of the control unit on the M4 valve an adapter is required.

	adapter
Designation: ref.-No.:	**CU 2 adapter - SW4 / SD4 / M4** 08-48-415/93

tank bottom welding flange



DN	inch	Ø C	F
25	1”	138	M8
40	1,5”	153	M8
50	2”	168	M8
65	2,5” / 3”	200	M10
80		223	M10
100	4”	258	M10

The tank bottom welding flange for the MT4 valve does not form part of the scope of supply.

Order reference numbers for the tank bottom welding flange:

DN	inch	ref.-No.:
25	**1”**	**31B 15 - 01 - 391/42**
40	**1,5”**	**31B 15 - 01 - 441/42**
50	**2”**	**31B 15 - 01 - 491/42**
65	**2,5” / 3”**	**31B 15 - 01 - 541/42**
80		**31B 15 - 01 - 641/42**
100	**4”**	**31B 15 - 01 - 691/42**

5. Installation

- The installation of the valve must be undertaken in such a manner that fluids can drain off the valve housing and should be provided preferably in vertical position.
- The valve housing can be welded direct into the pipeline (completely dismantable valve insert).
- **Attention:** Observe welding instructions.

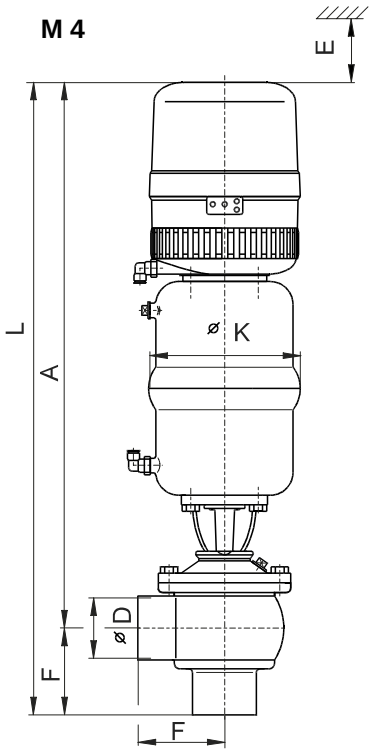
5.1 Welding Instructions

- 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 as a square butt joint without air.
(Consider shrinkage!)
- TIG orbital welding is best!
- After welding of the valve housings or of the mating flanges and after work at the pipelines, the corresponding parts of the installation or pipelines 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.

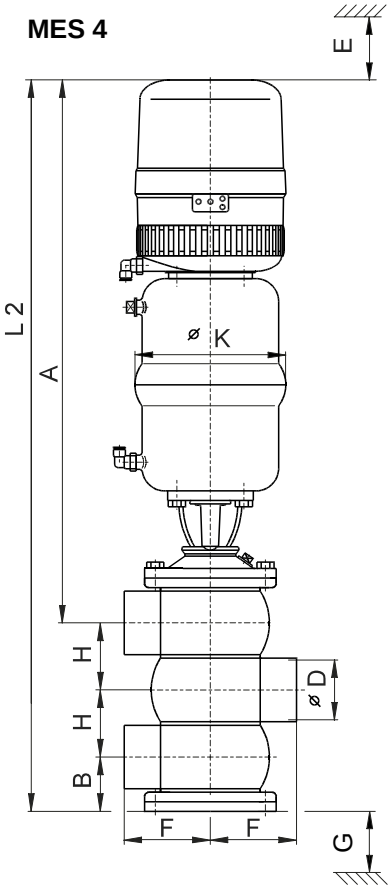
6. Dimensions / Weights

6.1 M4 Valves with control unit DELTA CU

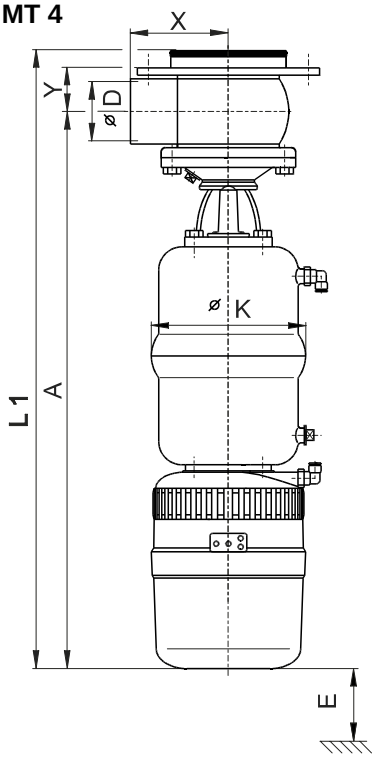
M 4



MES 4



MT 4



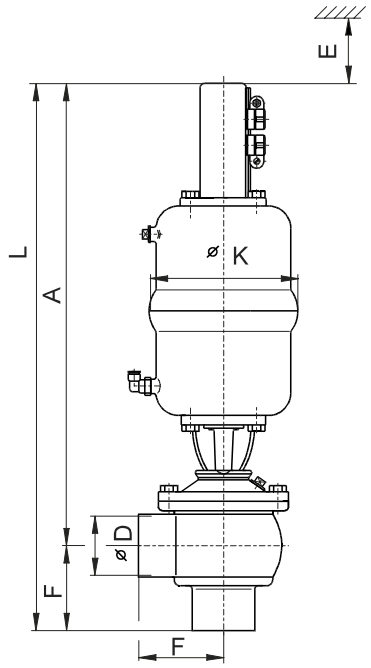
Dimensions in mm														Weight in kg M4 / MT4	Weight in kg MES4
DN	**A**	**B**	**Ø D**	**F**	**H**	**Ø K**	**L**	**L1**	**L2**	**X**	**Y**	**E**	**G***		
25	406	29,5	26	50	32	86	456	446	500	65	26,0	200	290	4,2	7,4
40	445	37,5	38	67	44	126	512	490	571	75	29,5	200	300	7,1	11,0
50	451	45,5	50	72	56	126	523	509	609	80	37,5	200	310	7,1	12,0
65	460	52,0	66	85	74	126	545	524	660	95	46,0	200	330	7,9	13,5
80	516	59,5	81	98	91	189	614	587	758	108	53,5	200	380	14,2	21,0
100	528	69,0	100	111	110	189	639	613	817	125	65,0	200	400	15,2	26,5
inch															
1”	405	28,0	22,2	50	28,6	86	455	443	490	65	24,5	200	290	4,2	7,4
1,5”	443	37,0	34,9	67	41,1	126	510	486	562	75	28,0	200	300	7,1	11,0
2”	449	43,0	47,6	72	53,8	126	521	506	600	80	36,5	200	310	7,1	12,0
2,5”	454	49,0	60,3	85	68,0	126	539	515	639	95	43,0	200	330		13,5
3”	463	55,0	72,9	90	80,1	189	553	530	678	95	49,0	200	380		21,0
4”	526	68,0	97,6	111	107,6	189	637	609	809	125	64,0	200	400	15,3	26,5

*If necessary, dimension **G** can be reduced by unscrewing shaft / guide rod.

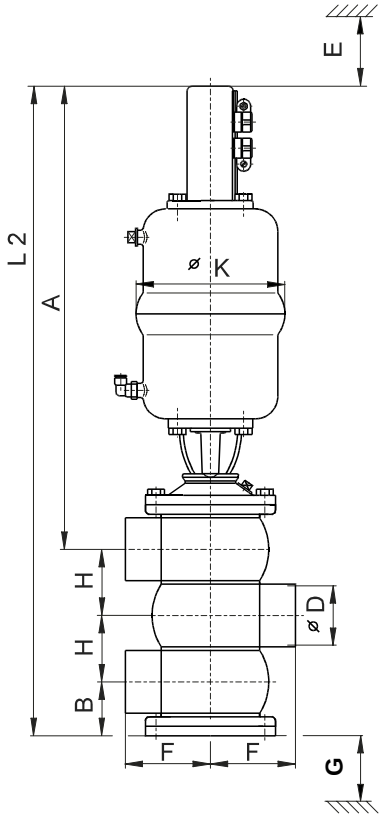
6. Dimensions / Weights

6.2 M4 Valves with valve position indication (proximity switch holder)

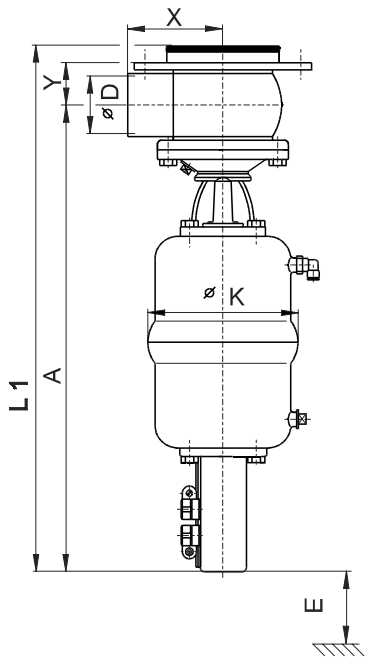
M 4



MES 4



MT 4



Dimensions in mm														Weight in kg M4 / MT4	Weight in kg MES4
DN	**A**	**B**	**ØD**	**F**	**H**	**ØK**	**L**	**L1**	**L2**	**X**	**Y**	**E**	**G***		
25	348	29,5	26	50	32	86	398	388	442	65	26,0	200	290	3,2	6,4
40	387	37,5	38	67	44	126	454	432	513	75	29,5	200	300	6,1	10,0
50	393	45,5	50	72	56	126	465	451	551	80	37,5	200	310	6,1	11,0
65	402	52,0	66	85	74	126	487	466	603	95	46,0	200	330	6,9	12,5
80	458	59,5	81	98	91	189	556	529	700	108	53,5	200	380	13,2	20,0
100	470	69,0	100	111	110	189	581	555	760	125	65,0	200	400	14,3	25,5
inch															
1”	347	28,0	22,2	50	28,6	86	397	385	432	65	24,5	200	290	3,2	6,4
1,5”	385	37,0	34,9	67	41,1	126	452	428	504	75	28,0	200	300	6,1	10,0
2”	391	43,0	47,6	72	53,8	126	463	448	542	80	36,5	200	310	6,1	11,0
2,5”	396	49,0	60,3	85	68,0	126	481	457	581	95	43,0	200	330		12,5
3”	405	55,0	72,9	90	80,1	189	495	472	620	95	49,0	200	380		20,0
4”	468	68,0	97,6	111	107,6	189	579	551	751	125	64,0	200	400	14,3	25,5

*If necessary, dimension **G** can be reduced by unscrewing shaft / guide rod.

7. Technical Data

Product - wetted parts :		**316 L, 1.4404**
Other parts :		**1.4301**
Seals :	standard**:**	**EPDM**
Option :		**HNBR**
Membrane:		**TFM / EPDM**
Option:	**membrane shaft MP4**	**TFM**
Actuator :		**1.4301**
Max. line pressure :		**5 bar**
Max. operating temperature :		**135°C EPDM, HNBR**
Short-term steam load:		**140°C EPDM, HNBR**
Air connection (for hose):		**6 x 1mm**
Max. pneumatic air pressure:		**8 bar**
Min. pneumatic air pressure:		**6 bar**

(Dry and clean pneumatic air must be used only!)

The opening and closing times of valves equipped with a control unit DELTA CU can be fixed by adjusting the throttle at the solenoid valve.

closing times in sec.
control pressure 6 bar
hose length 1m a. 10m.

		1m	10m
DN	**inch**		
25	1”	1	2
	1,5”	1	2
40		3	4
50	2”	3	4
65	2,5”	3	4
80	3”	5	6
100	4”	5	6

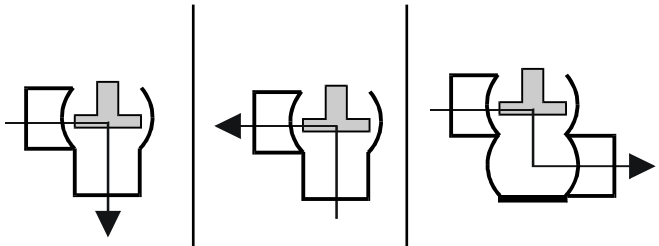
movement in mm

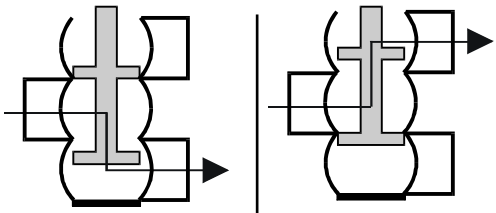
		single seat valves	change-over/divert valve
DN	**inch**		
25	1”	8	5
40	1,5”	13	10
50	2”	13	10
65	2,5”	16	13
	3”	16	13
80		21	18
100	4”	25	22

7. Technical Data

DELTA M4

kvs values in m^3 / h

		single - seat valves		
				
DN	**inch**			
25	1”	22	22	
40	1,5”	42	38	
50	2”	73	70	
65	2,5”	130	112	
80	3”			
100	4”	342	276	

		change-over / divert valves	
			
DN	**inch**		
25	1”		
40	1,5”		
50	2”		
65	2,5”	65	65
80	3”		
100	4”		

8. Maintenance

- The maintenance intervals depend on the corresponding application and are to be determined by the operator himself carrying out temporary checks.

Tools required:
- 1x spanner SW10 (DN 25 / 1”)
- 1x spanner SW13
- 1x spanner SW17
- 1x spanner SW19

- The assembly and disassembly as well as the exchange of seals is done according to the service instructions.

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

- ***The membrane must be provided with a thin layer of grease at the product- averted side.***

Recommendation:
APV-food-grade grease for EPDM and HNBR
(0,75 kg/ can - WS-Nr. 000 70-01-019/93)
(60 g/ tube - WS-Nr. 000 70-01-018/93)

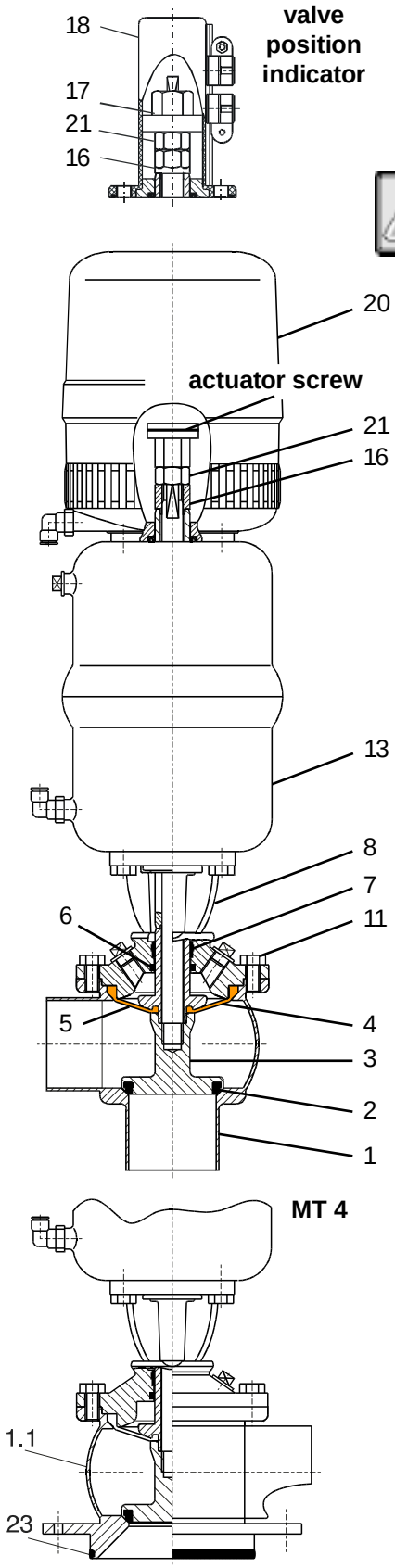
! **No matter what type of application, use only those greases being suited for the respective seal material !**

Recommendation for screw retention
Typ: Loctite 243 semi-solid
(5ml - WS-Nr.00070-01-110/93)
(50ml - WS-Nr.00070-01-111/93)

To simplify the installation of the seat seal, an assembly tool is available.

assembly tool M4		
DN	**inch**	**ref.-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

9. Service Instructions



9.1 Dismantling from the line system M4 / MT4, (MP4 / MTP4)

a. Shut off line pressure and discharge lines and tanks if possibe.

b. Valve design NC: **control actuator with air.**

Do not touch movable parts!
Risk of injury.

c. Remove housing screws **(11)** and lift complete valve insert including actuator out of the housing.

d. Valve design NC: **cut off compressed air.**

e. CU design: remove the control unit by turning the locking ring.

Valve position indicator: remove proximity switches. Detach indicator housing (proximity switch holder) from actuator.

