FLOWSERVE

Schmidt Armaturen

Disassembly / Reassembly Instructions

FlowTop

V726, V738, V740

Experience In Motion

Contents

CAUTION !

The Control Valve must only be disassembled and reassembled by qualified staff. Qualified staff is defined as personnel who are familiar with the disassembling, reassembling, installation and commissioning of this product and possess the relevant qualifications in their field of activity.

Follow the relevant Installation and Operating Instructions during installing, commissioning and operating !

Follow these Disassembly / Reassembly Instructions and only use **original** Spare Parts, as well as the recommended Special Tools in order to guarantee perfect function and reliablity of this product.

Failure to comply with these Disassembly and Reassembly Instructions will render the manufacturer's guarantee and liability null and void. Unless otherwise agreed, the manufacturer's General Terms and Conditions of Sale shall apply.

1. Purpose

These instructions give guidelines on valve repair.

2. Use

Type:	FlowTop	Valve Type:	V726 V738 V740

3. Description of the Procedure

CAUTION !

Only remove the Control Valve from the pipe in a depressurised and cooled / heated state !

3.1 Disconnect air supply from the assembled accessories or actuator
3.2 Disassembling any accessories assembled
3.3 Disassembling the actuator from the valve

CAUTION !

In the event that the control valve is contaminated by toxic operating media, it must be cleaned using the best possible available procedure !

The potential hazard sources are under the operator's influence. He must therefore observe the national and international environmental conditions for removal from the pipe and cleaning ! The permissible limit values are to be kept as suitable protective measures and the service personnel are to be instructed.

3.4 Before disassembling:

- Are suitable securing devices available ?

  The valve is "barrel shaped" and has a tendency to tip ! This can lead to injuries or damage !

- Do the recommended Wearing / Spare Parts exist ?

  Should these be missing an attempt at repair not be completed successfully !

- Are suitable tools available ?

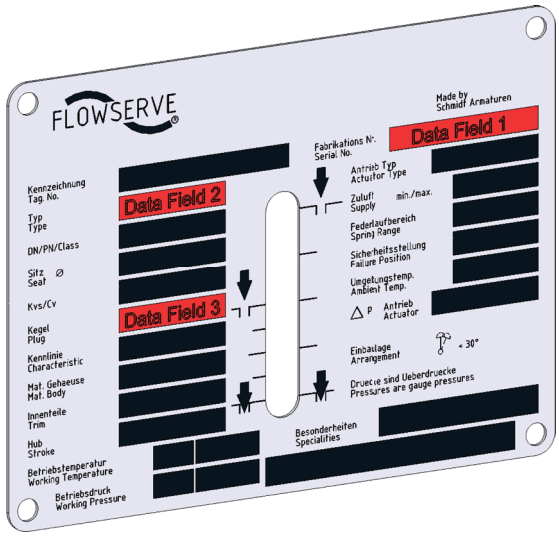
  Improper use of tools can lead to damage the parts. It is possible that the valve is not working !

4. Disassembling the valve

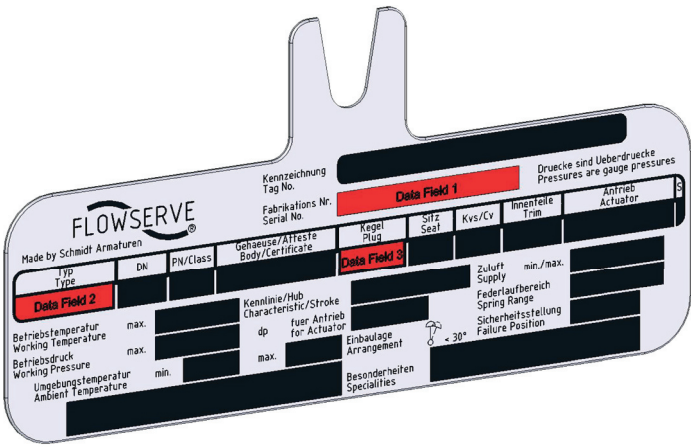
4.1 Fix the valve on the disassembly table !
4.2 Identify the valve using the rating plate:

A rating plate is fitted on every control valve for identification. In principle there are two different rating plates, their information content is however identical.

- Rating plate "Type IT" for pneumatic linear actuators with internal air conduction.
- Rating plate "Type PB" for pneumatic linear actuators with external air conduction.



Rating plate "Type IT"



Rating plate "Type PB"

Data Field 1

The series number is in this field. It is made up e.g. as follows:

0620278001001

062 06 = Calendar year 2006
2 = Order (1 = Quotation)
0278 = consecutive series number
001 = Item within the series number
001 = ascending quantity within the item

The series number and the "part" required must always be quoted when ordering Spare Parts. Alternatively you can order using the part no. in the Spare Parts List at your own risk.

