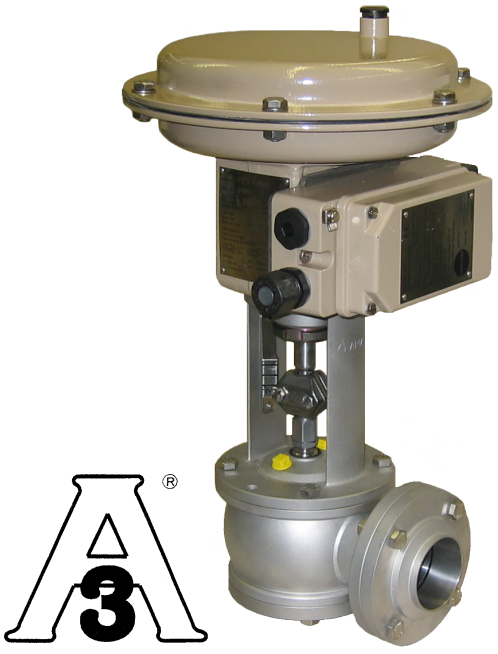
APV
AN SPX BRAND

Operating Manual

DELTA RGMS4 (3A)

Modulating valve with product diaphragm ,,fan support" (aseptic)



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

Table of Contents :

RGMS4 - DN design	**RN 0**
RGMS4 - Inch design	**RN 01.170.9**

1. General Information

his 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 of operating safety. You will find it wherever the activities described are bearing risks of personal injury.

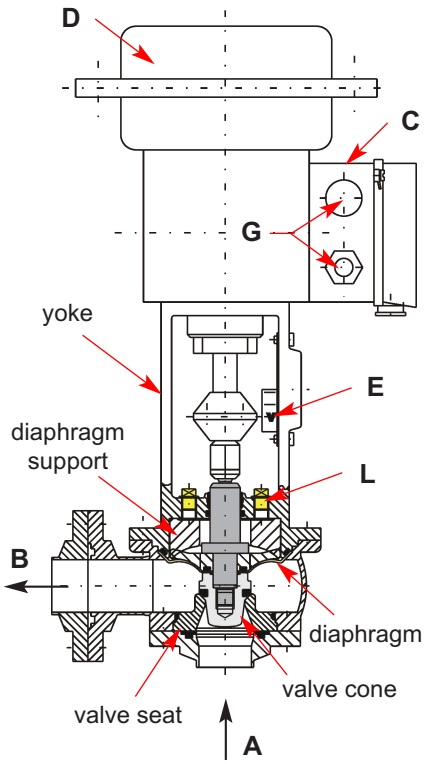
- Depressurize and, if possible, discharge the line and cleaning system before any maintenance work.
- Do not touch the yoke area or actuating area (positioner) when the valve is installed. Risk of injury through sudden valve operation.

- Electric and pneumatic lines must be disconnected before assembly or disassembly of the valve (e.g. for seal replacement).
- Do not reach into the valve body when the valve is dismantled. Observe instructions given for valve in installed state.
- In case of damage of the diaphragm, fluids will leak from the leakage bore in the yoke area.

- Attention: Risk of burn
  To prevent personal injury, the valves must not be touched during CIP cleaning or sterilization with hot water or steam.
- 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.

3. Mode of Operation

fig. 1 RGMS41



3.1. General Information

- Aseptic modulating valves RGMS4 can be used for the continuous regulation of flows in the beverage and food industries and in chemical and pharmaceutical applications.
- The modulating valves are suited for the flow and pressure regulation of fluids and gases.
- An optimum protection of the product in hygienic and aseptic areas is guaranteed.
- At the shaft passages product safety is reached by the hermetic separation of the product chamber from the outside (atmosphere) by a flexible diaphragm.
- In its basic shape, the Delta RGM4 is designed as a corner valve. Therefore, the valve proves favourable flow deviation characteristics. The flow direction is from **A** to **B (fig. 1)**.
- The housing which is free of dead spaces has optimum cleaning features. Crevice-free sealing of the individual housing parts by profile seals - no source of infection.
- Leakages at the membrane are indicated in the yoke area via a leakage drain **(L)**.
- The interdependence between flow and cone stroke is defined by the characteristics.
- Different kvs values (flow) with a certain valve dimension can be reached by different inserts (valve seat / valve cone). **(fig. 1)**
- The table in Item 12. shows the parts to be changed in case of modification of the kvs value.
- The connections **(C)** or the electric and pneumatic supply are located laterally at the positioner **(G)**.
- An optical position indication (stroke indication) is located in the yoke area **(E)**.

3. Mode of Operation

fig. 2 integrated installation of positioner

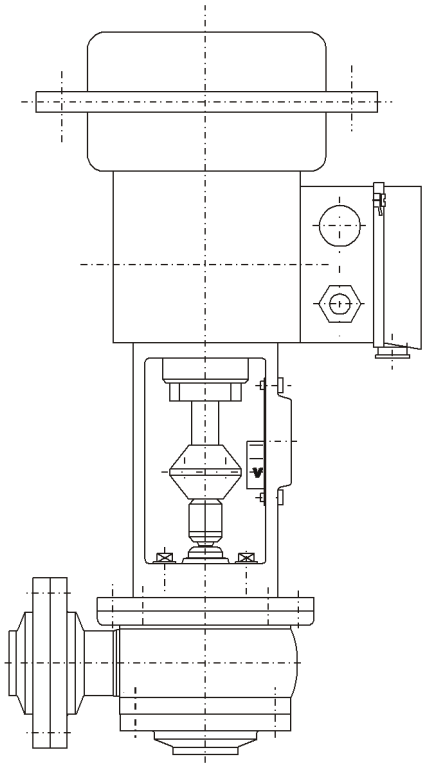
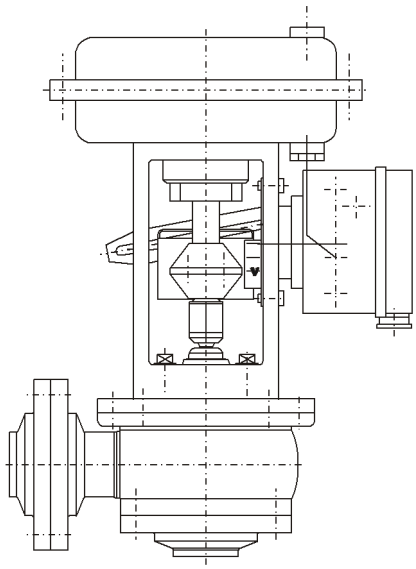


fig. 3 installation of positioner according to NAMUR



3.2. Actuator

- The pneumatic actuator **(D)** provides the path and the force to open or to close the control element. The diaphragm actuator is suited for longer actuating distances at minimum self-friction. The valve positioner **(C)** guarantees the preset coordination between valve position and control signal. It compares the control signal (4-20 mA) given by the control device with the stroke of the control element and defines the pneumatic actuating pressure as output signal.

- Depending on the specific requirement, the modulating valve can be operated either in normally open or in normally closed design.

  MFS - diaphragm actuator normally closed
  The actuator opens with actuating pressure and closes by spring pressure.

  MFH - diaphragm actuator normally open
  The actuator closes with actuating pressure and opens by spring pressure.

- For the various applications, the diaphragm actuators are supplied with different actuating pressures.

- In its standard design, the valve positioner is an electro-pneumatic transformer. A pneumatic valve positioner is also available for specific operations. The direction of flows transferred can be rising (directional equality >>) or falling (directional reverse <>).

- The valve positioner can be installed in two different ways:

1) valve positioner is integrated in the membrane actuator;
The feedback of the valve position is effected as mechanical tap at the valve shaft within the integrated positioner **(fig. 2)**.

2) valve positioner according to NAMUR;
The positioner is installed at the valve yoke by means of a rib. The feedback of the valve position is effected via the operating cam with fastening plate installed at the valve shaft **(fig. 3)**.

- Valve position indication can also be in the positioner; either by indication of the valve final position or by an analog feedback for the whole stroke range.

4. Installation

- The Delta RGM4 valve must be installed in such a way that products and cleaning liquids can drain off the valve housing. Priority should be given to a vertical installation.

- **Attention**: Observe welding instructions!

4.1 Welding Instructions

RGMS4

- Before welding of the valve, the complete valve insert must be dismantled from the housing. Careful handling to avoid damage to the parts is necessary.

- Dismantle the mating flanges from the valve housing and remove the flange seals. Just tacking or adjustment of the mating flanges should be undertaken with fixed valve housing.

- Welding should only be carried out by certified welders (EN 287 - 1). (seam quality EN 25817 "B")

- The preparation of the weld seam up to 3 mm thickness shall be carried out as a square butt joint without air. (Consider shrinkage!)