9.2 Dismantling of product-wetted parts

The item numbers refer to the spare parts drawings

M4, ME4, MT4:	DN design	RN 01.064.0
	inch design	RN 01.064.1

a. CU design and valve position indicator:
First of all, release actuator screw. Release the locking nut **(21)**, while holding up the centering washer **(16)**. Remove the centering washer.

b. Pull lower valve shaft **(3)** out of the actuator **(13)**, remove seat seal **(2)**.

c. Remove membrane (4) and upper valve shaft **(5)**.

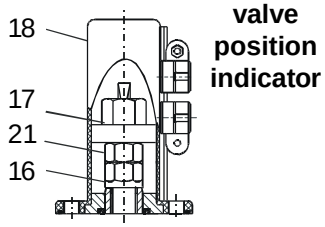
! Only with valves of the nominal dimensions DN 25 / 1” must the membrane **(4)** be removed as follows:
Twist valve shaft off the guide rod. Remove membrane (4) and upper valve shaft (5).

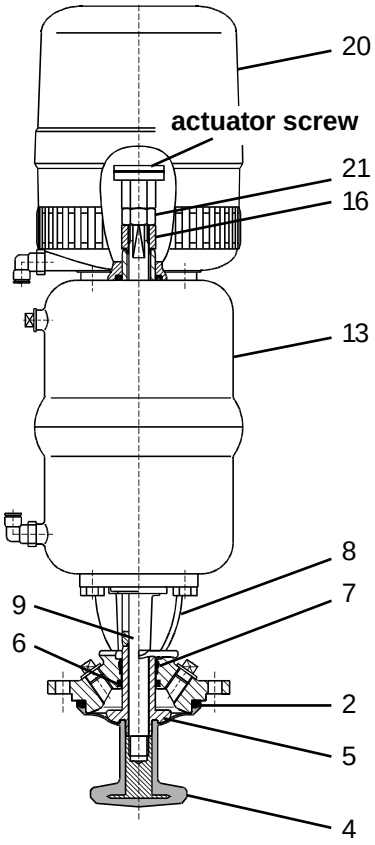
d. Remove yoke **(8)** from actuator **(13)**.

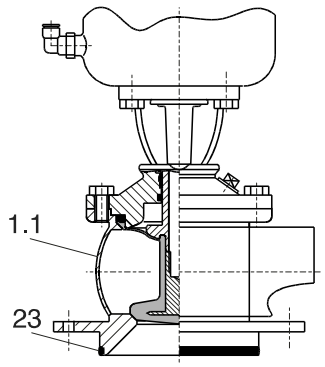
e. Detach O-ring **(6)** and guide bush **(7)** from the yoke **(8)**.

f. MT4 valves: the tank housing seal **(23)** can be replaced.

9. Service Instructions







9.2 The item numbers refer to the spare parts drawings

MP4, MEP4, MTP4:	DN design	**RN 01.064.2**
	inch design	**RN 01.064.3**

II. Dismantling of product-wetted parts

a. CU design and valve position indicator:
First of all, release actuator screw. Release the locking nut **(21)**, while holding up the centering washer **(16)**. Remove the centering washer.

b. Pull membrane shaft **(4)** with guide rod out of the actuator **(13)** and twist membrane shaft off the guide rod **(9)**.

c. Remove upper valve shaft **(5)**.

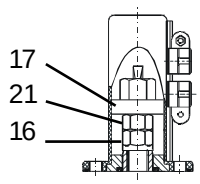
d. Dismantle yoke **(8)** from actuator **(13)**.

e. Remove seal ring **(2)**.

f. Detach O-ring **(6)** and guide bush **(7)** from the yoke **(8)**.

g. MTP4 valves: the tank housing seal **(23)** can be replaced.

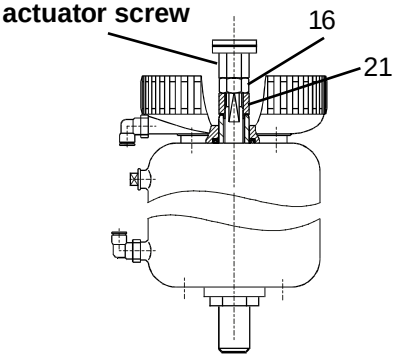
9. Service Instructions



9.3 Installation of seals and assembly of valve

The item numbers refer to the spare parts drawings

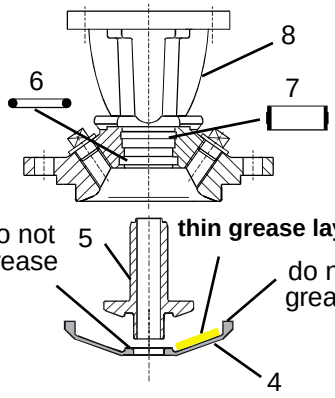
M4, ME4, MT4:	DN design	**RN 01.064.0**
	inch design	**RN 01.064.1**



a. Insert guide bush **(7)** and O-ring **(6)** into the yoke **(8)**. Fasten the yoke **(8)** at the actuator **(13)**.

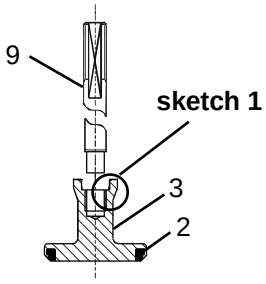
b. Install seat seal **(2)** in the lower valve shaft **(3)**. For the installation of the seat seal, use the APV assembly tool **(see page 17)**. Grease the seat seal only slightly before its installation. If installed manually, vent the seal groove between the seal and the groove wall with a thin object.

c. Provide the product-averted side of the membrane **(4)** with a thin layer of grease and place it on the upper valve shaft **(5)**. Put upper valve shaft with membrane on the guide rod **(9)**.



! Only with valves of the nominal dimensions **DN 25 / 1”** must ***the lower valve shaft be fastened on the guide rod*** after a membrane replacement. The lower shaft must be secured by a drop of a screw locker (e.g. type: Loctite- semi-solid). Apply the agent only in the threaded bore, but not on the thread of the guide rod **(see sketch 1)**. In case of non-observance of these instructions, the two valve shafts can paste up.

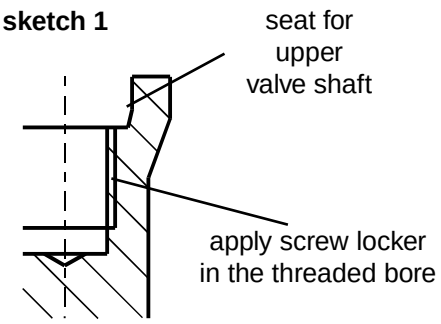
d. Insert lower valve shaft **(3)** with guide rod **(9)**, membrane **(4)** and upper valve shaft **(5)** through the yoke **(8)** and the actuator **(13)**.



! The upper valve shaft must be led smoothly through the guide bush in the yoke. If the shaft stiffs, check the right fit of the guide bush.

e. **CU design and valve position indicator:**
Place the centering washer **(16)**. Apply a drop of a screw locker (e.g. type: Loctite - semi-solid) on the thread of the guide rod. Screw on locking nut **(21)** and fasten it with a **tightening torque** of **MD = 40 Nm**. Hold up the centering washer during this process.

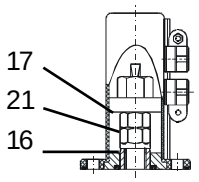
	CU:	Tighten plastic actuator screw.
!	**Valve position indicator:**	Fasten metallic actuator screw as **locking nut**.

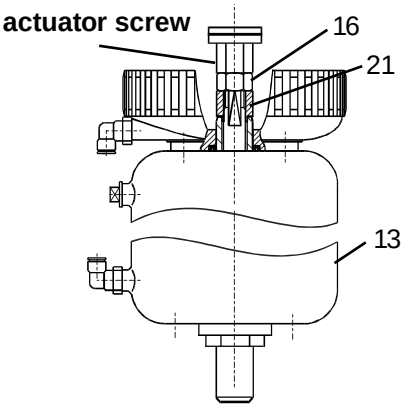


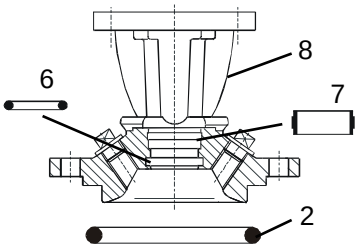
Instructions to replace the guide rod:

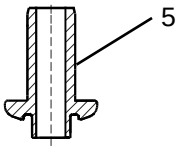
for valve dimensions **DN 40 - 100 / 1,5” - 4”**
Unscrew the guide rod **(9)** from the lower valve shaft **(3)**. Clean the valve shaft (remove grease and impurities). Apply a drop of a screw locker (e.g. type: Loctite - semi-solid) in the area of the threaded bore of the lower valve shaft **(see sketch 1)**. Screw in guide rod and tighten it. In case of non-observance of these instructions, the two valve shafts can paste up.

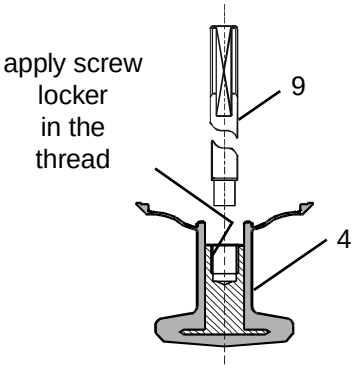
9. Service Instructions











9.4 Installation of seals and assembly of valve

The item numbers refer to the spare parts drawings

MP4, MEP4, MTP4: DN design **RN 01.064.2**
inch design **RN 01.064.3**

a. Insert guide bush **(7)** and O-ring **(6)** into the yoke **(8)**. Fasten the yoke **(8)** at the actuator **(13)** by means of hex. screws.

b. Slightly grease O-ring **(2)** and place it on the yoke.

c. Apply a drop of a screw locker (e.g. type: Loctite - semi-solid) in the threaded bore of the membrane shaft. Screw the guide rod **(9)** in the membrane shaft **(4)**. Place the upper shaft **(5)**.

! Only with valves of the nominal dimensions **DN 25 / 1T** must the **upper valve shaft be placed on the guide rod, at first**.

d. Insert membrane shaft **(4)** with guide rod **(9)** and upper valve shaft **(5)** through the yoke **(8)** and the actuator **(13)**.

! The upper valve shaft must be led smoothly through the guide bush in the yoke.
If the shaft stiffs, check the right fit of the guide bush.

e. CU design and valve position indicator:

Place the centering washer **(16)**. Apply a drop of a screw locker (e.g. type: Loctite - semi-solid) on the thread of the guide rod. Screw in the locking nut **(21)** and fasten it with a tightening torque of **MD = 40 Nm**.
Hold up the centering washer during this process.

CU: Tighten the plastic actuator screw.
Valve position indicator: Fasten the metallic actuator screw as **locking nut**.

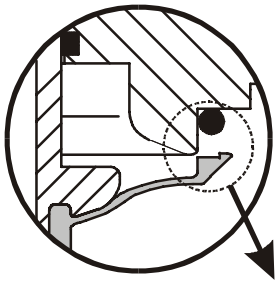
9. Service Instructions

9.5 Installation of valve

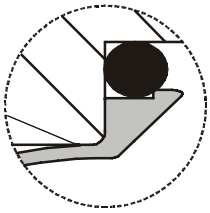
M4, MT4, MP4, MEP4, MTP4

sketch 1

MP4, MEP4, MTP4



sketch 2



a. CU design: place the control unit **(20)** on the adapter **(22)** and secure it by the ring.

Valve position indicator: fasten the indicator housing **(18)**.

b. To assemble the valve insert in the NC design, proceed as follows:

Place the pre-assembled valve insert **(see sketch 1)** carefully in the valve housing. The membrane **(M4)** or the membrane shaft **(MP4)** must not be damaged during the installation of the valve insert in the housing.
NC design: control actuator with air **(see sketch 2)**.
Through the control with air, the yoke on the housing flange lowers. Screw the hex. screws **(11)** in the housing flange and tighten them crosswise.

Do not touch movable parts!
Risk of injury.

! NC design: **cut off air.**

c. Valve position indicator: plug proximity switches and fasten them.

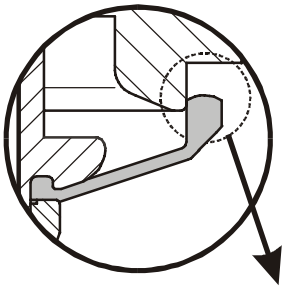
- Adjust proximity switches if necessary.

d. Check basic adjustment of valve position indication.

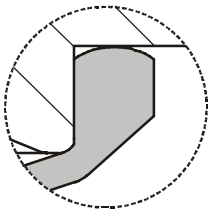
- By turning the positioning screws in the control unit, the shift points can be adjusted.

sketch 1

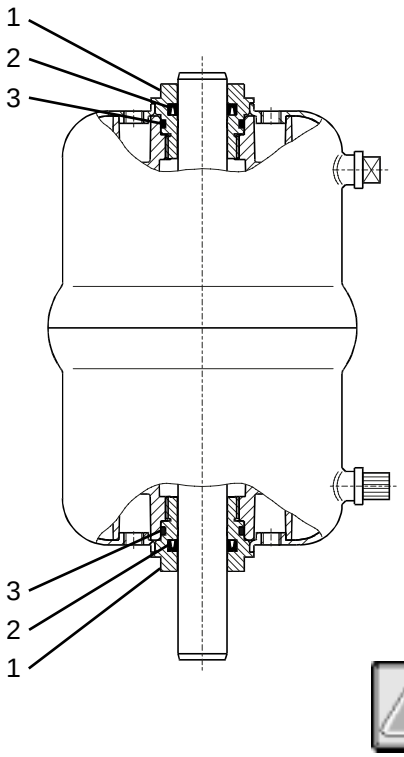
M4, ME4, MT4



sketch 2



10. Modification of Actuator



By turning the actuator by 180°, the required design NC or NO can be realized.

NC = normally closed - (“fail - down”)
NO = normally open - (“fail - up”)

The item numbers refer to the spare parts drawing actuator: RN 01.054.86.

a. Remove air hose from actuator.

b. Remove inner hex. screws from the adapter of the control unit.

c. Release the two seal screws **(1)** by holding up the actuator with a strap wrench. Remove the O-rings **(3)** as well as the seals **(2)**.

Installation of seals and assembly of actuator

a. Install the greased O-rings **(3)** and seal **(2)** in the seal screw **(1)**. See to the right direction of installation of the seal.

b. On both sides of the actuator, push the seal screws over the piston rod and tighten them.

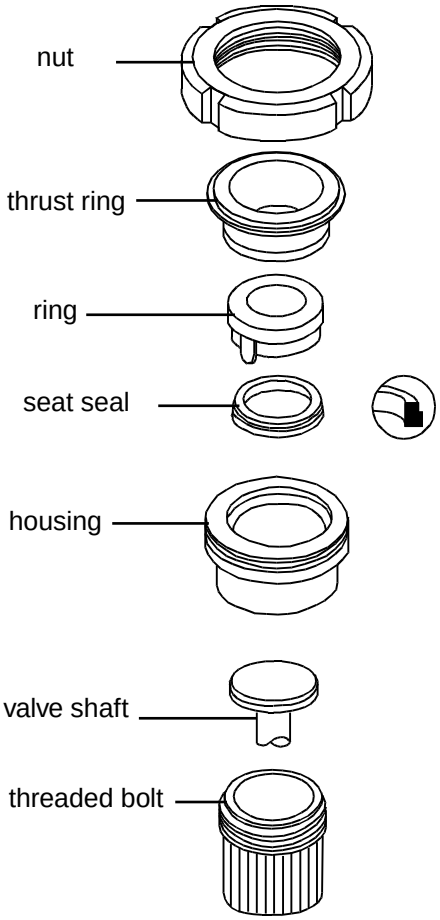
c. Fasten the adapter for the control unit and the yoke on the actuator.

Attention: Observe position of adapter.

Attention: Consider the required design **NC** or **NO** for the assembly of the adapter and yoke.

d. Fasten the air hoses.

11. Assembly Tool for Seat Seal



Attention: **The assembly tool is just suited to install the seat seal in single - seat valves.**

The assembly tool consists of:

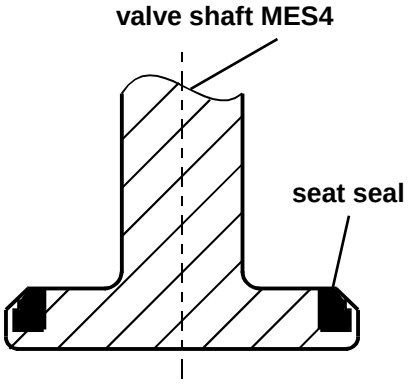
- nut
- thrust ring
- ring with venting plug
- housing
- threaded bolt

Installation of seat seal in the valve shaft

1. Insert valve shaft into the housing in such a way that the seal groove is in the valve housing.
2. Clamp the shaft with the two threaded bolts in the housing. The housing is clamped in a vise.
3. Slightly grease seat seal with APV food-grade grease. Then, install seal on the ring with venting plug until it stops.
4. Introduce the ring with the installed 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 by a hook spanner until it stops.
6. Release nut. Pull ring and thrust ring out of the housing.
7. Take housing out of the vise, unscrew threaded bolts. Take the shaft out of the housing.