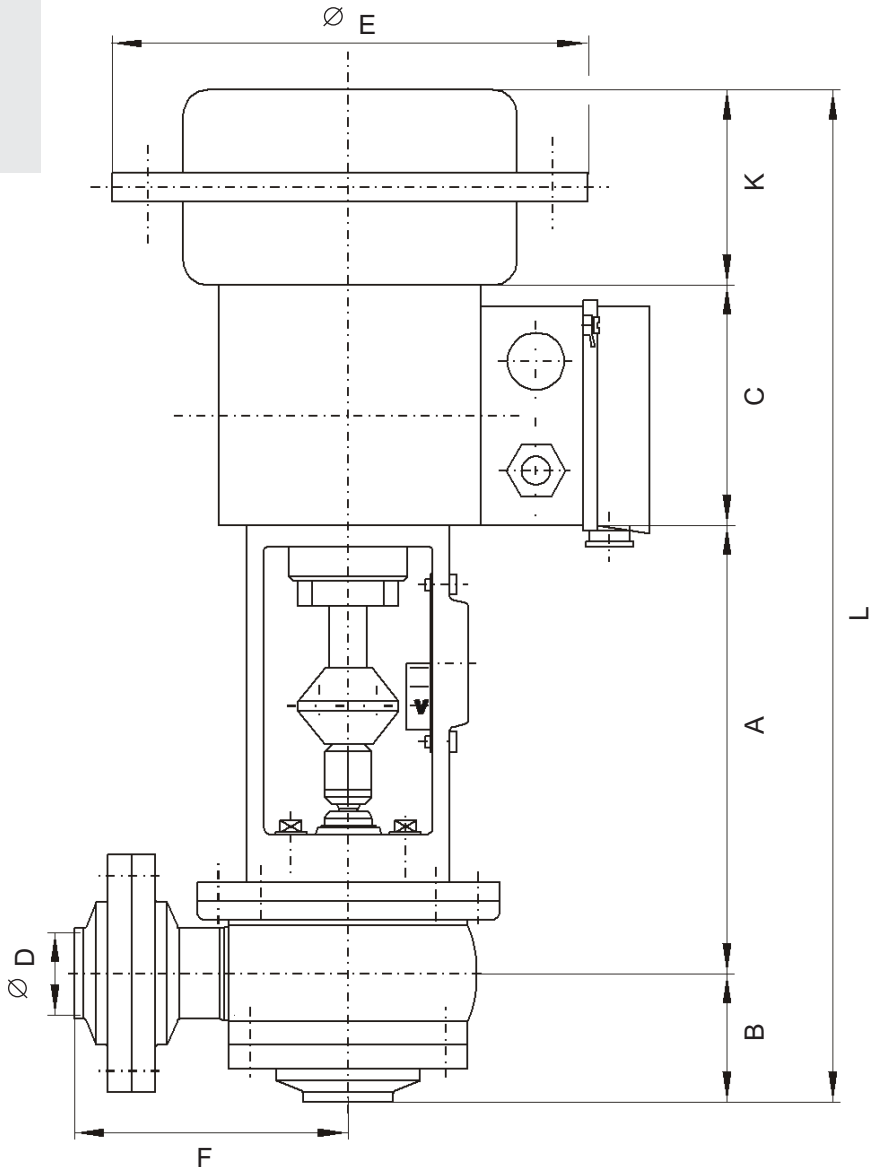
- TIG orbital welding is best!

- After welding of the valve housing or of the mating flanges and after work at the pipelines, the corresponding parts of the installation and pipelines must be cleaned from welding residues and soiling. 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-obeservance of these welding instructions is not subject of our guarantee.

5. Dimensions / Weights

5.1 Integrated positioner (DN - metric dimensions)

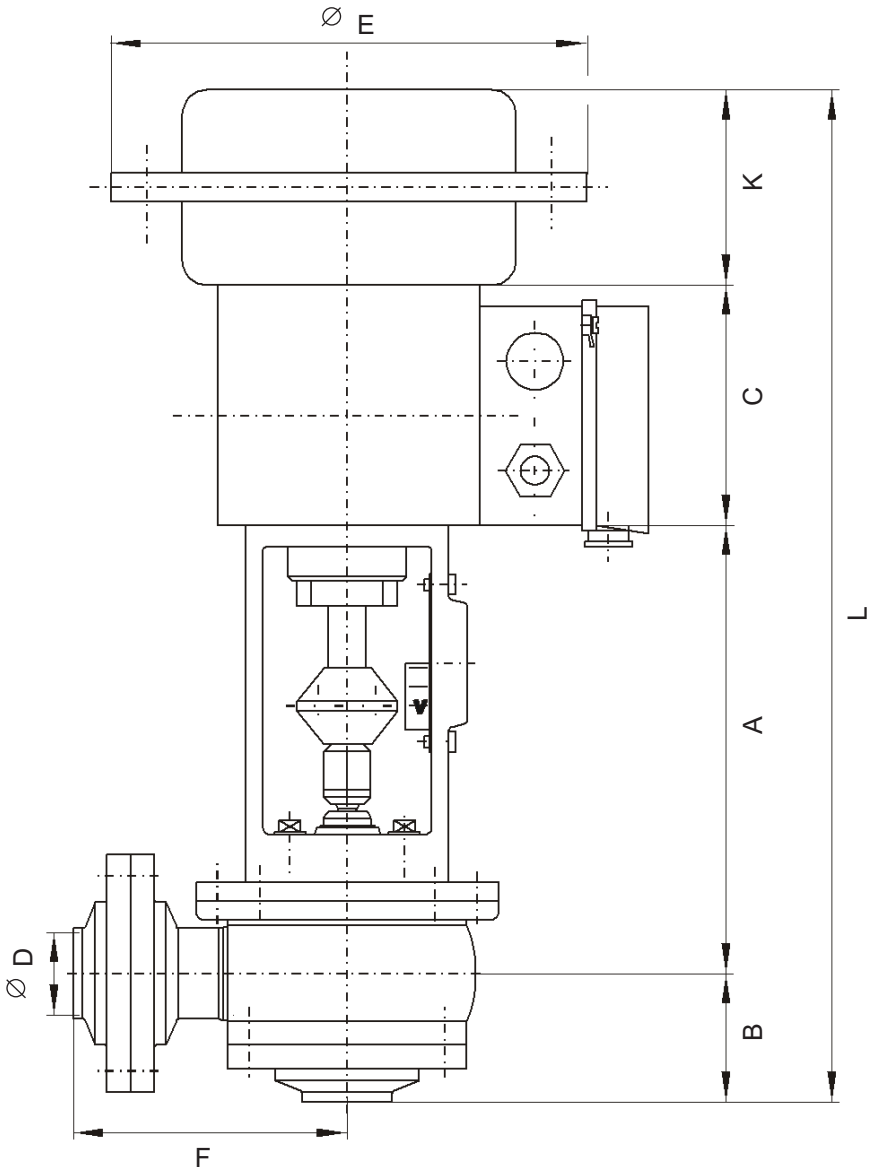


dimensions in mm

DN	actuating surface (cm2)	L	A	B	C	Ø D	F	Ø E	K	weight in kg
40	120	405	189,5	55,5	88	38	115	168	70	11,7
	240	411			101			240	65	12,1
50	120	417	195,5	61,5	88	50	120	168	70	12,2
	240	423			101			240	65	12,7
	350	443			101			280	85	15,7
65	240	440	204,0	70,0	101	66	133	240	65	15,1
	350	460						280	85	17,4
80	240	462	218,5	77,5	101	81	146	240	65	16,2
	350	482						280	85	19,8
100	350	501	228,0	87,0	101	100	159	280	85	22,7
	700	562	240,0					390	135	38,7

5. Dimensions / Weights

5.2 Integrated positioner (Inch) dimensions

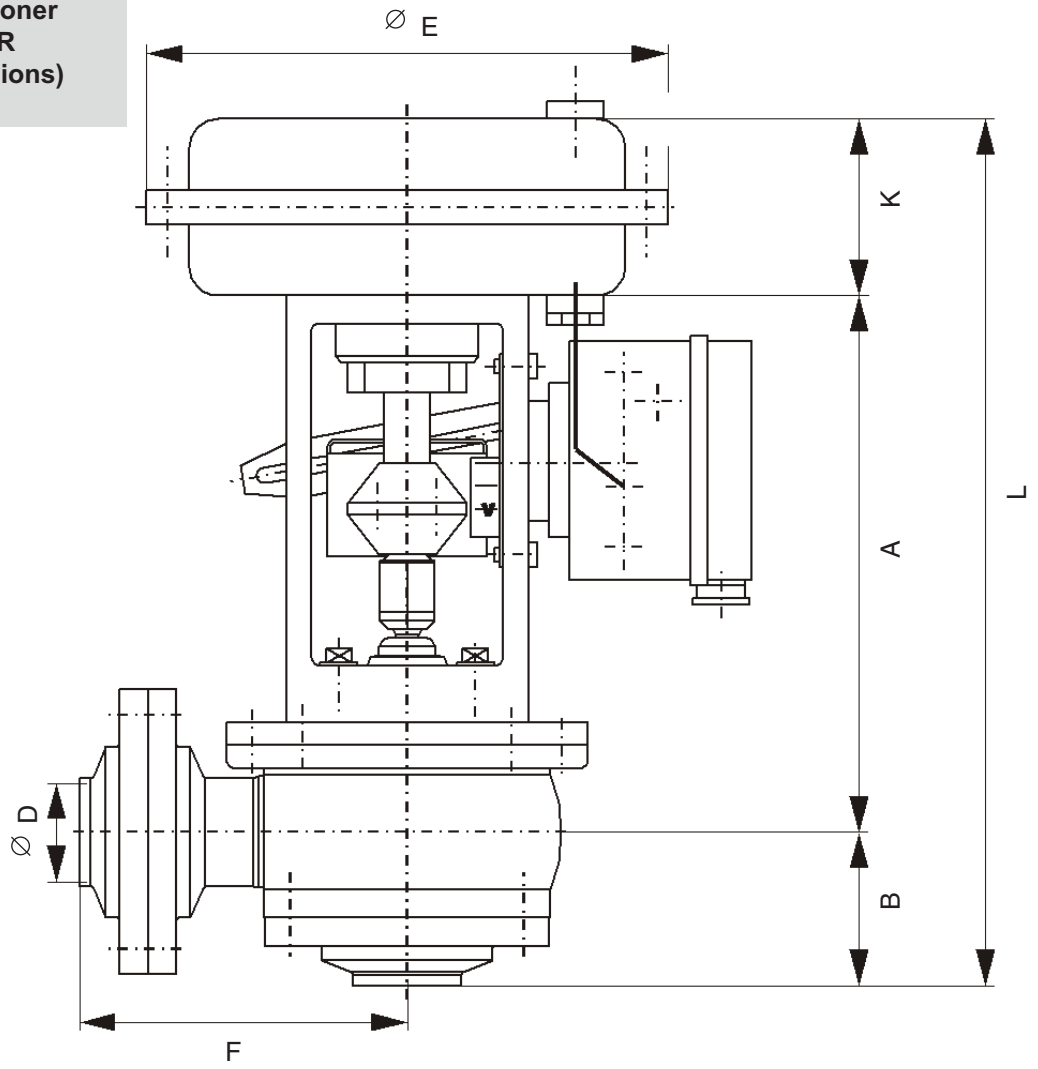


dimensions in mm

Inch	actuating surface (cm2)	L	A	B	C	Ø D	F	Ø E	K	weight in kg
1,5”	120	399,8	187,9	53,9	88	34,9	115	168	70	11,7
	240	407,8			101			240	65	12,1
2”	120	412,6	194,3	60,3	88	47,6	120	168	70	12,2
	240	420,6			101			240	65	12,7
	350	440,6			101			280	85	15,7
2,5”	240	434,4	201,2	67,2	101	60,3	133	240	65	15,1
	350	454,4						280	85	17,4
3”	240	447,0	207,5	73,5	101	72,9	146	240	65	16,2
	350	467,0						280	85	19,8
4”	350	498,6	226,8	85,8	101	97,6	159	280	85	22,7
	700	564,6	242,8					390	135	38,7

5. Dimensions / Weights

5.3 Installation of positioner according to NAMUR (DN - metric dimensions)

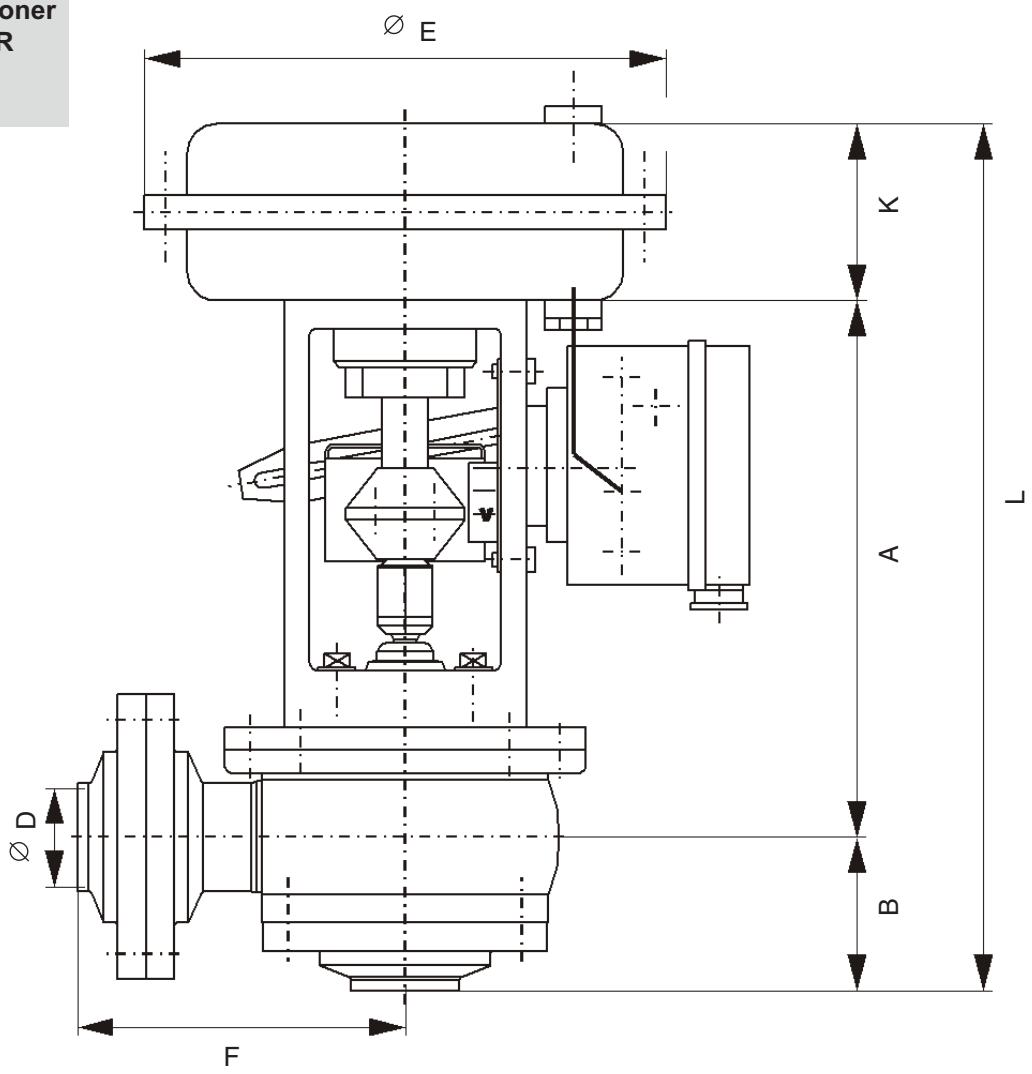


dimensions in mm

DN	actuating surface (cm2)	L	A	B	Ø D	F	Ø E	K	weight in kg
40	120	314	189,5	55,5	38	115	168	69	11,7
	240	307					240	62	12,1
50	120	326	195,5	61,5	50	120	168	69	12,2
	240	319					240	62	12,7
	350	339					280	82	15,7
65	240	336	204,0	70,0	66	133	240	62	15,1
	350	356					280	82	17,4
80	240	358	218,5	77,5	81	146	240	62	16,2
	350	378					280	82	19,8
100	350	397	228,0	87,0	100	159	280	82	22,7
	700	459	239,0				390	134	38,7

5. Dimensions / Weights

5.4 Installation of positioner according to NAMUR (Inch dimensions)



dimensions in mm

Inch	actuating surface (cm2)	L	A	B	Ø D	F	Ø E	K	weight in kg
1,5”	120	310,8	187,9	53,9	34,9	115	168	69	11,7
	240	303,8					240	62	12,1
2”	120	323,6	194,3	60,3	47,6	120	168	69	12,2
	240	316,6					240	62	12,7
	350	336,6					280	82	15,7
2,5”	240	330,4	201,2	67,2	60,3	133	240	62	15,1
	350	350,4					280	82	17,4
3”	240	343,0	207,5	73,5	72,9	146	240	62	16,2
	350	363,0					280	82	19,8
4”	350	394,6	226,8	85,8	97,6	159	280	82	22,7
	700	462,6	242,8				390	134	38,7

6. Technical Data

6.1 General Information

- permissible operating pressure
  inlet pressure **p1 = 16 bar** (in front of valve seat)
  outlet pressure **p2 = 5 bar** (in housing, on diaphragm)