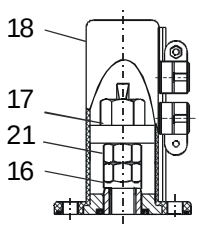
Check the right fit of the seat seal.

Installation of seat seal for change-over/divert valves



Press the slightly greased seal at four spots, the wide side to the front, into the groove. Lead the seal at the four protuding loops e.g. with a blunt screw driver into the groove and press it in by strong thumb pressure. Work alternately at all four loops to get an even fit. Then smooth the seal with strong pressure, e.g. with the handle of a screw driver. To vent the seal, prick the thin blade of a screw driver between the groove wall and the inner side of the seal down to the groove bottom.

12. Service Instructions



Change-over / Divert valves DELTA MES4
The item numbers refer to the spare parts drawings
MES4 **DN** design: **RN 01.064.4** / **inch** design: **RN 01.064.5**

I. Dismantling from the line system

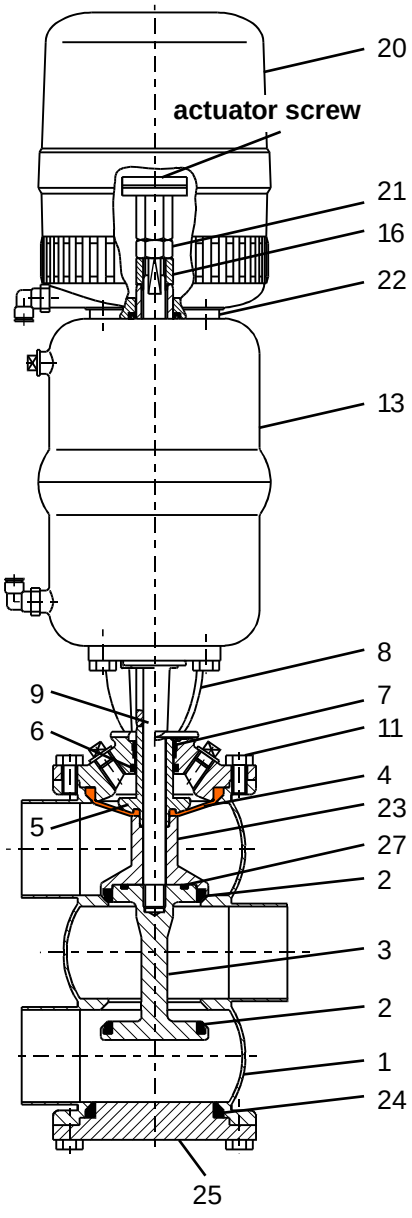
a. Shut off line pressure and discharge lines if possible.

b. Valve design NC: control actuator direct with air.

Do not touch movable valve parts!
Risk of injury.

c. CU design:
- Lift off the control unit by turning the locking ring. Screw off actuator screw and locking nut **(21)**, while holding up the centering washer **(16)**. Remove centering washer.

Valve position indicator (proximity switch holder):
- Remove cover **(18)** from actuator **(13)**. Release actuator screw **(17)** and locking nut **(21)**, while holding up the centering washer **(16)**. Remove centering washer.



d. Remove screws at the housing cover **(25)**.
Detach housing cover and pull off O-ring **(24)**.

e. Pull lower valve shaft **(3)** with guide rod **(9)** to the bottom out of the housing. If the parts stiff, knock on the guide rod with a rubber mallet, while holding the lower valve shaft. Remove seal ring **(27)**.

! Only with valves of the nominal dimension **DN 25 / 1”** must ***the lower valve shaft (3) be twisted off the guide rod in the housing.*** (wrench 13)

f. Valve design NC: **control with air.**
Valve design NO: **cut off air.**

g. Remove housing screws **(11)**.

h. Lift actuator **(13)** with yoke **(8)** to the top off the housing.

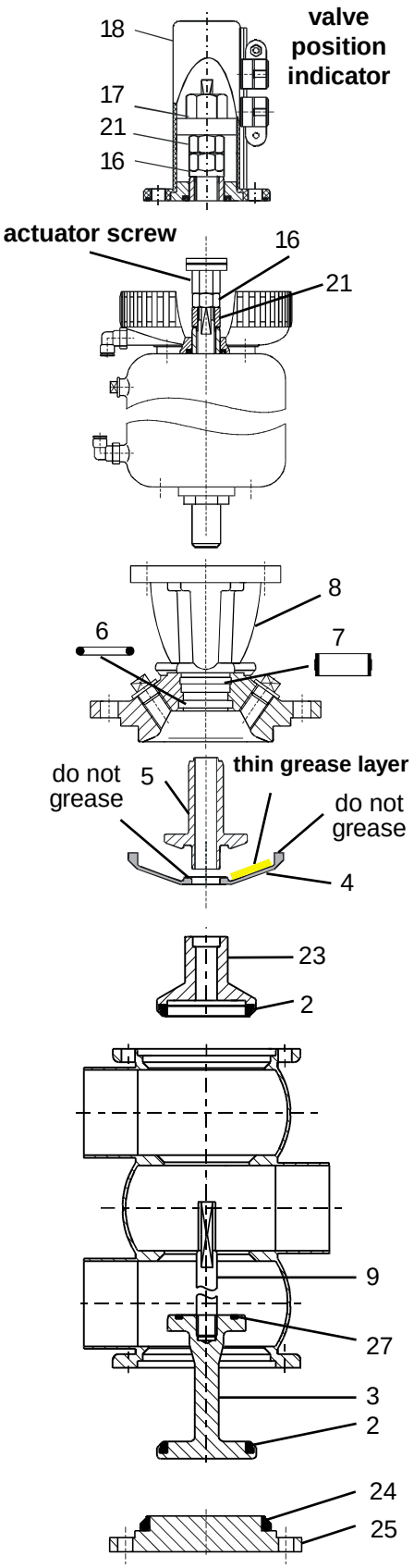
i. Dismantle upper valve shaft **(5)**, membrane and middle valve shaft **(23)**.

j. Remove seat seals **(2)**.

k. Separate yoke from actuator.

l. Detach O-ring **(6)** and guide bush **(7)** from the yoke **(8)**.

12. Service Instructions



Change-over / Divert valves DELTA MES4
The item numbers refer to the spare parts drawings
MES4 **DN** design: **RN 01.064.4** / **inch** design: **RN 01.064.5**

II. Installation of seals and assembly of valve

a. Insert guide bush **(7)** and O-ring **(6)** into the yoke **(8)**.

b. Fasten actuator **(13)** and yoke **(8)**.

c. **Installation of the lower seat seal (2) in the lower valve shaft (3), see assembly tool, page 17.**

d. Place the upper seat seal **(2)** in the valve shaft **(23)**.

e. Insert the middle shaft **(23)**, membrane **(4)** with the upper shaft **(5)** into the housing and press the parts together.

f. **Valve design NC:**

! Control the actuator with air. Place the actuator with yoke on the housing. The upper valve shaft must be led **smoothly** through the guide bush in the yoke. If the shaft stiffs, check the right fit of the guide bush. Tighten the yoke with the screws crosswise.
Cut off control air.

g. Place seal ring **(27)** in the groove of the lower shaft.

h. Insert the lower valve shaft **(3)** with guide rod **(9)** from the bottom into the housing, raise it and hold it fast.

! Only with the valves of the nominal dimension **DN 25 / 1”** apply a drop of a screw locker on the threaded bore of the lower valve shaft before installation with the guide rod. Then push the guide rod **(9)** from the top through all parts and screw it together with the lower shaft **(3)** in the housing.
Tightening torque Md = 30 Nm.

i. Place the centering washer **(16)**. Apply a drop of a screw locker (e.g. type: Loctite - semi-solid) on the thread of the guide rod. Screw on the locking nut **(21)** and fasten it with a tightening torque of **Md = 40 Nm**). Hold up the centering washer during this process.

	CU:	Tighten plastic actuator screw.
!	**Valve position indicator:**	Fasten metallic actuator screw as **locking nut**.

j. Place the O-ring **(24)** in the housing cover **(25)** and tighten the housing cover crosswise.

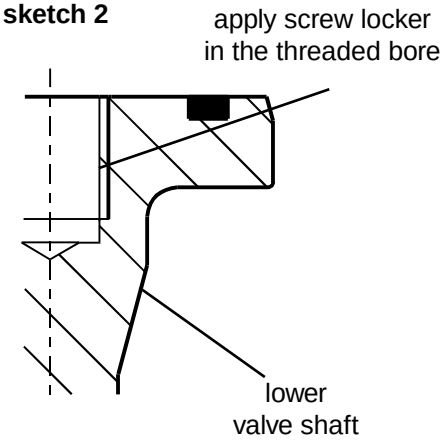
k. **CU design:**
Place control unit and fasten it accordingly.
Valve position indicator:
Place proximity switch holder and fasten it accordingly.
Plug proximity switches and fasten them.
- Adjust proximity switches if necessary.

12. Service Instructions

Instructions for replacement of guide rod

of the valve dimensions **DN 40 - 100 / 1,5” - 4”**
Unscrew the guide rod **(9)** from the lower valve shaft **(3)**.
Clean the valve shaft (remove grease and impurities).
Apply a drop of a screw locker (e.g. type: Loctite - semi-solid) in the area of the threaded bore of the lower valve shaft **(see sketch 2).** Screw in guide rod and tighten it. In case of non-observance of these instructions, the lower and medium valve shafts can paste up.

sketch 2



13. Trouble Shooting

M4 valve equipped with membrane.
The item numbers refer to the spare parts drawings.

- Valve leaks	:	Replace seat seal **(2)**. Check line pressure.
- Leakages from the leakage bore	:	Check tightening torque of coupling. Replace membrane **(4)**.
- Leakages between housing and yoke flange	:	Check line pressure. Replace membrane **(4)**.

MP4 valve equipped with membrane shaft.
The item numbers refer to the spare parts drawings.

- Valve leaks	:	Replace membrane shaft **(4)**. Check line pressure.
- Leakages from the leakage bore	:	Check line pressure. Replace membrane shaft **(4)**.
- Leakages between housing and yoke flange	:	Replace O-ring **(2)**.

Actuator and valve position indication

- Air escapes from the actuator **(see spare parts list RN: 01.054.86)**	:	Dismantle actuator **(13)** from valve, replace seal **(2)** and O-ring **(3)** in the seal screw **(1)**.
- Actuator does not operate, air escapes permanently via the venting plug	:	Replace actuator.
- Valve position indication is missing or unprecise:		Carry out fine adjustment according to service instructions of control unit.

14. Spare Parts Lists

(see annex)

BA M4 00000002
ID-No.: H 1 7 5 7 6 2

UK

Translation of original manual

rev. 1

WHERE IDEAS MEET INDUSTRY

Your local contact:

APV
Zechenstraße 49
D-59425 Unna

Phone: +49(0) 23 03/ 108-0 Fax: +49(0) 23 03 / 108-210

For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.apv.com.

Ersatzteilliste: spare parts list:

Membranventil M4,ME4,MT4 FS-CU und VSM
Diaphragm valve M4,ME4,MT4 FS-CU and PSH
DN25-100

Besteht aus 4 Blatt Blatt 1

	Datum	Name
Gezeichnet	6.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

Datum	7/98	11/98	03/01	06/01	11/01	02/02	02/03		
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko		

APV Rosista GmbH
D-59425 Unna
Germany

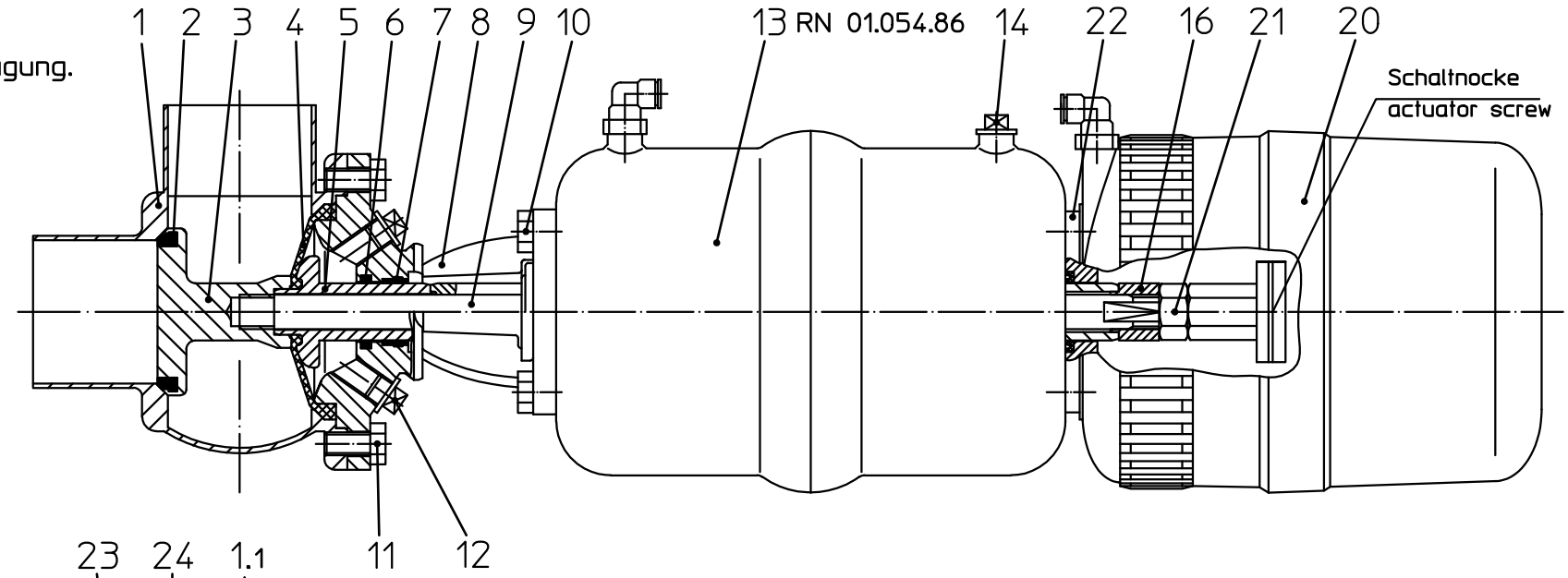
RN 01.064.0

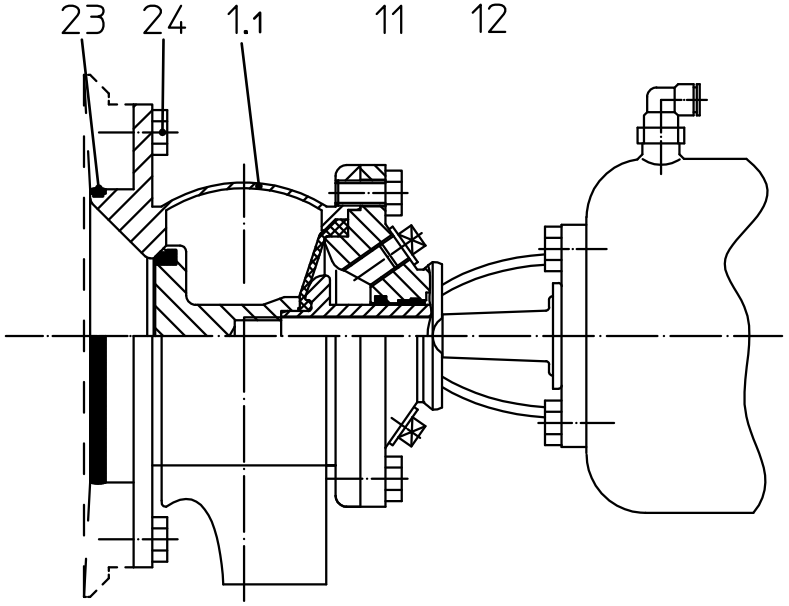
Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

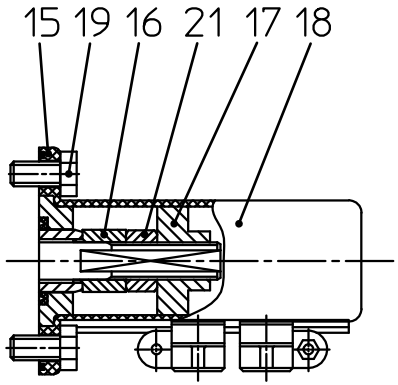
The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff:
material seals:
../13-VMQ
../33-HNBR
../73-FPM
../93-EPDM