- correcting ratio **: 1: 50**

- max. operating temperature **: 140° C EPDM, HNBR**
  : * VMQ, * FPM

- short-term steam load **: 150° C EPDM, HNBR**
  : * VMQ, * FPM
  *** (kein Dampf)**

- leakage indication
  in the yoke area **: G1/8”**

- actuating pressure of diaphragm actuator:
  max. 6 bar (min. 0,4 bar above actuating pressure,
  e.g. 0,6 - 3 bar
  *** min.: 3,4 bar)**

- command variable of electro-pneumatic positioner **:**
  4 - 20 mA

- command variable of pneumatic positioner **:**
  0,2 - 1 bar

6.2 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 m³
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/m³

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

6. Technical Data

6.3 DELTA RGMS4
kvs - values in m^3 / h

DN40		DN 50		DN 65		DN 80		DN 100	
stroke 15 mm		stroke 15 mm		stroke 15 mm		stroke 15 mm		stroke 15 mm	
Kvs	S Ø	Kvs	S Ø	Kvs	S Ø	Kvs	S Ø	Kvs	S Ø
25	38	40	50	63	66	100	81	160	100
16									
10	26	25	38	40	50	63	66	100	81
6,3		16							
4,0	13	10	26	25	38	40	50	63	66
2,5		6,3		16					

1,5”		2”		2,5”		3”		4”	
stroke 15 mm		stroke 15 mm		stroke 15 mm		stroke 15 mm		stroke 15 mm	
Kvs	S Ø	Kvs	S Ø	Kvs	S Ø	Kvs	S Ø	Kvs	S Ø
25	38	40	50	63	66	80	72,9	160	100
16									
10	26	25	38	40	50	63	66	100	81
6,3		16							
4,0	13	10	26	25	38	40	50	63	66
2,5		6,3		16					

kvs = values in m^3/h
S Ø = seat diameter in mm

7. Materials

DELTA RGMS 4		Materials
For the **3-A-** design, the following two surface finishes are available:		satin polished satin finish
- valve shaft valve seat, flange		1.4404 (AISI 316L)
- housing standard design:		1.4404 (AISI 316L) inside surface polished Ra < 0,8µm outside surface satin
- valve yoke		1.4308
- coupling (compl.) screws, nuts		1.4301
- flat diaphragm (shaft passage)		TFM
- housing seal	standard: option:	EPDM HNBR, VMQ, FPM
- seat seal, FGN1 seal	standard: option:	EPDM HNBR, VMQ, FPM
- type label		PVC adhesive
Diaphragm actuator		
- diaphragm shells		sheet steel or aluminium diecasting plastic coated
- rolling diaphragm		NBR or EPDM with fabric insert
- connecting rod, intermediate piece		1.4301
- springs		1.1250 or 1.7102 plastic coated
Valve positioner		
- housing		aluminium diecasting plastic coated or plastic
- external parts		1.4301 and 1.4104

8. Maintenance

Maintenance intervals depend on the application and must be decided by the operator himself carrying out regular 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.

- The customer is recommended to hold spare seals and diaphragm on stock. For valve maintenance APV supplies complete seal kits (pl. see spare parts lists)

- Required tools:

1 x spanner	SW13
1 x spanner	SW17
1 x spanner	SW19
1 x spanner	SW24
1 x spanner	SW30 (1.5")
1 x screw driver	small and medium

- If damaged seals are dismantled, generally all seals and the diaphragm should be replaced.

- Assembly and disassembly as well as replacement of seals / diaphragm, see Service Instructions.

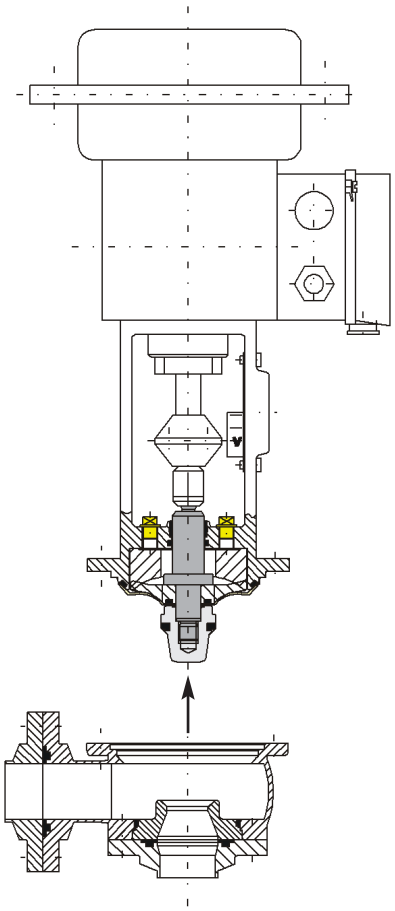
- **Provide all seals with a thin layer of grease before their installation.**

Recommendation:
APV food-grade grease for EPDM, HNBR and FPM
(0.75 kg /tin - ref.-No. 000 70-01-019/93)
(60 g /tube - ref.-No. 000 70-01-018/93)
or
APV food-grade grease for VMQ
(0.6 kg /tin - ref.-No. 000 70-01-017/93)
(60 g /tube - ref.-No. 000 70-01-016/93)

! Do **not** use grease on mineral oil basis for EPDM seals.
! Do **not** use Silicone-based grease 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**
(5 ml - ref.-No. 00070-01-110/93)
(50 ml - ref.-No. 00070-01-111/93)

9. Service Instructions



9.1. Disassembly from the line system RGMS4

The item numbers refer to the spare parts drawings.

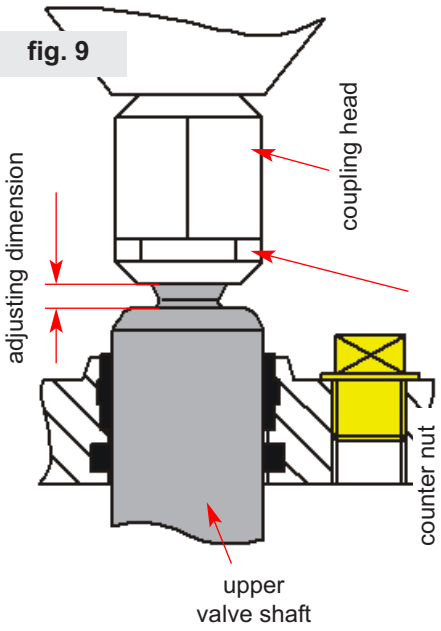
RGMS4 :		DN design	**RN**
	3A-	**Inch design**	**RN 01.170.9**

1. Shut off line pressure and discharge lines if possible.
2. Shut off and disconnect air control line.
3. Shut off control power and disconnect connecting lines.
4. Loosen fastening screws **(9)** and take the valve insert with positioner and diaphragm actuator out of the housing **(1).**
5. Loosen hex. screws **(6)** and nuts **(7)** of lateral flange connection.
6. Release hex. screws **(4)** of the lower flange/housing connection.
7. Remove housing from the line.

9. Service Instructions

9.2. Disassembly of valve to replace wear parts

fig. 9



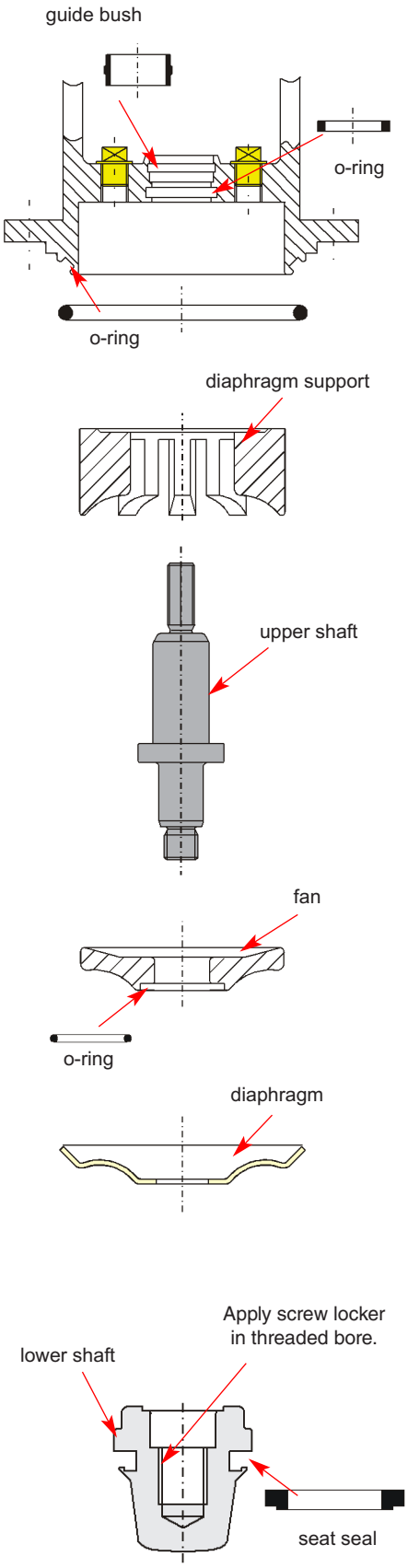
1. **See chapter 9.1, items 1. - 6.**
2. Remove the valve seat **(32/32.1)** from the housing **(1)**.
3. Remove the housing seals **(8)** and flange seals **(3)**.
4. Release the coupling between actuator rod and valve shaft.
5. Release the coupling head **(37)** and counternut **(27)** from the upper valve shaft **(13)**.

   Note: **Observe adjusting dimension between counternut and valve shaft (see fig. 9).**
6. Pull the valve shaft with diaphragm **(15)**, fan **(16)** and diaphragm support **(17)** out of the yoke **(12)**.
7. Clamp the upper valve shaft **(13)** with the key surface in a vice (Attention: Use protective chops!) and release the upper valve shaft **(30)**.
   Remove Loctite residues from the thread and thread bore
8. Remove the diaphragm **(15)** and fan **(16)** from the upper valve shaft. Remove the o-ring **(18)** from the fan.
9. Remove the seat seal **(31)** from the lower valve shaft **(30)**.
10. Remove the o-rings **(14, 11)** and guide bush **(10)** from the yoke **(12)**.

9.3. Disassembly of valve to modify kvs values or characteristics

1. **See chapter 9.1, items 1. - 4.**
2. **See chapter 9.2, items 2. - 6.**
3. If a replacement of the diaphragm actuator **(36/39)** is required for the modification of the kvs value, remove the air hose **(23)** and remove the nut and actuator if necessary.

9. Service Instructions



9.4. Assembly of valve and installation of new wear parts

Attention!
To provide for an easy assembly and an increased lifetime of all wear parts (seals, guide bushes, o-ring, etc.), the parts must be slightly greased.
The diaphragm is greased on the product-averted side.
Do not use sharp-edged tools for the assembly of the a.m. wear parts to guarantee their full function.

1. Install the housing seal **(8)** on the valve seat **(32/31.1)** and insert both into the housing **(1)**.

2. Insert the flange seals **(3, 3.1)** into the housing flange and insert the flange **(5)** and install the housing **(1)** by means of the screws and nuts **(4, 6, 7)** in the line system.

   Attention!
   Provide for proper alignment of the housing to the line flanges.

3. Install the seat seal **(31)** on the lower valve shaft **(30)**.

   Attention!
   To prevent air from being included in the groove, use a suitable tool to vent the groove.

4. Clamp the key surface of the upper valve shaft **(13)** into a vice. Insert the o-ring **(18)** in the fan. Place the diaphragm **(15)** and press it into the groove. Secure the lower valve shaft **(30)** with a drop of the screw retention (e.g. type: Loctite semi-solid). Apply the adhesive only in the threaded bore. Do not apply it in the thread of the upper shaft **(fig. 9.4)**.
   Fasten the lower valve shaft with the upper valve shaft.

5. Insert the diaphragm support **(17)** in the fan.

! **Toothing of fan and diaphragm support must interlock.**

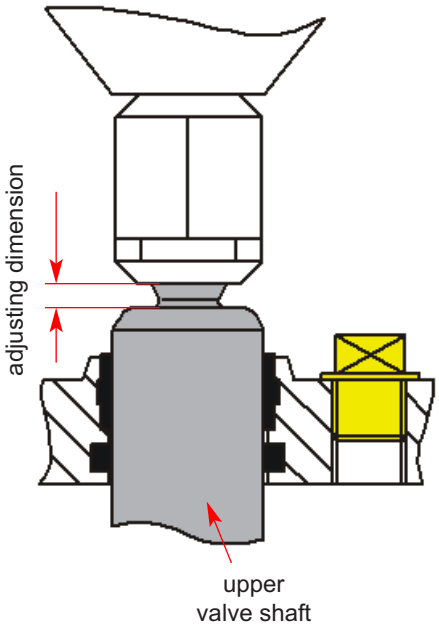
6. Insert the guide bush **(10)** and o-ring **(11, 14)** in the yoke **(12)**.

7. Introduce the preassembled valve shaft in the yoke.
   The upper shaft must be guided smoothly through the guide bush into the yoke. In case of stiffness, check the even fit of the guide bush.

9. Service Instructions

9.4. Assembly of valve and installation of new wear parts

fig. 9



8. Screw the counternut **(27)** and coupling head **(37)** on the thread of theupper valve shaft **(13)**.

! **Observe the adjusting dimension.**

9. Connect the valve shaft and the actuator rod of the diaphragm actuator by means of the coupling.
(With NAMUR installation, slide the carrier pin of the positioner into the fastening plate.)

Attention! (for NAUMUR installation)
The position of the positioner to the fastening plate is different with the different functionalities of the diaphragm actuator (MFS or MFH).

10. Press the valve insert into the housing and fasten it at the housing flange by means of the hex. screws **(9)**.

11. Tighten the coupling.

12. Connect electric and pneumatic lines.

9.5. Assembly of valve to modify kvs values or characteristics

Parts to be replaced - please see item 12.

1. Make a functional check of the available wear parts (seals, o-ring and guide bush). Damaged parts must be replaced immediately. (designation and ref.-No.; see spare parts lists, chapter 11)

2. To replace the diaphragm actuator:
Place the diaphragm actuator **(32/35)** on the valve yoke **(14)** and turn the nut on the thread. Fasten it with hammer and chisel.

3. **See chapter 9.4, items 1. - 12.**

4. Check the function of the positioner and readjust it if necessary.

10. Trouble Shooting

Failure	*Remedy*
Leakage between upper housing flange and yoke flange.	**Repalce diaphragm (15) and o-ring (14, 18).**
Leakage from the leakage drain in the yoke area.	**Replace diaphragm (15) and o-rings (14, 18).**
Leakage between lower housing flange and mating flange.	**Replace housing seal (8) flange seal (3.1).**
Leakage at the lateral flange connection.	**Replace flange seal (3).**
Air escapes at the diaphragm actuator.	**Check threaded connections, replace rolling diaphragm if necessary.**
Air escapes at the air connections.	**Check reducer and air connections. Seal or replace parts if necessary.**
Valve does not regulate correctly.	**Check air connection and air pressure. Check electric connection and control signal. Use operating manual of positioner to find failure.**

! If damaged seals are changed, generally all seals should be replaced. For the valve service complete sets of seals are available (see spare parts lists).

11. Spare Parts Lists

The reference numbers of spare parts for the different valve designs and sizes are included in the attached spare parts drawings with corresponding lists.
When you place an order for spare parts, please indicate the following data:

- number of parts required
- reference number
- parts designation

12. Replacement Parts List

Replacement parts are required in case of modification of the kvs values of the DELTA RGMS4 valve.
The required component parts are described in the replacement parts list.

Data are subject to change without notice.

BA RGMS4 00002
ID-No.: H323856

UK

Translation of original manual

rev. 0

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.

02/94

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**

Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²

el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie

Modulating valve RGMS41-1,5-4 inch with diaphragm actuator

MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²

el.-pn. or pn. positioner; flow charact.: linear and equal perc.

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Besteht aus 10 Blatt Blatt 1