** Dichtungswerkstoff Membrane:
seal material of membrane:
../22-TFM/EPDM WS 283
Standard-Ausführung
standard design
../23-TFM/EPDM WS 287/64
3A0-Ausführung
3A0 design







Ersatzteilliste: spare parts list:

Membranventil M4,ME4,MT4 FS-CU und VSM
Diaphragm valve M4,ME4,MT4 FS-CU and PSH
DN25-100

Blatt 2

	Datum	Name
Gezeichnet	6.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.0

Datum	7/98	11/98	06/01	11/01	02/02	02/03			
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko			

Pos. item	Menge quantity	Benennung description	DN 25	40	50	65	80	100	125	150
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	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	Gehäuse Housing M41 1+2S	39-41-295/47	39-41-395/47	39-41-445/47	39-41-495/47	39-41-545/47	39-41-645/47		
	1	Gehäuse Housing M42 1+2+3S	39-42-295/47	39-42-395/47	39-42-445/47	39-42-495/47	39-42-545/47	39-42-645/47		
	1	Gehäuse Housing ME41 1+2S	39-45-295/47	39-45-395/47	39-45-445/47	39-45-495/47	39-45-545/47	39-45-645/47		
	1	Gehäuse Housing ME42 1+2+3S	39-46-295/47	39-46-395/47	39-46-445/47	39-46-495/47	39-46-545/47	39-46-645/47		
	1	Gehäuse Housing ME43 1+2+3S	39-47-295/47	39-47-395/47	39-47-445/47	39-47-495/47	39-47-545/47	39-47-645/47		
	1	Gehäuse Housing ME44 1+2+3+4S	39-48-295/47	39-48-395/47	39-48-445/47	39-48-495/47	39-48-545/47	39-48-645/47		
1.1	1	Gehäuse Housing MT41 1+2S	39-43-295/47	39-43-395/47	39-43-445/47	39-43-495/47	39-43-545/47	39-43-645/47		
	1	Gehäuse Housing MT42 1+2+3S	39-44-295/47	39-44-395/47	39-44-445/47	39-44-495/47	39-44-545/47	39-44-645/47		
2	1	Tellerdichtung Seat seal *	58-33-293/	58-33-393/	58-33-443/	58-33-493/	58-33-543/	58-33-643/		
3	1	Schaft unten Lower valve shaft	39-22-295/42	39-22-395/42	39-22-445/42	39-22-495/42	39-22-545/42	39-22-645/42		
4	1	Membrane Diaphragm (Standard) **	58-23-295/22	58-23-395/22	=	58-23-495/22	58-23-545/22	58-23-645/22		
	1	Membrane Diaphragm (3A0) **	58-23-295/23	58-23-395/23	=	58-23-495/23	58-23-545/23	58-23-645/23		
5	1	Schaft oben Upper valve shaft	39-22-296/42	39-22-396/42	=	39-22-496/42	39-22-546/42	39-22-646/42		
6	1	O-Ring O-ring	15,3-2,4 58-06-052/83	20,2-3 58-06-078/64	=	=	=	=		
7	1	Führungsbuchse Bushing	08-01-177/23	08-01-178/23	=	=	=	=		
8	1	Laterne Yoke	39-40-295/47	39-40-395/47	=	39-40-495/47	39-40-545/47	39-40-645/47		
9	1	Zugstange Guide rod	39-23-080/12	39-23-081/12	=	=	39-23-083/12	=		
10	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70				DIN EN 24017-M8x20-A2-70			
11		Skt. Schraube Hex. screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	8x DIN EN 24017-M10x16-A2-70	8x		
12	2	Entlüftungsstopfen Venting plug	08-60-005/94	=	=	=	=	=		

02/94

Ersatzteilliste: spare parts list:

Membranventil M4,ME4,MT4 FS-CU und VSM
Diaphragm valve M4,ME4,MT4 FS-CU and PSH
DN25-100

Blatt 3

	Datum	Name
Gezeichnet	6.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

Datum	7/98	11/98	03/01	06/01	11/01	02/03	10/03		
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko		

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.0

Pos. item	Menge quantity	Benennung description	DN 25	40	50	65	80	100	125	150
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
13	1	Steuerkopf Actuator	ø74 15-32-050/17	ø110 15-32-051/17	=	=	ø165 15-32-052/17	=		
14	1	Entlüftungsstopfen G1/8 Venting plug	08-60-005/93	=	=	=	=	=		
15	1	O-Ring O-ring	OR 66x2 NBR 70-75 Shore A							
16	1	Zentrierscheibe Centering nut	15-28-940/12	=	=	=	=	=		
17	1	Schaltnocke Operating cam	08-52-290/97	08-52-291/97	=	=	=	=		
18	1	VSM Gehäuse-SW4 Proximity switch holder housing SW4	15-33-932/93	=	=	=	=	=		
19	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70							
20	1	Control-Unit CU31 Direct-Connect Control-Unit	16-31-232/93	=	=	=	=	=		
21	1	Skt. Mutter Hex. nut	DIN EN ISO 10511-M12-A2							
22	1	CU-Adapter CU-adapter	08-48-415/93	=	=	=	=	=		
23	1	Gehäusedichtung * Housing sael	58-33-392/	58-33-442/	58-33-492/	58-33-542/	58-33-642/	58-33-692/		
24	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x14-A2-70			DIN EN 24017-M10x14-A2-70				
		Dichtungssatz / seal kit M4, ME4 Pos. 2, 4, 6, 21 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 21 available es complete seal kits only								
	1	Dichtungssatz FPM Seal kit	58-34-365/00	58-34-366/00	58-34-367/00	58-34-368/00	58-34-370/00	58-34-371/00		
	1	Dichtungssatz EPDM Seal kit	58-34-365/01	58-34-366/01	58-34-367/01	58-34-368/01	58-34-370/01	58-34-371/01		
	1	Dichtungssatz VMQ/Silicone Seal kit	58-34-365/02	58-34-366/02	58-34-367/02	58-34-368/02	58-34-370/02	58-34-371/02		
	1	Dichtungssatz HNBR Seal kit	58-34-365/06	58-34-366/06	58-34-367/06	58-34-368/06	58-34-370/06	58-34-371/06		

Ersatzteilliste: spare parts list:

Membranventil M4,ME4,MT4 FS-CU und VSM
Diaphragm valve M4,ME4,MT4 FS-CU and PSH
DN25-100

Blatt 4

	Datum	Name
Gezeichnet	13.11.01	Trytko
Geprüft		
Normgepr.		

Datum	11/01	02/03								
Name	Trytko	Trytko								

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.0

Pos. item	Menge quantity	Benennung description		DN 25	40	50	65	80	100	125	150
				WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		Dichtungssatz / seal kit MT4 Pos. 2, 4, 6, 21, 23 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 21, 23 available es complete seal kits only									
	1	Dichtungssatz Seal kit	FPM	58-34-385/00	58-34-386/00	58-34-387/00	58-34-388/00	58-34-390/00	58-34-391/00		
	1	Dichtungssatz Seal kit	EPDM	58-34-385/01	58-34-386/01	58-34-387/01	58-34-388/01	58-34-390/01	58-34-391/01		
	1	Dichtungssatz Seal kit	VMQ/Silicone	58-34-385/02	58-34-386/02	58-34-387/02	58-34-388/02	58-34-390/02	58-34-391/02		
	1	Dichtungssatz Seal kit	HNBR	58-34-385/06	58-34-386/06	58-34-387/06	58-34-388/06	58-34-390/06	58-34-391/06		

Ersatzteilliste: spare parts list:

Membranventil M4,ME4,MT4 FS-CU und VSM
Diaphragm valve M4,ME4,MT4 FS-CU and PSH
1-4 zoll / inch

Besteht aus 4 Blatt Blatt 1

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

Datum	7/98	11/98	03/01	06/01	11/01	02/02	02/03		
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko		

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.1

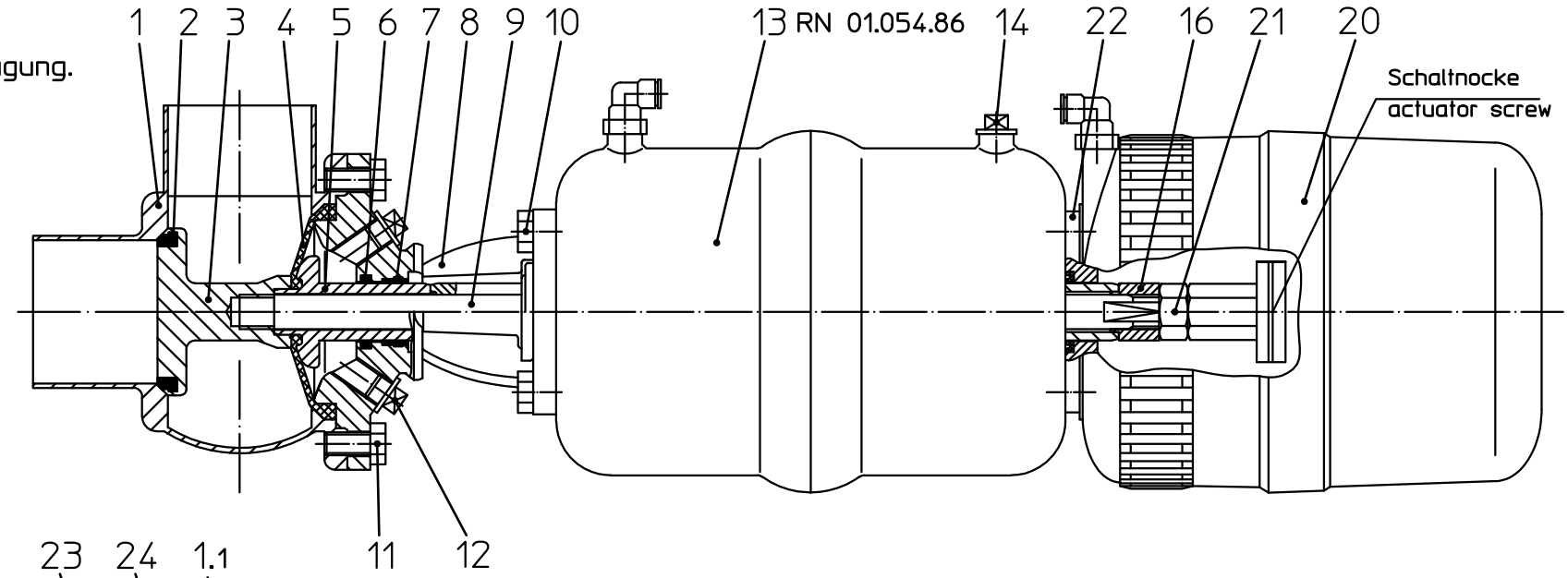
Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

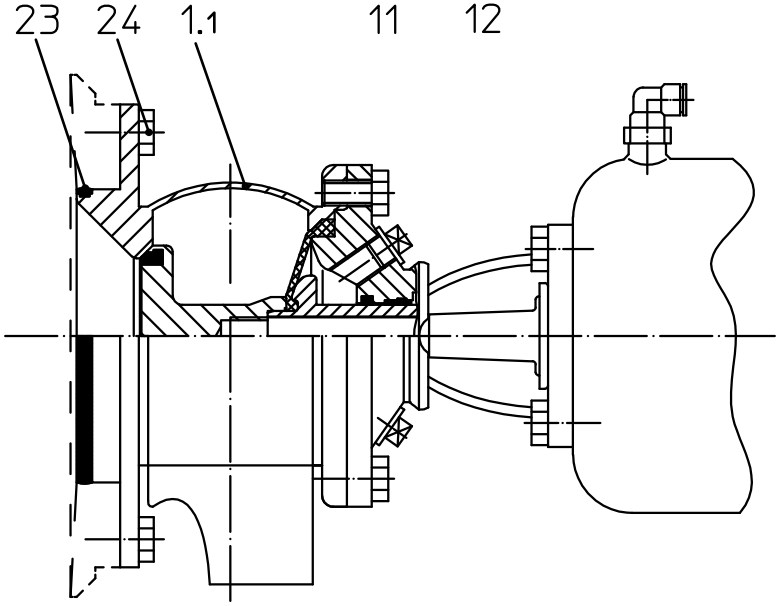
The following seal materials are available (fill in last two digits of ref.-no.)

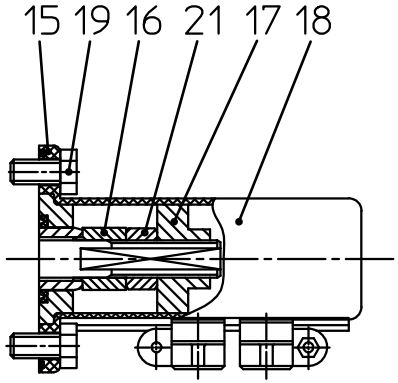
* Dichtungswerkstoff:
material seals:

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

** Dichtungswerkstoff Membrane:
seal material of membrane:
../22-TFM/EPDM WS 283
Standard-Ausführung
standard design
../23-TFM/EPDM WS 287/64
3A0-Ausführung
3A0 design







Ersatzteilliste: spare parts list:

Membranventil M4,ME4,MT4 FS-CU und VSM
Diaphragm valve M4,ME4,MT4 FS-CU and PSH
1-4 zoll / inch

Blatt 2

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

Datum	7/98	11/98	06/01	11/01	02/02	04/02	02/03		
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko		

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.1

Pos. item	Menge quantity	Benennung description	1" WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	2" WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	4" WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
1	1	Gehäuse Housing M41 1+2S	39-41-320/47	39-41-420/47	39-41-470/47	39-41-520/47	39-41-570/47	39-41-670/47		
	1	Gehäuse Housing M42 1+2+3S	39-42-320/47	39-42-420/47	39-42-470/47	39-42-520/47	39-42-570/47	39-42-670/47		
	1	Gehäuse Housing ME41 1+2S	39-45-320/47	39-45-420/47	39-45-470/47	39-45-520/47	39-45-570/47	39-45-670/47		
	1	Gehäuse Housing ME42 1+2+3S	39-46-320/47	39-46-420/47	39-46-470/47	39-46-520/47	39-46-570/47	39-46-670/47		
	1	Gehäuse Housing ME43 1+2+3S	39-47-320/47	39-47-420/47	39-47-470/47	39-47-520/47	39-47-570/47	39-47-670/47		
	1	Gehäuse Housing ME44 1+2+3+4S	39-48-320/47	39-48-420/47	39-48-470/47	39-48-520/47	39-48-570/47	39-48-670/47		
1.1	1	Gehäuse Housing MT42 1+2S	39-43-320/47	39-43-420/47	39-43-470/47	39-43-520/47	39-43-570/47	39-43-670/47		
	1	Gehäuse Housing MT42 1+2+3S	39-44-320/47	39-44-420/47	39-44-470/47	39-44-520/47	39-44-570/47	39-44-670/47		
2	1	Tellerdichtung Seat seal *	58-33-293/	58-33-393/	58-33-443/	58-33-493/	58-33-568/	58-33-643/		
3	1	Schaft unten Lower valve shaft	39-22-320/42	39-22-420/42	39-22-470/42	39-22-520/42	39-22-570/42	39-22-670/42		
4	1	Membrane Diaphragm (Standard) **	58-23-295/22	58-23-395/22	=	58-23-495/22	=	58-23-645/22		
	1	Membrane Diaphragm (3A0) **	58-23-295/23	58-23-395/23	=	58-23-495/23	=	58-23-645/23		
5	1	Schaft oben Upper valve shaft	39-22-296/42	39-22-396/42	=	39-22-496/42	=	39-22-646/42		
6	1	O-Ring O-ring	15,3-2,4 58-06-052/83	20,2-3 58-06-078/64	=	=	=	=		
7	1	Führungsbuchse Bushing	08-01-177/23	08-01-178/23	=	=	=	=		
8	1	Laterne Yoke	39-40-295/47	39-40-395/47	=	39-40-495/47	39-40-570/47	39-40-645/47		
9	1	Zugstange Guide rod	39-23-080/12	39-23-081/12	=	=	39-23-083/12	=		
10	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70				DIN EN 24017-M8x20-A2-70			
11		Skt. Schraube Hex. screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	4x	8x DIN EN 24017 -M10x16-A2-70		
12	2	Entlüftungsstopfen Venting plug G1/8	08-60-005/94	=	=	=	=	=		

02/94

Ersatzteilliste: spare parts list:

Membranventil M4,ME4,MT4 FS-CU und VSM
Diaphragm valve M4,ME4,MT4 FS-CU and PSH
1-4 zoll / inch

Blatt 3

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.1

Datum	7/98	11/98	4/99	03/01	06/01	11/01	04/02	02/03	10/03
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

Pos. item	Menge quantity	Benennung description	1" WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	2" WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	4" WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
13	1	Steuerkopf Actuator	ø74 15-32-050/17	ø110 15-32-051/17	=	=	ø165 15-32-052/17	=		
14	1	Entlüftungsstopfen Venting plug G1/8	08-60-005/93	=	=	=	=	=		
15	1	O-Ring O-ring	OR 66x2 NBR 70-75 Shore A							
16	1	Zentrierscheibe Centering nut	15-28-940/12	=	=	=	=	=		
17	1	Schaltnocke Operating cam	08-52-290/97	08-52-291/97	=	=	=	=		
18	1	VSM Gehäuse-SW4 Proximity switch holder housing-SW4	15-33-932/93	=	=	=	=	=		
19	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70							
20	1	Control-Unit Control-Unit CU31 Direct-Connect	16-31-232/93	=	=	=	=	=		
21	1	Skt. Mutter Hex. nut	DIN EN ISO 10511-M12-A2							
22	1	CU-Adapter CU-adapter	08-48-415/93	=	=	=	=	=		
23	1	Gehäusedichtung * Housing seal	58-33-392/	58-33-442/	58-33-492/	58-33-542/	=	58-33-692/		
24	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x14-A2-70			DIN EN 24017-M10x14-A2-70				
		Dichtungssatz / seal kit M4, ME4 Pos. 2, 4, 6, 21 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 21 available es complete seal kits only								
	1	Dichtungssatz Seal kit FPM	58-34-365/00	58-34-366/00	58-34-367/00	58-34-368/00	58-34-369/00	58-34-371/00		
	1	Dichtungssatz Seal kit EPDM	58-34-365/01	58-34-366/01	58-34-367/01	58-34-368/01	58-34-369/01	58-34-371/01		
	1	Dichtungssatz Seal kit VMQ/Silicone	58-34-365/02	58-34-366/02	58-34-367/02	58-34-368/02	58-34-369/02	58-34-371/02		
	1	Dichtungssatz Seal kit HNBR	58-34-365/06	58-34-366/06	58-34-367/06	58-34-368/06	58-34-369/06	58-34-371/06		

Ersatzteilliste: spare parts list:

Membranventil M4,ME4,MT4 FS-CU und VSM
Diaphragm valve M4,ME4,MT4 FS-CU and PSH
1-4 zoll / inch

Blatt 4

	Datum	Name
Gezeichnet	13.11.01	Trytko
Geprüft		
Normgepr.		