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		

Datum	06/08
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

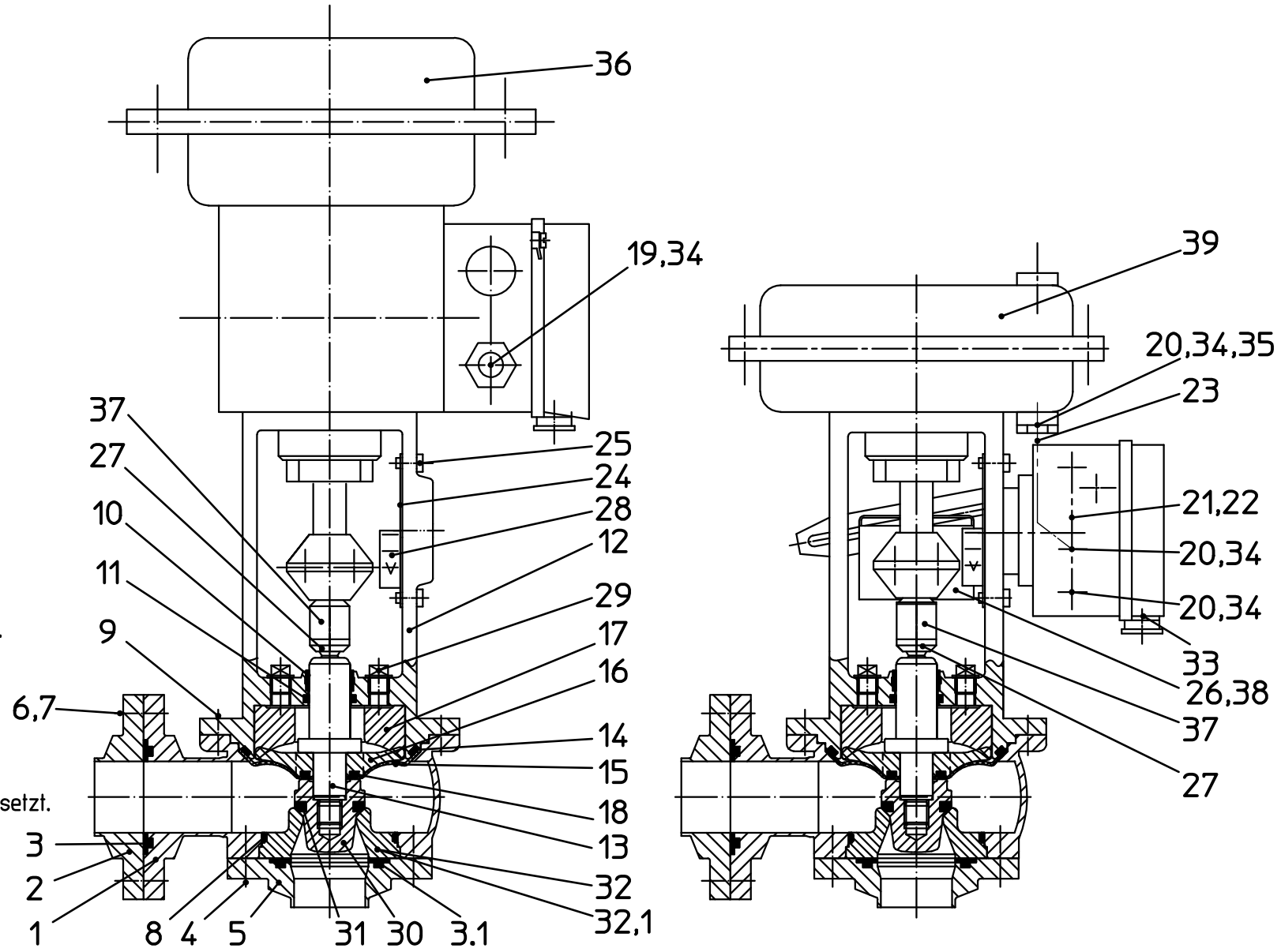
RN 01.170.9

Werkstoffvarianten
für Dichtung.
Bitte WS-Nr. ergänzen.
Selection for seal
materials.
Fill in last two digits
of ref.-no.

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

** Metalloberfläche-außen:
outer metal surfaces:
../43 1.4404- blank geschliffen
1.4404- bright ground finish.
../47 1.4404- matt-glänzend
1.4404- satin finish

Gehäusedichtung /housing seal
Bei VMQ wird die HNBR-Gehäusedichtung eingesetzt.
For VMQ take the HNBR-housing seal.



02/94

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**
Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²
el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie
Modulating valve RGMS41-1,5-4 inch with diaphragm actuator
MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²
el.-pn. or pn. positioner; flow charact.: linear and equal perc.

A3®

Blatt 2

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		

Datum	06/08
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

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 RGMS41-1FN1 **		3A0 15-56-020/	3A0 15-56-466/	3A0 15-56-516/	3A0 15-56-616/	3A0 15-56-666/		
2	1	Flansch flange FG1 Ausf. 3A-blank design 3A-bright fin.		3A0 09-51-223/43	3A0 09-51-224/43	3A0 09-51-225/43	3A0 09-51-226/43	3A0 09-51-227/43		
	1	Flansch flange FG1 Ausf. matt-gl. design satin fin.		09-51-223/47	09-51-224/47	09-51-225/47	09-51-226/47	09-51-227/47		
3	1	Dichtung seal FGN1 *		58-32-405/	58-32-455/	58-32-505/	58-32-555/	58-32-655/		
3.1	1	Dichtung seal FGN1 *		58-32-377/	58-32-427/	58-32-477/	58-32-555/	58-32-627/		
4	4	Skt. Schraube hex. screw		DIN EN 24017-M8x20-A2-70				DIN EN 24017-M10x20-A2-70		
5	1	Flansch flange FN1 Ausf. 3A-blank design 3A-bright fin.		3A0 09-51-761/43	3A0 09-51-762/43	3A0 09-51-763/43	3A0 09-51-207/43	3A0 09-51-207/43		
	1	Flansch flange FN1 Ausf. matt-gl. design satin fin.		09-51-761/47	09-51-762/47	09-51-763/47	09-51-207/47	09-51-765/47		
6		Skt. Schraube hex. screw		4x DIN EN 24017-M8x28-A2-70	4x	4x	4x	8x		
7		Skt. Mutter hex. nut		4x DIN EN ISO 10511-M8-A2	4x	4x	4x	8x		
8	1	Gehäusedichtung housing seal *		58-33-392/	58-33-442/	58-33-492/	58-33-567/	58-33-642/		
9		Skt. Schraube hex. screw		4x DIN EN 24017-M8x14-A2-70	4x	4x	4x	DIN EN 24017 8xM10x14-A2-70		
10	1	Führungsbuchse bushing 20x9		3A0 08-01-178/23	=	=	=	=		
11	1	O-Ring O-ring 20,2x3		58-06-078/64	=	=	=	=		
12	1	Laterne yoke Ausf. 3A-blank design 3A-bright fin.		3A0 16-40-050/13	=	=	=			
	1	Laterne yoke Ausf. matt-gl. design satin fin.		3A0 16-40-050/17	=	=	=			
13	1	Schaft oben upper valve shaft		15-25-999/42	=	=	=			
14	1	O-Ring O-ring		76x3,5 58-06-078/64	=	=	=	100x3,5 58-06-491/64		
15	1	Membrane diaphragm		58-23-052/23	=	=	=	58-23-053/23		
16	1	Stern star		08-48-522/12	=	=	=	08-48-523/12		

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**
Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²
el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie
Modulating valve RGMS41-1,5-4 inch with diaphragm actuator
MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²
el.-pn. or pn. positioner; flow charact.: linear and equal perc.

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Blatt 3

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		
Datum	06/08	
Name	Trytko	

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

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.
17	1	Membranuntersützung fan support		08-48-512/93	=	=	=	08-48-513/93		
18	1	O-Ring O-ring		22x3,5 58-06-083/64	=	=	=	24x3,5 58-06-098/64		
19	1	W-Verschraub. G1/8" 1/4"OD Schwenkbar elbow union G1/8" 1/4"OD slewable		08-60-811/93	=	=	=	=		
20	3	W-Verschraub. G1/8" 1/4"OD Schwenkbar elbow union G1/8" 1/4"OD slewable		08-60-811/93	=	=	=	=		
21	1	Skt. Schraube hex. screw		DIN EN 24014-M8x70-A2-70						
22	1	Scheibe wascher		DIN 125- A8,4						
23	1	Schlauch 1/4"OD 6,35x1x500 hose		08-75-090/93	=	=	=	=		
24	1	Befestigungsblech für Hubanzeige Best.Nr:ref.no 0300-0992 mounting plate for stroke indicator		08-29-292/13	=	=	=	=		
25	2	Zyl. Schraube cyl. screw		DIN EN ISO 1207-M5x12-A2-70						
26	1	Mitnehmerplatte kpl. Best.Nr./ref.no 1400-5745 driving plate complete		08-44-001/15	=	=	=	=		
27	1	Kontermutter M10x1 Best.Nr./ref.no 0250-0721 mating nut		21-50-025/15	=	=	=	=		
28	1	Hubanzeige 15mm stroke indicator		08-29-290/13	=	=	=	=		
29	2	Entlüftungsstopfen G1/8 venting plug		08-60-005/94	=	=	=	=		
		Pos. 3, 3.1, 8, 10, 11, 14, 18, 31 nur im kompletten Dichtungssatz erhältlich item. 3, 3.1, 8, 10, 11, 14, 18, 31 available as complete seal kits only								
	1	Dichtungssatz FPM seal kit		3A0 58-34-942/00	3A0 58-34-943/00	3A0 58-34-944/00	3A0 58-34-945/00	3A0 58-34-946/00		
	1	Dichtungssatz EPDM seal kit		3A0 58-34-942/01	3A0 58-34-943/01	3A0 58-34-944/01	3A0 58-34-945/01	3A0 58-34-946/01		
	1	Dichtungssatz VMQ seal kit		3A0 58-34-942/02	3A0 58-34-943/02	3A0 58-34-944/02	3A0 58-34-945/02	3A0 58-34-946/02		
	1	Dichtungssatz HNBR seal kit		3A058-34-942/06	3A058-34-943/06	3A0 58-34-944/06	3A0 58-34-945/06	3A0 58-34-946/06		

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Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**
Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²
el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie
Modulating valve RGMS41-1,5-4 inch with diaphragm actuator
MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²
el.-pn. or pn. positioner; flow charact.: linear and equal perc.