Datum	11/01	02/03	10/07
Name	Trytko	Trytko	Dietz

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.1

Pos. item	Menge quantity	Benennung description		1" WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	2" WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	4" WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		Dichtungssatz / seal kit MT4 Pos. 2, 4, 6, 21, 23 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 21, 23 available es complete seal kits only									
	1	Dichtungssatz Seal kit	FPM	58-34-385/00	58-34-386/00	58-34-387/00	58-34-388/00	58-34-389/00	58-34-391/00		
	1	Dichtungssatz Seal kit	EPDM	58-34-385/01	58-34-386/01	58-34-387/01	58-34-388/01	58-34-389/01	58-34-391/01		
	1	Dichtungssatz Seal kit	VMQ/Silicone	58-34-385/02	58-34-386/02	58-34-387/02	58-34-388/02	58-34-389/02	58-34-391/02		
	1	Dichtungssatz Seal kit	HNBR	58-34-385/06	58-34-386/06	58-34-387/06	58-34-388/06	58-34-389/06	58-34-391/06		

02/94

Ersatzteilliste: spare parts list:

Membranventil MP4,MEP4,MTP4 FS-CU und VSM
Diaphragm valve MP4,MEP4,MTP4 FS-CU and PSH
DN 25-100

Besteht aus 3 Blatt Blatt 1

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

Datum	7/98	11/98	03/01	06/01	11/01	02/02	02/03		
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko		

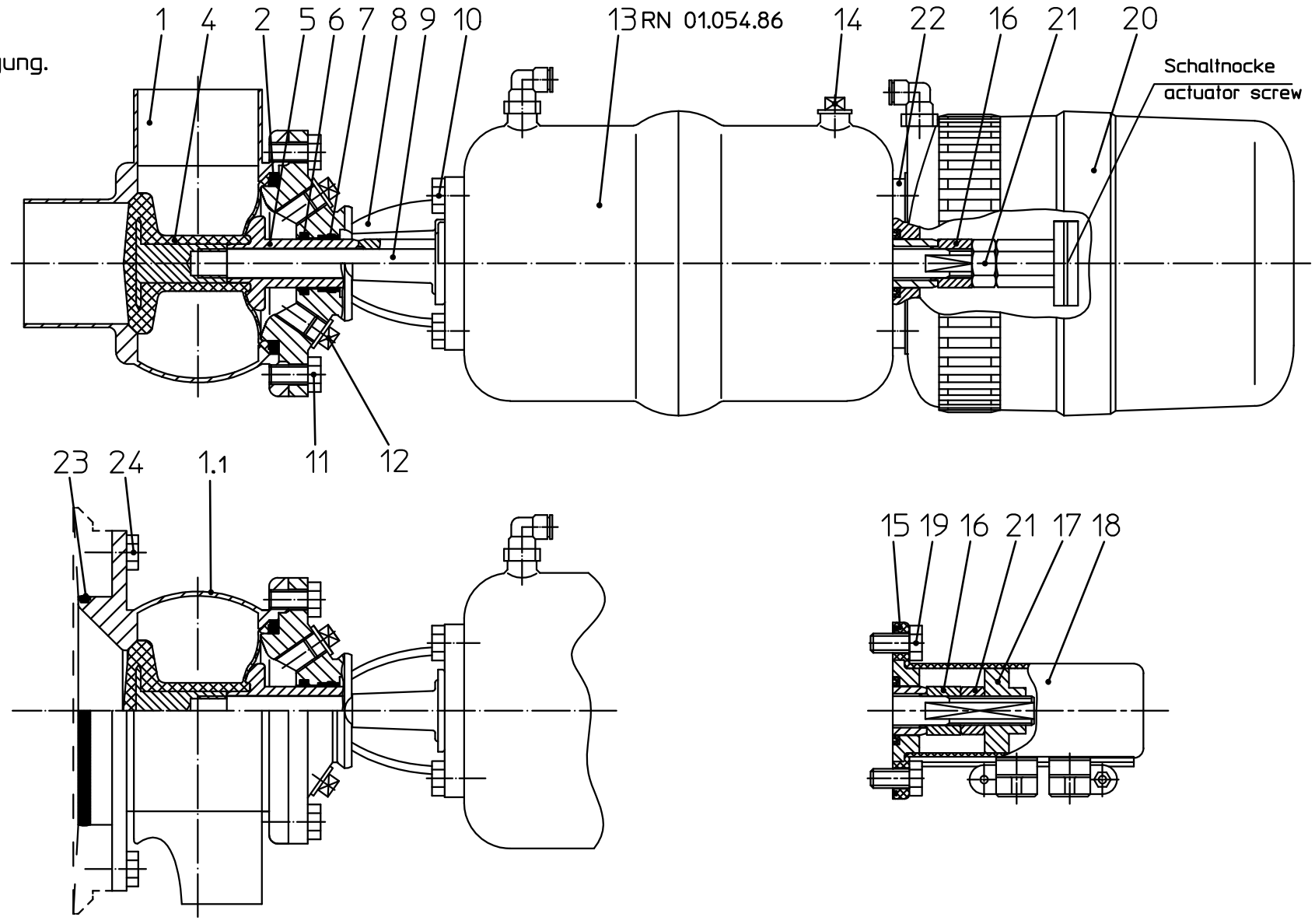
APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.2

Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff:
material seals:
../33-HNBR
../93-EPDM



Ersatzteilliste: spare parts list:

Membranventil MP4,MEP4,MTP4 FS-CU und VSM
Diaphragm valve MP4,MEP4,MTP4 FS-CU and PSH
DN 25-100

Blatt 2

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

Datum	7/98	11/98	03/01	06/01	11/01	02/02	02/03	10/03	
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.2

Pos. item	Menge quantity	Benennung description	DN 25	40	50	65	80	100	125	150
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	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	Gehäuse MP41 1+2S Housing	39-41-295/47	39-41-395/47	39-41-445/47	39-41-495/47	39-41-545/47	39-41-645/47		
	1	Gehäuse MP42 1+2+3S Housing	39-42-295/47	39-42-395/47	39-42-445/47	39-42-495/47	39-42-545/47	39-42-645/47		
	1	Gehäuse MEP41 1+2S Housing	39-45-295/47	39-45-395/47	39-45-445/47	39-45-495/47	39-45-545/47	39-45-645/47		
	1	Gehäuse MEP42 1+2+3S Housing	39-46-295/47	39-46-395/47	39-46-445/47	39-46-495/47	39-46-545/47	39-46-645/47		
	1	Gehäuse MEP43 1+2+3S Housing	39-47-295/47	39-47-395/47	39-47-445/47	39-47-495/47	39-47-545/47	39-47-645/47		
	1	Gehäuse MEP44 1+2+3+4S Housing	39-48-295/47	39-48-395/47	39-48-445/47	39-48-495/47	39-48-545/47	39-48-645/47		
1.1	1	Gehäuse MTP41 1+2S Housing	39-43-295/47	39-43-395/47	39-43-445/47	39-43-495/47	39-43-545/47	39-43-645/47		
	1	Gehäuse MTP42 1+2+3S Housing	39-44-295/47	39-44-395/47	39-44-445/47	39-44-495/47	39-44-545/47	39-44-645/47		
2	1	O-Ring O-ring	36,5-3,2 58-06-157/64	62,9-5,33 58-06-300/64	=	75,6-5,33 58-06-345/64	101-5,33 58-06-495/64	109,2-5,7 58-06-520/64		
4	1	Membranschaft Diaphragm shaft	39-22-298/22	39-22-398/22	39-22-448/22	39-22-498/22	39-22-548/22	39-22-648/22		
5	1	Schaft oben Upper valve shaft	39-22-296/42	39-22-396/42	=	39-22-496/42	39-22-546/42	39-22-646/42		
6	1	O-Ring O-ring	15,3-2,4 58-06-052/83	20,2-3 58-06-078/64	=	=	=	=		
7	1	Führungsbuchse Bushing	08-01-177/23	08-01-178/23	=	=	=	=		
8	1	Laterne Yoke	39-40-295/47	39-40-395/47	=	39-40-495/47	39-40-545/47	39-40-645/47		
9	1	Zugstange Guide rod	39-23-080/12	39-23-081/12	=	=	39-23-083/12	=		
10	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70				DIN EN 24017-M8x20-A2-70			
11		Skt. Schraube Hex. screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	8x DIN EN 24017-M10x16-A2-70	8x		
12	2	Entlüftungsstopfen G1/8 Venting plug	08-60-005/94	=	=	=	=	=		
13	1	Steuerkopf Actuator	ø74 15-32-050/17	ø110 15-32-051/17	=	=	ø165 15-32-052-17	=		

Ersatzteilliste: spare parts list:

Membranventil MP4,MEP4,MTP4 FS-CU und VSM
Diaphragm valve MP4,MEP4,MTP4 FS-CU and PSH
DN 25-100

Blatt 3

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

Datum	7/98	11/98	03/01	06/01	11/01	02/03	10/03	08/07
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.2

Pos. item	Menge quantity	Benennung description	DN 25	40	50	65	80	100	125	150
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
14	1	Entlüftungsstopfen G1/8 Venting plug	08-60-005/93	=	=	=	=	=		
15	1	O-Ring O-ring	OR 66x2 NBR 70-75 Shore A							
16	1	Zentrierscheibe Centering nut	15-28-940/12	=	=	=	=	=		
17	1	Schaltnocke Operating cam	08-52-290/97	08-52-291/97	=	=	=	=		
18	1	VSM Gehäuse-SW4 Proximity switch holder housing SW4	15-33-932/93	=	=	=	=	=		
19	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70							
20	1	Control-Unit CU31 Direct-Connect Control-Unit	16-31-232/93	=	=	=	=	=		
21	1	Skt. Mutter Hex. nut	DIN EN ISO 10511-M12-A							
22	1	CU-Adapter CU-adapter	08-48-415/93	=	=	=	=	=		
23	1	Gehäusedichtung * Housing seal	58-33-392/	58-33-442/	58-33-492/	58-33-542/	58-33-642/	58-33-692/		
24	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x14-A2-70			DIN EN 24017-M10x14-A2-70				
		Dichtungssatz / seal kit MP4, MEP4 Pos. 2, 4, 6, 7, 21 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 7, 21 available es complete seal kits only								
	1	Dichtungssatz PTFE Seal kit	58-34-420/01	58-34-421/01	58-34-422/01	58-34-423/01	58-34-424/01	58-34-425/01		
		Dichtungssatz / seal kit MTP4 Pos. 2, 4, 6, 7, 21, 23 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 7, 21, 23 available es complete seal kits only								
	1	Dichtungssatz PTFE/EPDM Seal kit	58-34-400/01	58-34-401/01	58-34-402/01	58-34-403/01	58-34-404/01	58-34-405/01		
	1	Dichtungssatz PTFE/HNBR Seal kit	58-34-400/06	58-34-401/06	58-34-402/06	58-34-403/06	58-34-404/06	58-34-405/06		

Ersatzteilliste: spare parts list:

Membranventil MP4,MEP4,MTP4 FS-CU und VSM
Diaphragm valve MP4,MEP4,MTP4 FS-CU and PSH
1-4 zoll / inch

Besteht aus 3 Blatt Blatt 1

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

Datum	7/98	11/98	03/01	06/01	11/01	02/02	02/03		
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko		

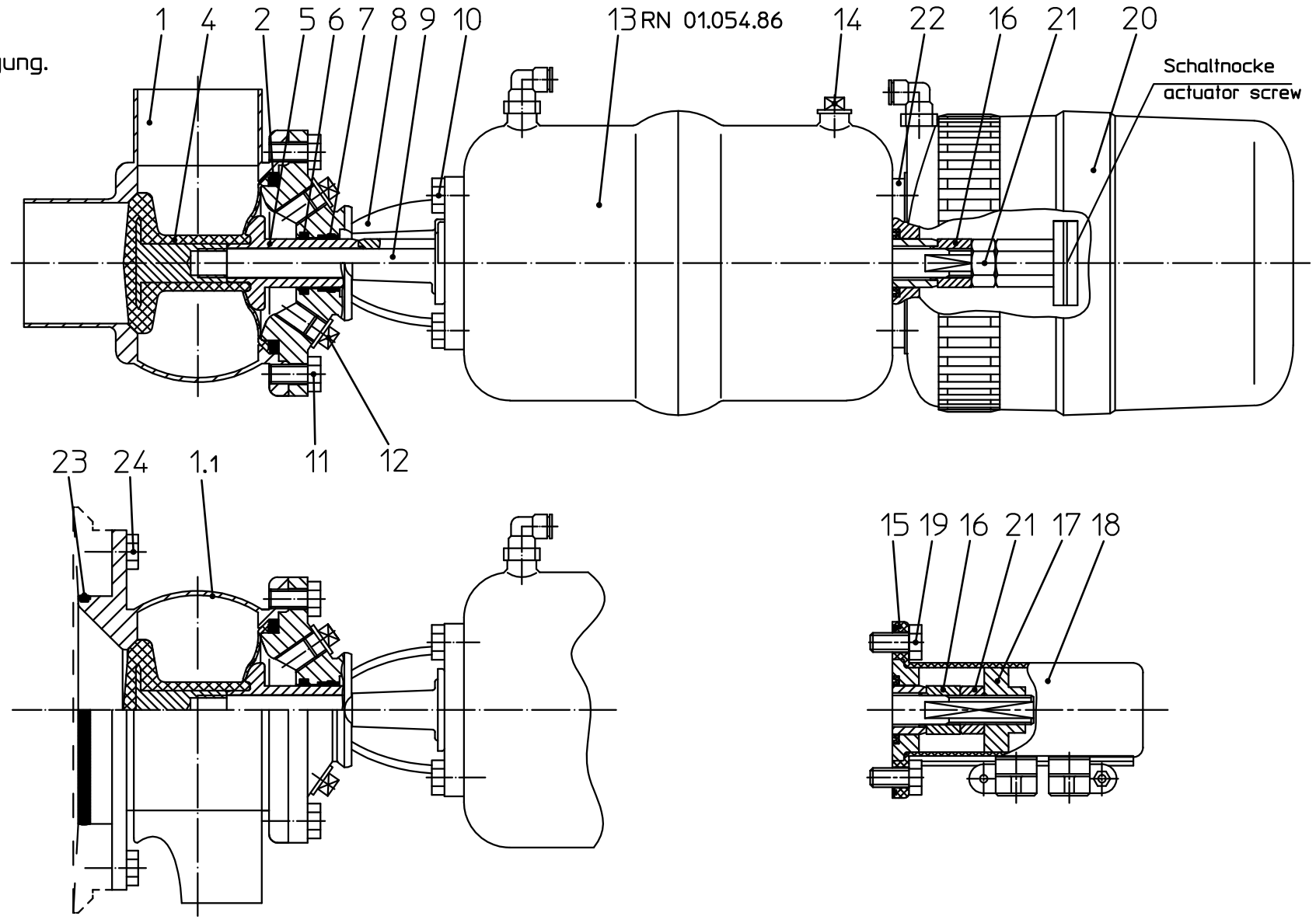
APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.3

Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff:
material seals:
../33-HNBR
../93-EPDM



Ersatzteilliste: spare parts list:

Membranventil MP4,MEP4,MTP4 FS-CU und VSM
Diaphragm valve MP4,MEP4,MTP4 FS-CU and PSH
1-4 zoll / inch

Blatt 2

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.3

	7/98	11/98	03/01	06/01	11/01	02/02	02/03	10/03	04/04
Datum									
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

Pos. item	Menge quantity	Benennung description	1"	1,5"	2"	2,5"	3"	4"		
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	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	Gehäuse Housing MP41 1+2S	39-41-320/47	39-41-420/47	39-41-470/47	39-41-520/47	39-41-570/47	39-41-670/47		
	1	Gehäuse Housing MP42 1+2+3S	39-42-320/47	39-42-420/47	39-42-470/47	39-42-520/47	39-42-570/47	39-42-670/47		
	1	Gehäuse Housing MEP41 1+2S	39-45-320/47	39-45-420/47	39-45-470/47	39-45-520/47	39-45-570/47	39-45-670/47		
	1	Gehäuse Housing MEP42 1+2+3S	39-46-320/47	39-46-420/47	39-46-470/47	39-46-520/47	39-46-570/47	39-46-670/47		
	1	Gehäuse Housing MEP43 1+2+3S	39-47-320/47	39-47-420/47	39-47-470/47	39-47-520/47	39-47-570/47	39-47-670/47		
	1	Gehäuse Housing MEP44 1+2+3+4S	39-48-320/47	39-48-420/47	39-48-470/47	39-48-520/47	39-48-570/47	39-48-670/47		
1.1	1	Gehäuse Housing MTP41 1+2S	39-43-320/47	39-43-420/47	39-43-470/47	39-43-520/47	39-43-570/47	39-43-670/47		
	1	Gehäuse Housing MTP42 1+2+3S	39-44-320/47	39-44-420/47	39-44-470/47	39-44-520/47	39-44-570/47	39-44-670/47		
2	1	O-Ring O-ring	36,5-3,2 58-06-157/64	62,9-5,33 58-06-300/64	=	75,6-5,33 58-06-345/64	=	109,2-5,7 58-06-520/64		
4	1	Membranschaft Diaphragm shaft	39-22-323/22	39-22-423/22	39-22-473/22	39-22-523/22	39-22-573/22	39-22-673/22		
5	1	Schaft oben Upper valve shaft	39-22-296/42	39-22-396/42	=	39-22-496/42	=	39-22-646/42		
6	1	O-Ring O-ring	15,3-2,4 58-06-052/83	20,2-3 58-06-078/64	=	=	=	=		
7	1	Führungsbuchse Bushing	08-01-177/23	08-01-178/23	=	=	=	=		
8	1	Laterne Yoke	39-40-295/47	39-40-395/47	=	39-40-495/47	39-40-570/47	39-40-645/47		
9	1	Zugstange Guide rod	39-23-080/12	39-23-081/12	=	=	39-23-083/12	=		
10	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70				DIN EN 24017-M8x20-A2-70			
11		Skt. Schraube Hex. screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	4x	8x DIN EN 24017 -M10x16-A2-70		
12	2	Entlüftungsstopfen Venting plug G1/8	08-60-005/94	=	=	=	=	=		
13	1	Steuerkopf Actuator	ø74 15-32-050/17	ø110 15-32-051/17	=	=	ø165 15-32-052/17	=		

Ersatzteilliste: spare parts list:

Membranventil MP4,MEP4,MTP4 FS-CU und VSM
Diaphragm valve MP4,MEP4,MTP4 FS-CU and PSH
1-4 zoll / inch

Blatt 3

	Datum	Name
Gezeichnet	8.7.98	Trytko
Geprüft	19.8.98	Schulz
Normgepr.	19.8.98	Plümper

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.3

Datum	7/98	11/98	4/99	03/01	06/01	11/01	02/03	10/03	08/07
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

Pos. item	Menge quantity	Benennung description	1" WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	2" WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	4" WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
14	1	Entlüftungsstopfen G1/8 Venting plug	08-60-005/93	=	=	=	=	=		
15	1	O-Ring O-ring	OR 66x2 NBR 70-75 Shore A							
16	1	Zentrierscheibe Centering nut	15-28-940/12	=	=	=	=	=		
17	1	Schaltnocke Operating cam	08-52-290/97	08-52-291/97	=	=	=	=		
18	1	VSM Gehäuse-SW4 Proximity switch holder housing SW4	15-33-932/93	=	=	=	=	=		
19	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70							
20	1	Control-Unit CU31 Direct-Connect Control-Unit	16-31-232/93	=	=	=	=	=		
21	1	Skt. Mutter Hex. nut	DIN EN ISO 10511-M12-A2							
22	1	CU-Adapter CU-adapter	08-48-415/93	=	=	=	=	=		
23	1	Gehäusedichtung * Housing seal	58-33-392/	58-33-442/	58-33-492/	58-33-542/	=	58-33-692/		
24	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x14-A2-70			DIN EN 24017-M10x14-A2-70				
		Dichtungssatz /seal kit MP4, MEP4 Pos. 2, 4, 6, 7, 21 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 7, 21 available es complete seal kits only								
	1	Dichtungssatz PTFE Seal kit	58-34-430/01	58-34-431/01	58-34-432/01	58-34-433/01	58-34-434/01	58-34-435/01		
		Dichtungssatz /seal kit MTP4 Pos. 2, 4, 6, 7, 21, 23 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 7, 21, 23 available es complete seal kits only								
	1	Dichtungssatz PTFE/EPDM Seal kit	58-34-410/01	58-34-411/01	58-34-412/01	58-34-413/01	58-34-414/01	58-34-415/01		
	1	Dichtungssatz PTFE/HNBR Seal kit	58-34-410/06	58-34-411/06	58-34-412/06	58-34-413/06	58-34-414/06	58-34-415/06		

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM DN 25-100
Diaphragm valve MES4 FS-CU and PSH DN 25-100

Ausführung / execution: 1

Besteht aus 3 Blatt Blatt 1

	Datum	Name
Gezeichnet	28.4.99	Trytko
Geprüft	03.5.99	Schulz
Normgepr.		

Datum	4/99	1/01	03/01	06/01	11/01	02/02	02/03	08/04
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.4

(Ausführung 1 gültig bis August 2004 / execution 1 valid until Aug 2004)

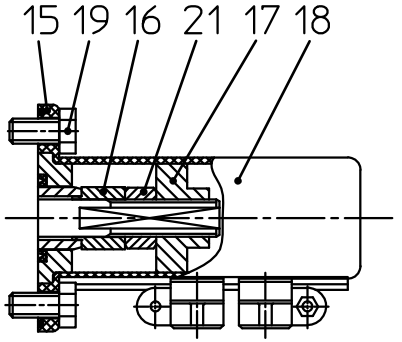
Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

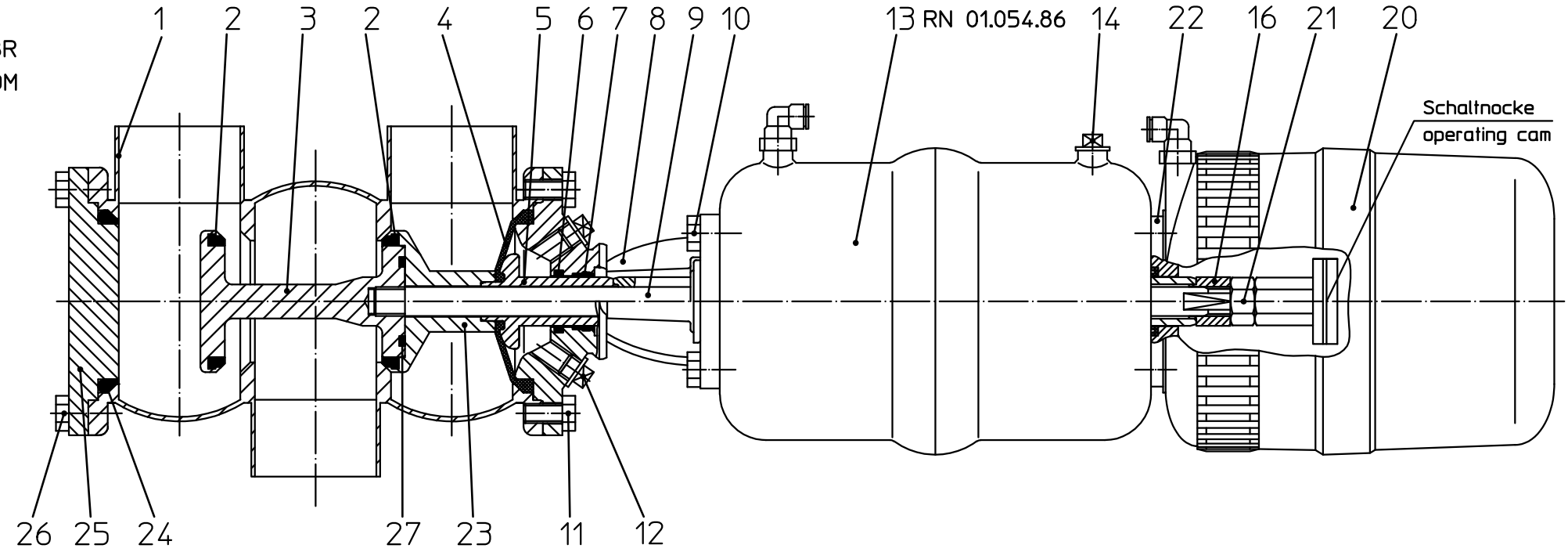
The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff:
material seals:

../13-VMQ
../33-HNBR
../93-EPDM

** Dichtungswerkstoff Membrane:
seal material of membrane:
../22-TFM/EPDM WS 283
Standard-Ausführung
standard design
../23-TFM/EPDM WS 287/64
3A0-Ausführung
3A0-design





Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM DN 25-100
Diaphragm valve MES4 FS-CU and PSH DN25-100

Ausführung / execution: 1

Blatt 2

	Datum	
Gezeichnet	28.4.99	Trytko
Geprüft	03.5.99	Schulz
Normgepr.		

Datum	04/99	01/01	06/01	11/01	02/02	02/03	10/03	08/04
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.4

Pos. item	Menge quantity	Benennung description	DN 25	40	50	65	80	100	125	150
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	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	Gehäuse MES45 1+2+3S Housing	39-49-295/47	39-49-395/47	39-49-445/47	39-49-495/47	39-49-545/47	39-49-645/47		
	1	Gehäuse MES46 1+2+3+4S Housing	39-50-295/47	39-50-395/47	39-50-445/47	39-50-495/47	39-50-545/47	39-50-645/47		
	1	Gehäuse MES48 1+2+3+4S Housing				39-51-485/47				
2	2	Tellerdichtung * Seat seal	58-33-293/	58-33-393/	58-33-443/	58-33-493/	58-33-543/	58-33-643/		
3	1	Schaft unten Lower valve shaft	39-22-800/42	39-22-801/42	39-22-802/42	39-22-803/42	39-22-804/42	39-22-805/42		
4	1	Membrane (Standard) ** Diaphragm	58-23-295/22	58-23-395/22	=	58-23-495/22	58-23-545/22	58-23-645/22		
	1	Membrane (3A0) ** Diaphragm	58-23-295/23	58-23-395/23	=	58-23-495/23	58-23-545/23	58-23-645/23		
5	1	Schaft oben Upper valve shaft	39-22-296/42	39-22-396/42	=	39-22-496/42	39-22-546/42	39-22-646/42		
6	1	O-Ring O-ring	15,3-2,4 58-06-052/83	20,2-3 58-06-078/64	=	=	=	=		
7	1	Führungsbuchse Bushing	08-01-177/23	08-01-178/23	=	=	=	=		
8	1	Laterne Yoke	39-40-295/47	39-40-395/47	=	39-40-495/47	39-40-545/47	39-40-645/47		
9	1	Zugstange Guide rod	39-23-080/12	39-23-082/12	=	=	39-23-054/12	39-23-055/12		
10	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70				DIN EN 24017-M8x20-A2-70			
11		Skt. Schraube Hex. screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	8x DIN EN 24017-M10x16-A2-70	8x		
12	2	Entlüftungsstopfen Venting plug	08-60-005/94	=	=	=	=	=		
13	1	Steuerkopf Actuator	ø74 15-32-050/17	ø110 15-32-051/17	=	=	ø165 15-32-052/17	=		
14	1	Entlüftungsstopfen G1/8 Venting plug	08-60-005/93	=	=	=	=	=		
15	1	O-Ring O-ring	OR 66x2 NBR 70-75 Shore A							
16	1	Zentrierscheibe Centering nut	15-28-940/12	=	=	=	=	=		
17	1	Schaltnocke Operating cam	08-52-290/97	08-52-291/97	=	=	=	=		

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM DN 25-100
Diaphragm valve MES4 FS-CU and PSH DN25-100

Ausführung / execution: 1

Blatt 3

	Datum	Name
Gezeichnet	28.4.99	Trytko
Geprüft	03.5.99	Schulz
Normgepr.		

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.4

Datum	04/99	01/01	03/01	06/01	11/01	02/02	02/03	10/03	08/04
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

Pos. item	Menge quantity	Benennung description	DN 25 WS-Nr. ref.-no.	40 WS-Nr. ref.-no.	50 WS-Nr. ref.-no.	65 WS-Nr. ref.-no.	80 WS-Nr. ref.-no.	100 WS-Nr. ref.-no.	125 WS-Nr. ref.-no.	150 WS-Nr. ref.-no.
18	1	VSM Gehäuse-SW4 Proximity switch holder housing SW4	15-33-932/93	=	=	=	=	=		
19	4	Skt. Schraube Housing screw	DIN EN 24017-M8x16-A2-70							
20	1	Control-Unit CU31 Direct-Connect Control-Unit	16-31-232/93	=	=	=	=	=		
21	1	Skt. Mutter Hex. nut	DIN EN ISO 10511-M12-A2							
22	1	CU-Adapter CU-adapter	08-48-415/93	=	=	=	=	=		
23	1	Schaft mitte Middle valve shaft	39-22-808/42	39-22-809/42	39-22-810/42	39-22-811/42	39-22-812/42	39-22-813/42		
24	1	O-Ring O-ring	36,5-3,2 58-06-157/64	62,9-5,33 58-06-300/64	=	75,6-5,33 58-06-345/64	101-5,33 58-06-495/64	119,2-5,7 58-06-520/64		
25	1	Gehäusedeckel Housing lid	39-01-230/47	39-01-138/47	=	39-01-139/47	39-01-140/47	39-01-143/47		
26		Skt. Schraube Housing screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	8x DIN EN 24017-M10x16-A2-70	8x		
27	1	O-Ring O-ring	11,3-2,4 58-06-050/53	20,5-3 58-06-078/53	28-3 58-06-119/53	44,2-2,5 58-06-183/53	63,5x3,53 58-06-285/53	80x3 58-06-368/53		
		Pos. 2, 4, 6, 7, 21, 24, 27 nur im kompletten Dichtungssatz erhältlich Item 2, 4, 6, 7, 21, 24, 27 available es complete seal kits only								
	1	Dichtungssatz EPDM Seal kit	58-34-375/01	58-34-376/01	58-34-377/01	58-34-378/01	58-34-380/01	58-34-381/01		
	1	Dichtungssatz HNBR Seal kit	58-34-375/06	58-34-376/06	58-34-377/06	58-34-378/06	58-34-380/06	58-34-381/06		
	1	Dichtungssatz VMQ Seal kit	58-34-375/02	58-34-376/02	58-34-377/02	58-34-378/02	58-34-380/02	58-34-381/02		

ACHTUNG!!!

Ausführung 1 bis August 2004
Bei Ersatzteilbestellung einer der Schäfte Pos.3 und 23 bitte immer beide Schäfte + Dichtung Schaft (alt Pos.27) WS-Nr: 58-33-020/.. bestellen und austauschen.

ATTENTION!!!

Execution 1 until August 2004
In case of spare orders for one of the shafts pos. 3 and 23, always order and replace both shafts + shaft seals (old pos. 27) ref.-No. 58-33-020/..

02/94

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM DN 25-100
Diaphragm valve MES4 FS-CU and PSH DN 25-100

Ausführung / execution: 2

Besteht aus 3 Blatt Blatt 1

	Datum	Name
Gezeichnet	25.08.04	Trytko
Geprüft		
Normgepr.		

Datum	08/04
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

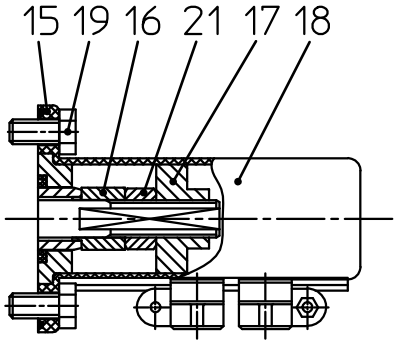
RN 01.064.4

(Ausführung 2 gültig ab August 2004 / execution 2 valid from Aug 2004)

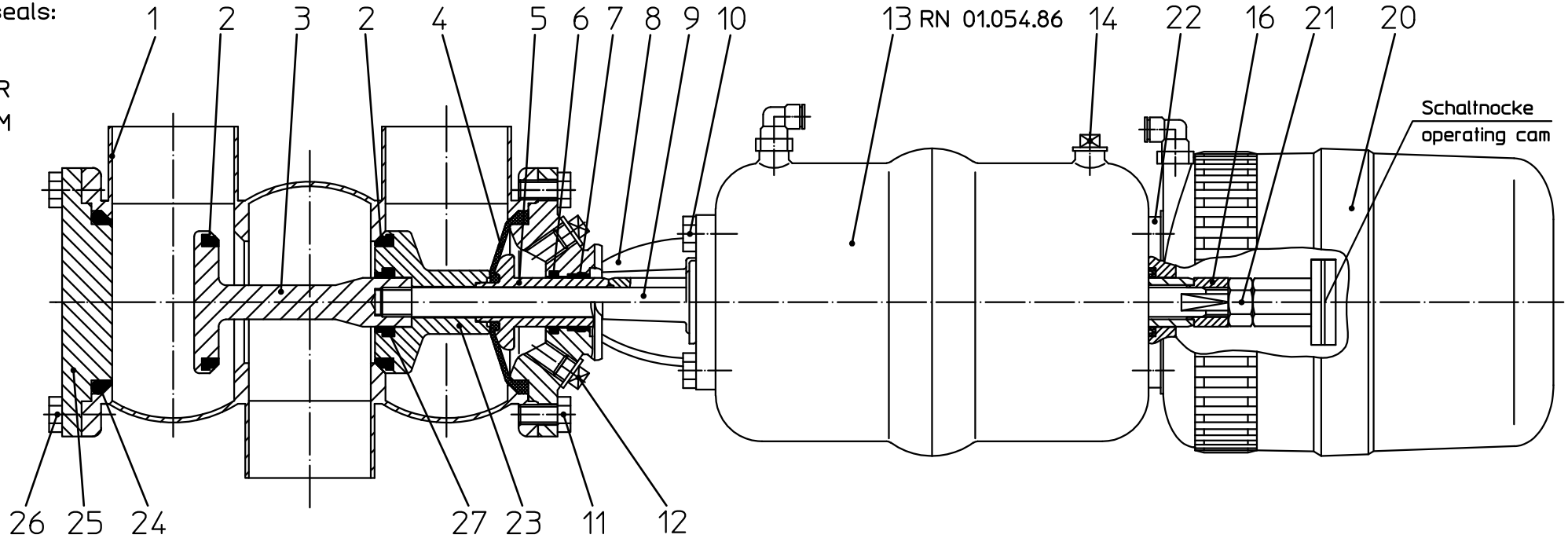
Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

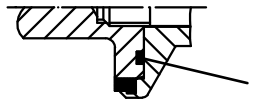
The following seal materials are available (fill in last two digits of ref.-no.)

** Dichtungswerkstoff Membrane:
seal material of membrane:
../22-TFM/EPDM WS 283
Standard-Ausführung
standard design
../23-TFM/EPDM WS 287/64
3A0-Ausführung
3A0-design



* Dichtungswerkstoff:
material seals:
../13-VMQ
../33-HNBR
../93-EPDM





nur bei / only for DN 25, 1"

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM DN 25-100
Diaphragm valve MES4 FS-CU and PSH DN25-100

Ausführung / execution: 2

Blatt 2

		Datum	
Gezeichnet	25.08.04	Trytko	
Geprüft			
Normgepr.			
Datum	08/04		
Name	Trytko		

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.4

Pos. item	Menge quantity	Benennung description	DN 25	40	50	65	80	100	125	150
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	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	Gehäuse MES45 1+2+3S Housing	39-49-295/47	39-49-395/47	39-49-445/47	39-49-495/47	39-49-545/47	39-49-645/47		
	1	Gehäuse MES46 1+2+3+4S Housing	39-50-295/47	39-50-395/47	39-50-445/47	39-50-495/47	39-50-545/47	39-50-645/47		
	1	Gehäuse MES48 1+2+3+4S Housing				39-51-485/47				
2	2	Tellerdichtung * Seat seal	58-33-293/	58-33-393/	58-33-443/	58-33-493/	58-33-543/	58-33-643/		
3	1	Schaft unten Lower valve shaft	39-22-800/42	39-22-801/42	39-22-802/42	39-22-803/42	39-22-804/42	39-22-805/42		
4	1	Membrane (Standard) ** Diaphragm	58-23-295/22	58-23-395/22	=	58-23-495/22	58-23-545/22	58-23-645/22		
	1	Membrane (3A0) ** Diaphragm	58-23-295/23	58-23-395/23	=	58-23-495/23	58-23-545/23	58-23-645/23		
5	1	Schaft oben Upper valve shaft	39-22-296/42	39-22-396/42	=	39-22-496/42	39-22-546/42	39-22-646/42		
6	1	O-Ring O-ring	15,3-2,4 58-06-052/83	20,2-3 58-06-078/64	=	=	=	=		
7	1	Führungsbuchse Bushing	08-01-177/23	08-01-178/23	=	=	=	=		
8	1	Laterne Yoke	39-40-295/47	39-40-395/47	=	39-40-495/47	39-40-545/47	39-40-645/47		
9	1	Zugstange Guide rod	39-23-080/12	39-23-082/12	=	=	39-23-054/12	39-23-055/12		
10	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70				DIN EN 24017-M8x20-A2-70			
11		Skt. Schraube Hex. screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	8x DIN EN 24017-M10x16-A2-70	8x		
12	2	Entlüftungsstopfen Venting plug	08-60-005/94	=	=	=	=	=		
13	1	Steuerkopf Actuator	ø74 15-32-050/17	ø110 15-32-051/17	=	=	ø165 15-32-052/17	=		
14	1	Entlüftungsstopfen G1/8 Venting plug	08-60-005/93	=	=	=	=	=		
15	1	O-Ring O-ring	OR 66x2 NBR 70-75 Shore A							
16	1	Zentrierscheibe Centering nut	15-28-940/12	=	=	=	=	=		
17	1	Schaltnocke Operating cam	08-52-290/97	08-52-291/97	=	=	=	=		

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM DN 25-100
Diaphragm valve MES4 FS-CU and PSH DN25-100

Ausführung / execution: 2

Blatt 3

	Datum	Name
Gezeichnet	25.08.04	Trytko
Geprüft		
Normgepr.		
Datum	08/04	
Name	Trytko	

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.4

Pos. item	Menge quantity	Benennung description	DN 25	40	50	65	80	100	125	150
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
18	1	VSM Gehäuse-SW4 Proximity switch holder housing SW4	15-33-932/93	=	=	=	=	=		
19	4	Skt. Schraube Housing screw	DIN EN 24017-M8x16-A2-70							
20	1	Control-Unit CU31 Direct-Connect Control-Unit	16-31-232/93	=	=	=	=	=		
21	1	Skt. Mutter Hex. nut	DIN EN ISO 10511-M12-A2							
22	1	CU-Adapter CU-adapter	08-48-415/93	=	=	=	=	=		
23	1	Schaft mitte Middle valve shaft	39-22-808/42	39-22-809/42	39-22-810/42	39-22-811/42	39-22-812/42	39-22-813/42		
24	1	O-Ring O-ring	36,5-3,2 58-06-157/64	62,9-5,33 58-06-300/64	=	75,6-5,33 58-06-345/64	101-5,33 58-06-495/64	119,2-5,7 58-06-520/64		
25	1	Gehäusedeckel Housing lid	39-01-230/47	39-01-138/47	=	39-01-139/47	39-01-140/47	39-01-143/47		
26		Skt. Schraube Housing screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	8x DIN EN 24017-M10x16-A2-70	8x		
27	1	Schaftdichtung * Shaft seal		58-33-020/	=	=	=	=		
27.1	1	O-Ring O-ring	11,3-2,4 58-06-050/53							
		Pos. 2, 4, 6, 7, 21, 24, 27, 27.1 nur im kompletten Dichtungssatz erhältlich Item 2, 4, 6, 7, 21, 24, 27, 27,1 available es complete seal kits only								
	1	Dichtungssatz EPDM Seal kit	58-34-375/01	58-34-376/01	58-34-377/01	58-34-378/01	58-34-380/01	58-34-381/01		
	1	Dichtungssatz HNBR Seal kit	58-34-375/06	58-34-376/06	58-34-377/06	58-34-378/06	58-34-380/06	58-34-381/06		
	1	Dichtungssatz VMQ Seal kit	58-34-375/02	58-34-376/02	58-34-377/02	58-34-378/02	58-34-380/02	58-34-381/02		

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM 1-4 zoll
Diaphragm valve MES4 FS-CU and PSH 1-4 inch

Ausführung / execution: 1

Besteht aus 3 Blatt Blatt 1

	Datum	Name
Gezeichnet	28.4.99	Trytko
Geprüft	03.5.99	Schulz
Normgepr.		

Datum	4/99	1/01	03/01	06/01	11/01	02/02	02/03	08/04
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.5

(Ausführung 1 gültig bis August 2004 / execution 1 valid until Aug 2004)

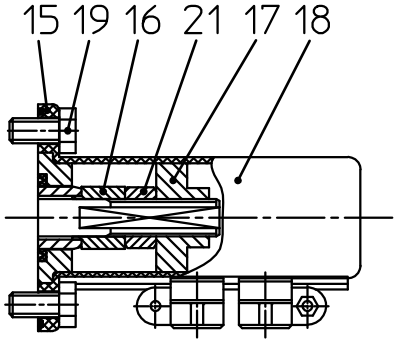
Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

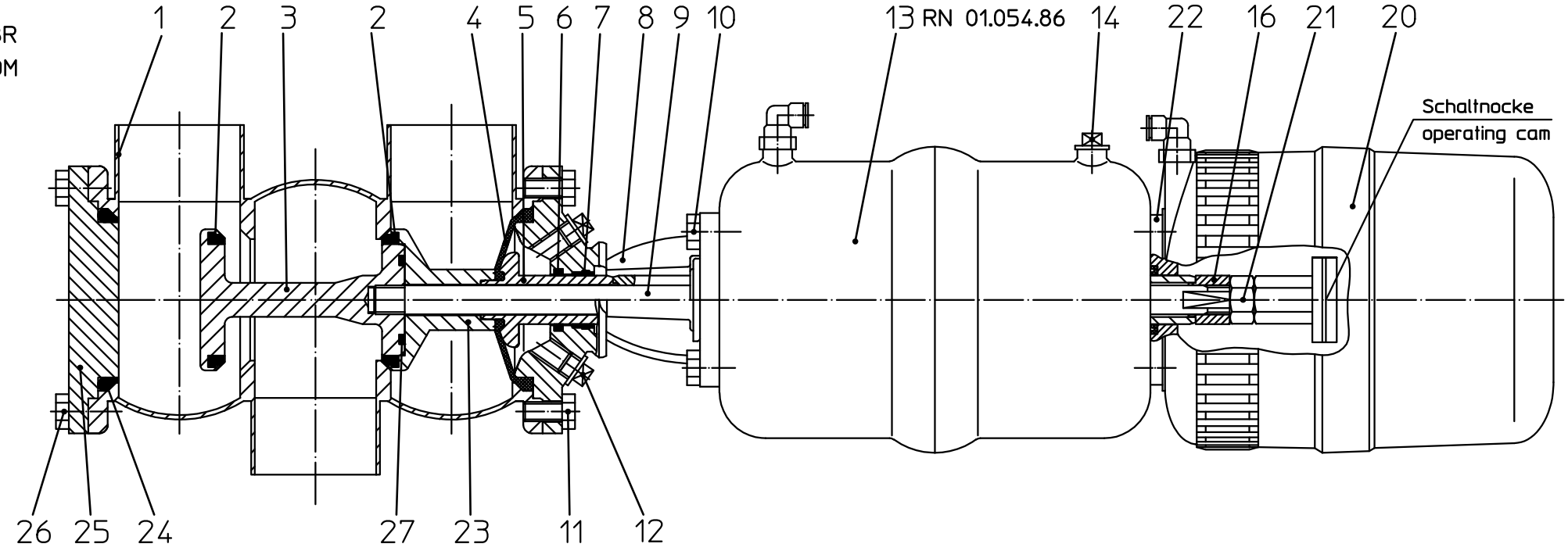
The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff:
material seals:

../13-VMQ
../33-HNBR
../93-EPDM

** Dichtungswerkstoff Membrane:
seal material of membrane:
../22-TFM/EPDM WS 283
Standard-Ausführung
standard design
../23-TFM/EPDM WS 287/64
3A0-Ausführung
3A0 design





Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM 1-4 zoll
Diaphragm valve MES4 FS-CU and PSH 1-4 inch

Ausführung / execution: 1

Blatt 2

		Datum	
Gezeichnet	28.4.99	Trytko	
Geprüft	03.5.99	Schulz	
Normgepr.			

Datum	04/99	10/03	08/04							
Name	Trytko	Trytko	Trytko							

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.5

Pos. item	Menge quantity	Benennung description	1"	1,5"	2"	2,5"	3"	4"		
			WS-Nr. ref.-no.	WS-Nr. ref.-no.	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	Gehäuse MES45 1+2+3S Housing	39-49-320/47	39-49-420/47	39-49-470/47	39-49-520/47	39-49-570/47	39-49-670/47		
	1	Gehäuse MES46 1+2+3+4S Housing	39-50-320/47	39-50-420/47	39-50-470/47	39-50-520/47	39-50-570/47	39-50-670/47		
	1	Gehäuse MES48 1+2+3+4S Housing	39-51-310/47		39-51-460/47					
2	2	Tellerdichtung * Seat seal	58-33-293/	58-33-393/	58-33-443/	58-33-493/	58-33-568/	58-33-643/		
3	1	Schaft unten Lower valve shaft	39-22-816/42	39-22-817/42	39-22-818/42	39-22-819/42	39-22-820/42	39-22-821/42		
4	1	Membrane (Standard) ** Diaphragm	58-23-295/22	58-23-395/22	=	58-23-495/22	=	58-23-645/22		
	1	Membrane (3A0) ** Diaphragm	58-23-295/23	58-23-395/23	=	58-23-495/23	=	58-23-645/23		
5	1	Schaft oben Upper valve shaft	39-22-296/42	39-22-396/42	=	39-22-496/42	=	39-22-646/42		
6	1	O-Ring O-ring	15,3-2,4 58-06-052/83	20,2-3 58-06-078/64	=	=	=	=		
7	1	Führungsbuchse Bushing	08-01-177/23	08-01-178/23	=	=	=	=		
8	1	Laterne Yoke	39-40-295/47	39-40-395/47	=	39-40-495/47	39-40-570/47	39-40-645/47		
9	1	Zugstange Guide rod	39-23-080/12	39-23-082/12	=	=	39-23-058/12	39-23-055/12		
10	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70				DIN EN 24017-M8x20-A2-70			
11		Skt. Schraube Hex. screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	4x	8x DIN EN 24017 -M10x16-A2-70		
12	2	Entlüftungsstopfen Venting plug	08-60-005/94	=	=	=	=	=		
13	1	Steuerkopf Actuator	ø74 15-32-050/17	ø110 15-32-051/17	=	=	ø165 15-32-052/17	=		
14	1	Entlüftungsstopfen G1/8 Venting plug	08-60-005/93	=	=	=	=	=		
15	1	O-Ring O-ring	OR 66x2 NBR 70-75 Shore A							
16	1	Zentrierscheibe Centering nut	15-28-940/12	=	=	=	=	=		
17	1	Schaltnocke Operating cam	08-52-290/97	08-52-291/97	=	=	=	=		

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM 1-4 zoll
Diaphragm valve MES4 FS-CU and PSH 1-4 inch

Ausführung / execution: 1

Blatt 3

	Datum	Name
Gezeichnet	28.4.99	Trytko
Geprüft	03.5.99	Schulz
Normgepr.		