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Blatt 4

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		
Datum	06/08	
Name	Trytko	

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

Pos. item	Menge quantity	Benennung description	1,5" 2,5 WS-Nr. ref.-no.	1,5" 4,0 WS-Nr. ref.-no.	1,5" 6,3 WS-Nr. ref.-no.	1,5" 10 WS-Nr. ref.-no.	1,5" 16 WS-Nr. ref.-no.	1,5" 25 WS-Nr. ref.-no.	2" 6,3 WS-Nr. ref.-no.	2" 10 WS-Nr. ref.-no.
30	1	Schaft unten-lineare Kennlinie lower shaft flow character-linear		15-25-182/42	15-25-189/42	15-25-351/42	15-25-355/42	15-25-358/42		15-25-366/42
	1	Schaft unten-gleichproz. Kennlinie lower shaft flow character-equal percen.				15-25-350/42	15-25-359/42	15-25-360/42		15-25-367/42
31	1	Tellerdichtung * seat seal	58-33-294/	=	=	=	58-33-394/	=	58-33-294/	=
32	1	Ven.Sitz valve seat	15-36-114/42	=	15-36-058/42	=	15-36-060/42	=	15-36-062/42	=
32.1	1	Ven.Sitz mit Lochkäfig (geräuscharm) valve seat with punched cage (low noise)			15-36-387/42	=	15-36-015/42	=	15-36-034/42	=
33	1	El.-Pn.Regler IP763 o.Zubeh.-Hebel I Feder I (Hub 15) positioner IP763 without acces.-lever I spring I (stroke 15)	29-03-013/93	=	=	=	=	=	=	=
	1	Pn.Regler P765 o.Zubeh. Hebel I Feder I (Hub 15) positioner P765 without acces.-lever I spring I (stroke 15)	29-03-004/93	=	=	=	=	=	=	=
34	3	Red.Nippel G1/4-1/8 Best.Nr:2531 MAT271 beim Antrieb 120+240²cm red.nipple G1/4-1/8 ref.no. 2531 MAT271 for actuator 120+240²cm	09-14-040/93	=	=	=	=	=	=	=
	2	Red.Nippel G1/4-1/8 Best.Nr: 2531 MAT271 beim Antrieb 350 cm² red.nipple G1/4-1/8 ref.no. 2531 MAT271 for actuator 350 cm²								
	1	Red.Nippel G1/4-1/8 Best.Nr:2531 MAT 3277,beim Antr.120 bis 350cm² red.nipple G1/4-1/8 ref.no. 2531 MAT 3277 for act.120 to 350 cm²	09-14-040/93	=	=	=	=	=	=	=
35	1	Red.Nippel G3/8-1/8 Knorr I/49562 MAT271 beim Antrieb 350 cm² red.nipple G3/8-1/8 Knorr I/49562 MAT271 for actuator 350 cm²								

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**
Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²
el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie
Modulating valve RGMS41-1,5-4 inch with diaphragm actuator MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²
el.-pn. or pn. positioner; flow charact.: linear and equal perc.

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Blatt 5

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		

Datum	06/08									
Name	Trytko									

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

Pos. item	Menge quantity	Benennung description	2" 16 WS-Nr. ref.-no.	2" 25 WS-Nr. ref.-no.	2" 40 WS-Nr. ref.-no.	2,5" 16 WS-Nr. ref.-no.	2,5" 25 WS-Nr. ref.-no.	2,5" 40 WS-Nr. ref.-no.	2,5" 63 WS-Nr. ref.-no.	3" 40 WS-Nr. ref.-no.
30	1	Schaft unten lineare Kennlinie lower shaft flow character-linear			15-25-353/42			15-25-224/42	15-25-225/42	
	1	Schaft unten gleichproz. Kennlinie lower shaft flow character-equal percen.			15-25-352/42		15-25-226/42		15-25-361/42	
31	1	Tellerdichtung seat seal	58-33-394/	=	58-33-444/	58-33-394/	=	58-33-444/	58-33-494/	58-33-444/
32	1	Ven.Sitz valve seat	15-36-064/42	=	15-36-066/42	15-36-068/42	=	15-36-070/42	15-36-072/42	15-36-138/42
32.1	1	Ven.Sitz mit Lochkäfig (geräuscharm) valve seat with punched cage (low noise)	15-36-437/42	=	15-36-011/42	15-36-012/42	=	15-36-487/42	15-36-016/42	15-36-021/42
33	1	El.-Pn.Regler IP763 o.Zubeh.-Hebel I Feder I (Hub 15) positioner P765 without acces.-lever I spring I (stroke 15)	29-03-013/93	=	=	=	=	=	=	=
	1	Pn.Regler P765 o.Zubeh. Hebel I Feder I (Hub 15) positioner P765 without acces.-lever I spring I (stroke 15)	29-03-004/93	=	=	=	=	=	=	=
34	3	Red.Nippel G1/4-1/8 Best.Nr:2531 MAT271 beim Antrieb 240 cm² red.nipple G1/4-1/8 ref.no. 2531 MAT271 for actuator 240 cm²	09-14-040/93	=	=	=	=	=	=	=
	2	Red.Nippel G1/4-1/8 Best.Nr: 2531 MAT271 beim Antrieb 350 cm² red.nipple G1/4-1/8 ref.no. 2531 MAT271 for actuator 350 cm²	09-14-040/93	=	=	=	=	=	=	=
	1	Red.Nippel G1/4-1/8 Best.Nr:2531 MAT 3277,beim Antr.120 bis 350cm² red.nipple G1/4-1/8 ref.no. 2531 MAT 3277 for act.120 to 350 cm²	09-14-040/93	=	=	=	=	=	=	=
35	1	Red.Nippel G3/8-1/8 Knorr I/49562 MAT271 beim Antrieb 350 cm² red.nipple G3/8-1/8 Knorr I/49562 MAT271 for actuator 350 cm²	09-14-041/93	=	=	=	=	=	=	=

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**
Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²
el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie
Modulating valve RGMS41-1,5-4 inch with diaphragm actuator MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²
el.-pn. or pn. positioner; flow charact.: linear and equal perc.

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Blatt 6

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		

Datum	06/08
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

Pos. item	Menge quantity	Benennung description	3" 63 WS-Nr. ref.-no.	3" 80 WS-Nr. ref.-no.	4" 63 WS-Nr. ref.-no.	4" 100 WS-Nr. ref.-no.	4" 160 WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
30	1	Schaft unten lineare Kennlinie lower shaft flow character-linear		15-25-362/42			15-25-364/42			
	1	Schaft unten gleichproz. Kennlinie lower shaft flow character-equal percen.		15-25-363/42			15-25-365/42			
31	1	Tellerdichtung * seat seal	58-33-494/	58-33-569/	58-33-494/	58-33-544/	58-33-644/			
32	1	Ven.Sitz valve seat	15-36-139/42	15-36-140/42	15-36-079/42	15-36-042/42	15-36-043/42			
32.1	1	Ven.Sitz mit Lochkäfig (geräuscharm) valve seat with punched cage (low noise)	15-36-022/42	15-36-115/42	15-36-020/42	15-36-637/42	15-36-033/42			
33	1	El.-Pn.Regler IP763 o.Zubeh.-Hebel I Feder I (Hub 15) positioner IP763 without acces.-lever I spring I (stroke 15)	29-03-013/93	=	=	=	=			
	1	Pn.Regler P765 o.Zubeh. Hebel I Feder I (Hub 15) positioner P765 without acces.-lever I spring I (stroke 15)	29-03-004/93	=	=	=	=			
34	3	Red.Nippel G1/4-1/8 Best.Nr:2531 MAT271 beim Antrieb 240 cm² red.nipple G1/4-1/8 ref.no. 2531 MAT271 for actuator 240 cm²	09-14-040/93	=						
	2	Red.Nippel G1/4-1/8 Best.Nr: 2531 MAT271 beim Antrieb 350 cm² red.nipple G1/4-1/8 ref.no. 2531 MAT271 for actuator 350 cm²	09-14-040/93	=	=	=	=			
	1	Red.Nippel G1/4-1/8 Best.Nr:2531 MAT 3277,beim Antr.120 bis 350cm² red.nipple G1/4-1/8 ref.no. 2531 MAT 3277 for act.120 to 350 cm²	09-14-040/93	=	=	=	=			
35	1	Red.Nippel G3/8-1/8 Knorr I/49562 MAT271 beim Antrieb 350 cm² red.nipple G3/8-1/8 Knorr I/49562 MAT271 for actuator 350 cm²	09-14-041/93	=	=	=	=			

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**

Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²

el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie

Modulating valve RGMS41-1,5-4 inch with diaphragm actuator MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²
el.-pn. or pn. positioner; flow charact.: linear and equal perc.

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Blatt 7

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		

Datum	06/08
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

Pos. item	Menge quantity	Benennung description		1,5"/kvs 2,5;4,0;6,3;10 WS-Nr. ref.-no.	1,5"/kvs 16 ; 25 WS-Nr. ref.-no.	2"/kvs 6,3 ; 10 WS-Nr. ref.-no.	2"/kvs 16; 25 WS-Nr. ref.-no.	2"/kvs 40 WS-Nr. ref.-no.	2,5"/kvs 16 ; 25 WS-Nr. ref.-no.	2,5"/kvs 40 WS-Nr. ref.-no.	2,5"/kvs 63 WS-Nr. ref.-no.
36	1	MAT3277 IP3767 MFS-Antrieb A-120cm² MFS-actuator	1,4-2,3 bar	16-31-850/17	=	=	=				
	1	MAT3277 P3766 MFS-Antrieb A-120cm² MFS-actuator	1,4-2,3 bar	16-31-851/17	=	=	=				
	1	MAT3277 IP3767 MFH-Antrieb A-120cm² MFH-actuator	0,2-1,0 bar	16-31-870/17	=	=	=				
	1	MAT3277 P3766 MFH-Antrieb A-120cm² MFH-actuator	0,2-1,0 bar	16-31-871/17	=	=	=				
	1	MAT3277 IP3767 MFS-Antrieb A-240cm² MFS-actuator	1,3-2,7 bar		16-31-854/17		=	=	=	=	=
	1	MAT3277 P3766 MFS-Antrieb A-240cm² MFS-actuator	1,3-2,7 bar		16-31-855/17		=	=	=	=	=
	1	MAT3277 IP3767 MFH-Antrieb A-240cm² MFH-actuator	0,2-1,0 bar		16-31-874/17		=	=	=	=	=
	1	MAT3277 P3766 MFH-Antrieb A-240cm² MFH-actuator	0,2-1,0 bar		16-31-875/17		=	=	=	=	=
	1	MAT3277 IP3767 MFS-Antrieb A-350cm² MFS-actuator	1,4-2,3 bar		16-31-858/17		=	=	=	=	=
	1	MAT3277 P3766 MFS-Antrieb A-350cm² MFS-actuator	1,4-2,3 bar		16-31-860/17		=	=	=	=	=
37	1	Kupplungskopf klein hose coupling small	M10x1 Best.Nr: 0250-0581	08-52-280/15	=	=	=				
	1	Kupplungskopf groß hose coupling great	M10x1 Best.Nr: 0250-0674		08-52-281/15	=	=	=	=	=	=
38	1	Befestigungswinkel angle bracket	Best.Nr: 0300-0994	08-44-002/15	=	=	=	=	=	=	=

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**

Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²

el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie

Modulating valve RGMS41-1,5-4 inch with diaphragm actuator MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²
el.-pn. or pn. positioner; flow charact.: linear and equal perc.

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Blatt 8

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		

Datum	06/08									
Name	Trytko									

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

Pos. item	Menge quantity	Benennung description		1,5"/kvs 2,5;4,0;6,3;10 WS-Nr. ref.-no.	1,5"/kvs 16 ; 25 WS-Nr. ref.-no.	2"/kvs 6,3; 10 WS-Nr. ref.-no.	2"/kvs 16; 25 WS-Nr. ref.-no.	2"/kvs 40 WS-Nr. ref.-no.	2,5"/kvs 16; 25 WS-Nr. ref.-no.	2,5"/kvs 40 WS-Nr. ref.-no.	2,5"/kvs 63 WS-Nr. ref.-no.
39	1	MAT271 MFS-Antrieb A-120cm² MFS-actuator	1,4-2,3 bar	16-31-741/93	=	=	=				
	1	MAT271 MFH-Antrieb A-120cm² MFH-actuator	0,2-1,0 bar	16-31-742/93	=	=	=				
	1	MAT271 MFS-Antrieb A-240cm² MFS-actuator	1,3-2,7 bar	16-31-727/93	=	=	=	=	=	=	=
	1	MAT271 MFH-Antrieb A-240cm² MFH-actuator	0,2-1,0 bar	16-31-735/93	=	=	=	=	=	=	=
	1	MAT271 MFS-Antrieb A-350cm² MFS-actuator	1,4-2,3 bar		16-31-728/93		=	=	=	=	=
	1	MAT271 MFH-Antrieb A-350cm² MFH-actuator	0,2-1,0 bar						16-31-732/93	=	=

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**

Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²

el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie

Modulating valve RGMS41-1,5-4 inch with diaphragm actuator MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²

el.-pn. or pn. positioner; flow charact.: linear and equal perc.

A3®

Blatt 9

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		

Datum	06/08
Name	Trytko

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

Pos. item	Menge quantity	Benennung description		3"/kvs 40 WS-Nr. ref.-no.	3"/kvs 63 WS-Nr. ref.-no.	3"/kvs 80 WS-Nr. ref.-no.	4"/kvs 63 WS-Nr. ref.-no.	4"/kvs 100 WS-Nr. ref.-no.	4"/kvs 160 WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
36	1	MAT3277 IP3767 MFS-Antrieb A-240cm² MFS-actuator	1,3-2,7 bar	16-31-854/17	=	=					
	1	MAT3277 P3766 MFS-Antrieb A-240cm² MFS-actuator	1,3-2,7 bar	16-31-855/17	=	=					
	1	MAT3277 IP3767 MFH-Antrieb A-240cm² MFH-actuator	0,2-1,0 bar	16-31-874/17	=	=					
	1	MAT3277 P3766 MFH-Antrieb A-240cm² MFH-actuator	0,2-1,0 bar	16-31-875/17	=	=					
	1	MAT3277 IP3767 MFS-Antrieb A-350cm² MFS-actuator	1,4-2,3 bar	16-31-858/17	=	=	=	=	=		
	1	MAT3277 P3766 MFS-Antrieb A-350cm² MFS-actuator	1,4-2,3 bar	16-31-860/17	=	=	=	=	=		
	1	MAT3277 IP3767 MFH-Antrieb A-350cm² MFH-actuator	0,2-1,0 bar	16-31-878/17	=	=	=	=	=		
	1	MAT3277 P3766 MFH-Antrieb A-350cm² MFH-actuator	0,2-1,0 bar	16-31-879/17	=	=	=	=	=		
	1	MAT3277 IP3767 MFS-Antrieb A-350cm² MFS-actuator	2,1-3,3 bar			16-31-859/17	=	=	=		
	1	MAT3277 P3766 MFS-Antrieb A-350cm² MFS-actuator	2,1-3,3 bar			16-31-861/17	=	=	=		
37	1	Kupplungskopf klein hose coupling small	M10x1 Best.Nr: 0250-0581								
	1	Kupplungskopf groß hose coupling great	M10x1 Best.Nr: 0250-0674	08-52-281/15	=	=	=	=	=		
38	1	Befestigungswinkel angle bracket	Best.Nr: 0300-0994	08-44-002/15	=	=	=	=	=		

Ersatzteilliste: spare parts list: **Regelventil RGMS41-1,5-4 zoll**

Antrieb MAT3277 o.271 (MFS o.MFH) 120,240,350 cm²

el.-pn.o.pn. Stell.regler; lineare o.gleichproz. Kennlinie

Modulating valve RGMS41-1,5-4 inch with diaphragm actuator MAT3277 o.271 (spring: closed or opend) 120,240,350 cm²
el.-pn. or pn. positioner; flow charact.: linear and equal perc.

A3®

Blatt 10

	Datum	Name
Gezeichnet	25.06.08	Trytko
Geprüft	11.08.08	Knöchel
Normgepr.		

Datum	06/08										
Name	Trytko										

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.170.9

Pos. item	Menge quantity	Benennung description		3" /kvs 40 WS-Nr. ref.-no.	3" /kvs 63 WS-Nr. ref.-no.	3" /kvs 80 WS-Nr. ref.-no.	4" /kvs 63 WS-Nr. ref.-no.	4" /kvs 100 WS-Nr. ref.-no.	4" /kvs 160 WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
39	1	MAT271 MFS-Antrieb A-240cm² MFS-actuator	1,4-2,3 bar	16-31-727/93	=	=					
	1	MAT271 MFH-Antrieb A-240cm² MFH-actuator	0,2-1,0 bar	16-31-735/93	=	=					
	1	MAT271 MFS-Antrieb A-350cm² MFS-actuator	1,4-2,3 bar	16-31-728/93	=	=	=	=	=		
	1	MAT271 MFH-Antrieb A-350cm² MFH-actuator	0,2-1,0 bar	16-31-732/93	=	=	=	=	=		
	1	MAT271 MFS-Antrieb A-350cm² MFS-actuator	2,1-3,3 bar	16-31-738/93	=	=	=	=	=		