Datum	04/99	01/01	03/01	06/01	11/01	02/02	02/03	10/03	08/04
Name	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.5

Pos. item	Menge quantity	Benennung description	1" WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	2" WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	4" WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
18	1	VSM Gehäuse-SW4 Proximity switch holder housing SW4	15-33-932/93	=	=	=	=	=		
19	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70							
20	1	Control-Unit CU31 Direct-Connect Control-Unit	16-31-232/93	=	=	=	=	=		
21	1	Skt. Mutter Hex. nut	DIN EN ISO 10511-M12-A2							
22	1	CU-Adapter CU-adapter	08-48-415/93	=	=	=	=	=		
23	1	Schaft mitte Middle valve shaft	39-22-824/42	39-22-825/42	39-22-826/42	39-22-827/42	39-22-828/42	39-22-829/42		
24	1	O-Ring O-ring	36,5-3,2 58-06-157/64	62,9-5,33 58-06-300/64	=	75,6-5,33 58-06-345/64	=	119,2-5,7 58-06-520/64		
25	1	Gehäusedeckel Housing lid	39-01-230/47	39-01-138/47	=	39-01-139/47	39-01-144/47	39-01-143/47		
26		Skt. Schraube Housing screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	4x	8x DIN EN 24017 -M10x14-A2-70		
27	1	O-Ring O-ring	11,3-2,4 58-06-050/53	20,5-3 58-06-078/53	28-3 58-06-119/53	44,2-2,5 58-06-183/53	50,39-3,53 58-06-228/53	80-3 58-06-368/53		
		Pos. 2, 4, 6, 7, 21, 24, 27 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 7, 21, 24, 27 available es complete seal kits only								
	1	Dichtungssatz EPDM Seal kit	58-34-375/01	58-34-376/01	58-34-377/01	58-34-378/01	58-34-379/01	58-34-381/01		
	1	Dichtungssatz VMQ Seal kit	58-34-375/02	58-34-376/02	58-34-377/02	58-34-378/02	58-34-379/02	58-34-381/02		
	1	Dichtungssatz HNBR Seal kit	58-34-375/06	58-34-376/06	58-34-377/06	58-34-378/06	58-34-379/06	58-34-381/06		

ACHTUNG!!!

Ausführung 1 bis August 2004
Bei Ersatzteilbestellung einer der Schäfte Pos.3 und 23 bitte immer beide Schäfte + Dichtung Schaft (alt Pos.27) WS-Nr: 58-33-020/.. bestellen und austauschen.

ATTENTION!!!

Execution 1 until August 2004
In case of spare orders for one of the shafts pos. 3 and 23, always order and replace both shafts + shaft seals (old pos.27) ref.-No. 58-33-020/..

02/94

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM 1-4 zoll
Diaphragm valve MES4 FS-CU and PSH 1-4 inch

Ausführung / execution: 2

Besteht aus 3 Blatt Blatt 1

	Datum	Name
Gezeichnet	25.08.04	Trytko
Geprüft		
Normgepr.		

Datum	08/04
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.5

(Ausführung 2 gültig ab August 2004 / execution 2 valid from Aug 2004)

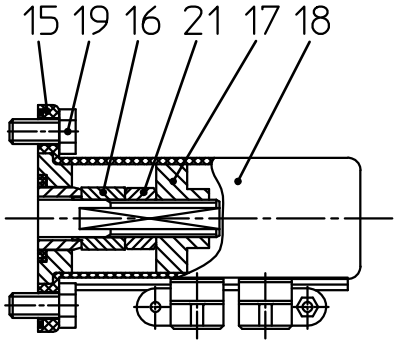
Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

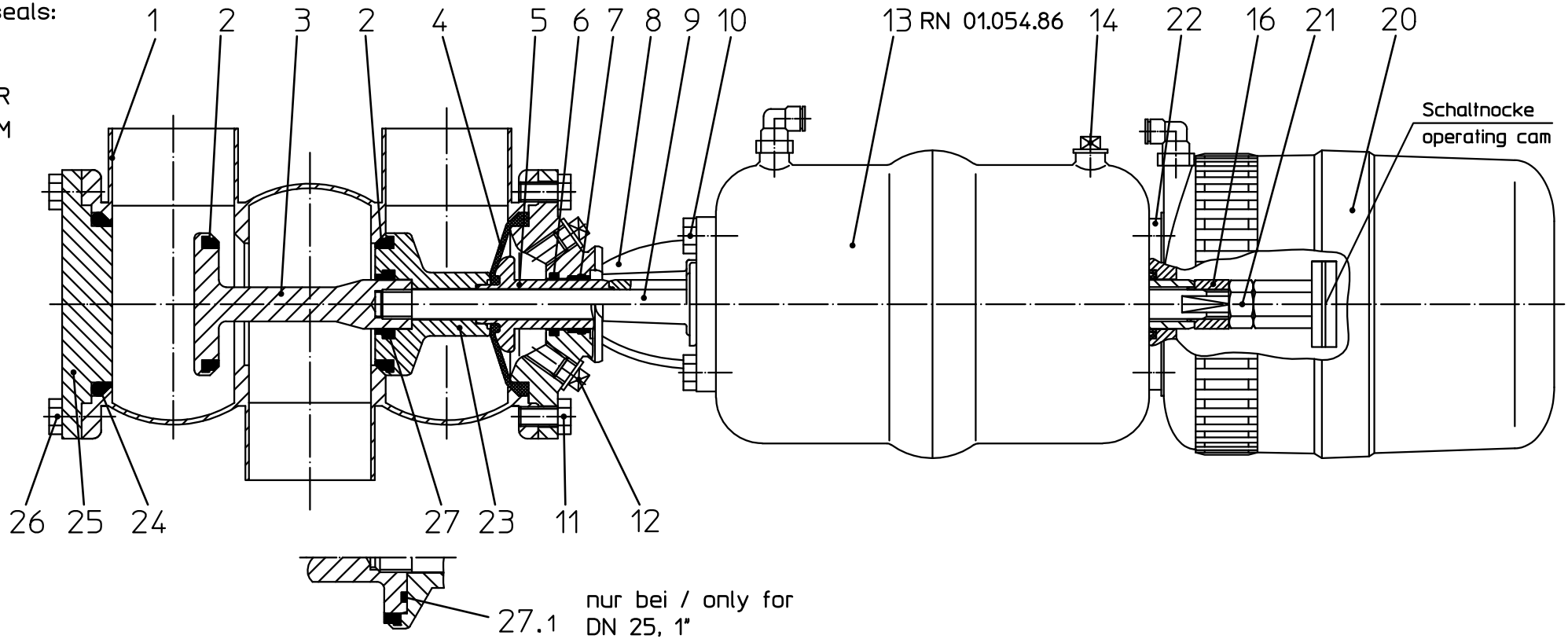
The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff:
material seals:

../13-VMQ
../33-HNBR
../93-EPDM

** Dichtungswerkstoff Membrane:
seal material of membrane:
../22-TFM/EPDM WS 283
Standard-Ausführung
standard design
../23-TFM/EPDM WS 287/64
3A0-Ausführung
3A0 design





Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM 1-4 zoll
Diaphragm valve MES4 FS-CU and PSH 1-4 inch

Ausführung / execution: 2

Blatt 2

		Datum	
Gezeichnet	25.08.04	Trytko	
Geprüft			
Normgepr.			

Datum	08/04
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.5

Pos. item	Menge quantity	Benennung description	1" WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	2" WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	4" WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
1	1	Gehäuse MES45 1+2+3S Housing	39-49-320/47	39-49-420/47	39-49-470/47	39-49-520/47	39-49-570/47	39-49-670/47		
	1	Gehäuse MES46 1+2+3+4S Housing	39-50-320/47	39-50-420/47	39-50-470/47	39-50-520/47	39-50-570/47	39-50-670/47		
	1	Gehäuse MES48 1+2+3+4S Housing	39-51-310/47		39-51-460/47					
2	2	Tellerdichtung * Seat seal	58-33-293/	58-33-393/	58-33-443/	58-33-493/	58-33-568/	58-33-643/		
3	1	Schaft unten Lower valve shaft	39-22-816/42	39-22-817/42	39-22-818/42	39-22-819/42	39-22-820/42	39-22-821/42		
4	1	Membrane (Standard) ** Diaphragm	58-23-295/22	58-23-395/22	=	58-23-495/22	=	58-23-645/22		
	1	Membrane (3A0) ** Diaphragm	58-23-295/23	58-23-395/23	=	58-23-495/23	=	58-23-645/23		
5	1	Schaft oben Upper valve shaft	39-22-296/42	39-22-396/42	=	39-22-496/42	=	39-22-646/42		
6	1	O-Ring O-ring	15,3-2,4 58-06-052/83	20,2-3 58-06-078/64	=	=	=	=		
7	1	Führungsbuchse Bushing	08-01-177/23	08-01-178/23	=	=	=	=		
8	1	Laterne Yoke	39-40-295/47	39-40-395/47	=	39-40-495/47	39-40-570/47	39-40-645/47		
9	1	Zugstange Guide rod	39-23-080/12	39-23-082/12	=	=	39-23-058/12	39-23-055/12		
10	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70				DIN EN 24017-M8x20-A2-70			
11		Skt. Schraube Hex. screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	4x	8x DIN EN 24017 -M10x16-A2-70		
12	2	Entlüftungsstopfen Venting plug	08-60-005/94	=	=	=	=	=		
13	1	Steuerkopf Actuator	ø74 15-32-050/17	ø110 15-32-051/17	=	=	ø165 15-32-052/17	=		
14	1	Entlüftungsstopfen G1/8 Venting plug	08-60-005/93	=	=	=	=	=		
15	1	O-Ring O-ring	OR 66x2 NBR 70-75 Shore A							
16	1	Zentrierscheibe Centering nut	15-28-940/12	=	=	=	=	=		
17	1	Schaltnocke Operating cam	08-52-290/97	08-52-291/97	=	=	=	=		

Ersatzteilliste: spare parts list:

Membranventil MES4 FS-CU und VSM 1-4 zoll
Diaphragm valve MES4 FS-CU and PSH 1-4 inch

Ausführung / execution: 2

Blatt 3

	Datum	Name
Gezeichnet	25.08.04	Trytko
Geprüft		
Normgepr.		

Datum	08/04
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.064.5

Pos. item	Menge quantity	Benennung description	1" WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	2" WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	4" WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
18	1	VSM Gehäuse-SW4 Proximity switch holder housing SW4	15-33-932/93	=	=	=	=	=		
19	4	Skt. Schraube Hex. screw	DIN EN 24017-M8x16-A2-70							
20	1	Control-Unit CU31 Direct-Connect Control-Unit	16-31-232/93	=	=	=	=	=		
21	1	Skt. Mutter Hex. nut	DIN EN ISO 10511-M12-A2							
22	1	CU-Adapter CU-adapter	08-48-415/93	=	=	=	=	=		
23	1	Schaft mitte Middle valve shaft	39-22-824/42	39-22-825/42	39-22-826/42	39-22-827/42	39-22-828/42	39-22-829/42		
24	1	O-Ring O-ring	36,5-3,2 58-06-157/64	62,9-5,33 58-06-300/64	=	75,6-5,33 58-06-345/64	=	119,2-5,7 58-06-520/64		
25	1	Gehäusedeckel Housing lid	39-01-230/47	39-01-138/47	=	39-01-139/47	39-01-144/47	39-01-143/47		
26		Skt. Schraube Housing screw	4x DIN EN 24017 -M6x12-A2-70	4x DIN EN 24017-M8x16-A2-70	4x	4x	4x	8x DIN EN 24017 -M10x14-A2-70		
27	1	Schaftdichtung * Shaft seal		58-33-020/	=	=	=	=		
27.1	1	O-Ring O-ring	11,3-2,4 58-06-050/53							
		Pos. 2, 4, 6, 7, 21, 24, 27, 27.1 nur im kompletten Dichtungssatz erhältlich Item. 2, 4, 6, 7, 21, 24, 27, 27.1 available es complete seal kits only								
	1	Dichtungssatz EPDM Seal kit	58-34-375/01	58-34-376/01	58-34-377/01	58-34-378/01	58-34-379/01	58-34-381/01		
	1	Dichtungssatz VMQ Seal kit	58-34-375/02	58-34-376/02	58-34-377/02	58-34-378/02	58-34-379/02	58-34-381/02		
	1	Dichtungssatz HNBR Seal kit	58-34-375/06	58-34-376/06	58-34-377/06	58-34-378/06	58-34-379/06	58-34-381/06		

Ersatzteilliste: spare parts list:

Steuerkopf SW4
Actuator SW4

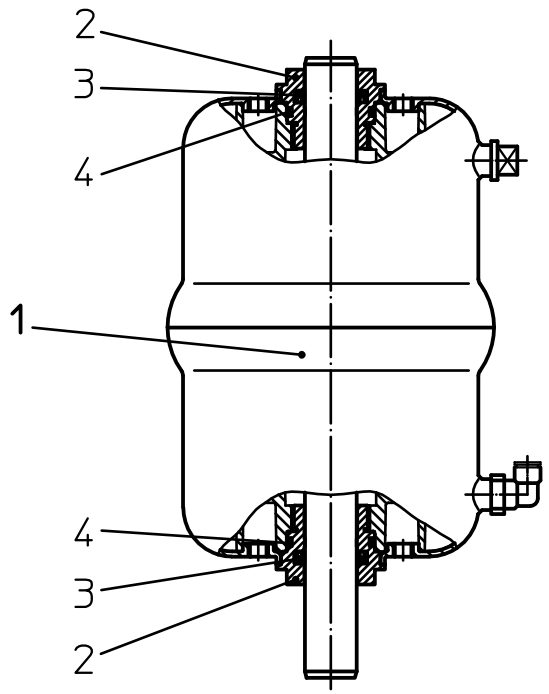
Besteht aus 1 Blatt Blatt 1

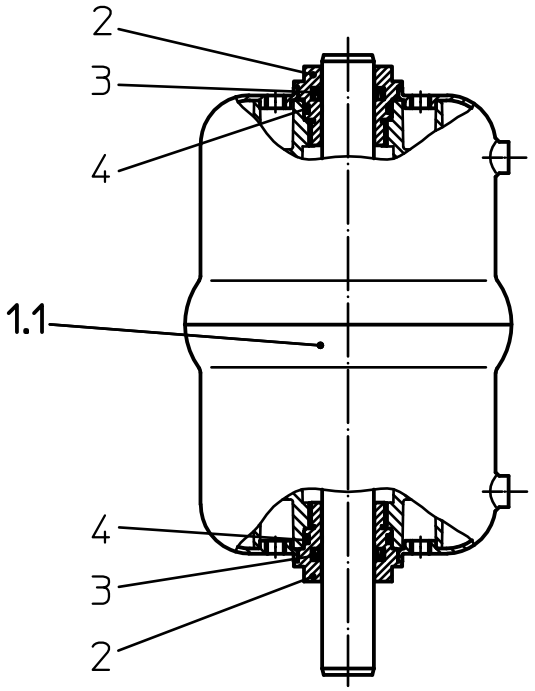
	Datum	Name
Gezeichnet	15.1.98	Trytko
Geprüft	15.1.98	Spliethoff
Normgepr.	19.1.98	Plümper

Datum	1/98	12/03	01/06	06/08					
Name	Trytko	Trytko	Trytko	Trytko					

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.054.86





Pos. item	Menge quantity	Benennung description	ø74 WS-Nr. ref.-no.	ø110 WS-Nr. ref.-no.	ø165 WS-Nr. ref.-no.
1		Steuerkopf kpl Feder/Luft Actuator complete spring/air Ausf. matt-gl. design satin fin.	15-32-050/17	15-32-051/17	15-32-052/17
		Steuerkopf kpl Luft/Luft Actuator complete air/air Ausf. matt-gl. design satin fin.	15-32-085/17	15-32-086/17	15-32-087/17
1.1		Steuerkopf kpl Feder/Luft Actuator complete spring/air Ausf. 3A-blank design 3A-bright fin.	3A0 15-32-059/13	3A0 15-32-060/13	3A0 15-32-061/13
		Steuerkopf kpl Luft/Luft Actuator complete air/air Ausf. 3A-blank design 3A-bright fin.	3A0 15-32-057/13	3A0 15-32-065/13	3A0 15-32-066/13
2	2	Dichtungsschraube Seal screw	15-28-840/93	=	=
3	2	V-Dichtung V-seal 20x28x4	58-32-010/83	=	=
4	2	O-Ring O-ring 29-2,5	58-06-124/83	=	=