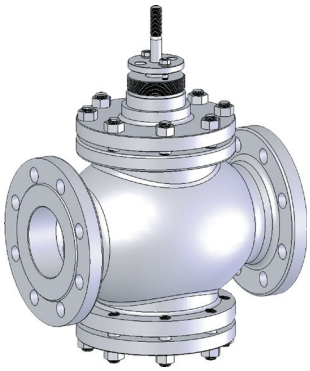
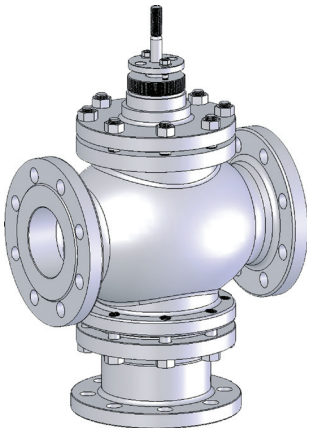
Telephone: **0043 4242 41181 - 0**
e-mail: **schmidt@flowserve.com**

Data Field 2 and 3

These fields clearly identify the:

- Body Type (Page 5)
- Trim Type (Page 30 - 32)
- Bonnet Type (Page 34 - 36)
- Packing Type (Page 61 - 62)

marked in detail. This helps you to find the steps described at the end.

Body Type	Data Field 2	Data Field 3	Page
Three Flange 	V7xx DxVNA	-	7 - 9
Four Flange 	V7xx VxVNA	-	11 - 15
Mixing 	V7xx WxVNA	MOTP2LG	17 - 21
Distributing 	V7xx WxVNA	VOTP2LG	23 - 28

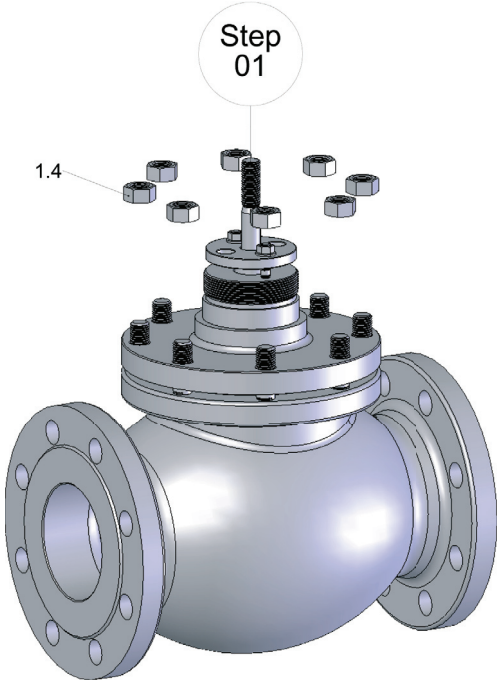
Three Flange Valve

SPM - Code : V7xx DxVNA

Disassembly

Step 01

- *Unscrew hexagon nuts (1.4)*



Reassembly

Step 01

- Grease stud screws

  CAUTION !

  Lubrication as per Table 06 (Page 65)

- Screw hexagon nuts in place (1.4) and tighten in a diagonally opposite sequence using the torque wrench

  CAUTION !

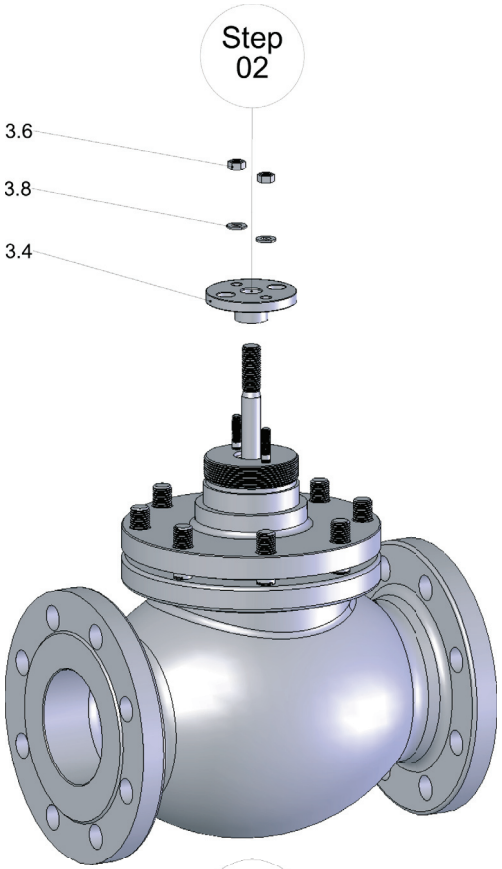
  Nut tightening moment (1.4)
  as per Table 01 (Page 64)

  When tightening the nuts pay attention to the alignment of the plug (do not rub or insert the plug in the open / closed movement)

- Tighten the hexagon nuts of the gland (3.6) using the torque wrench

  CAUTION !

  Tightening moment of the hexagon nuts (3.6)
  as per Variant drawing (Page 61 - 63)



Disassembly

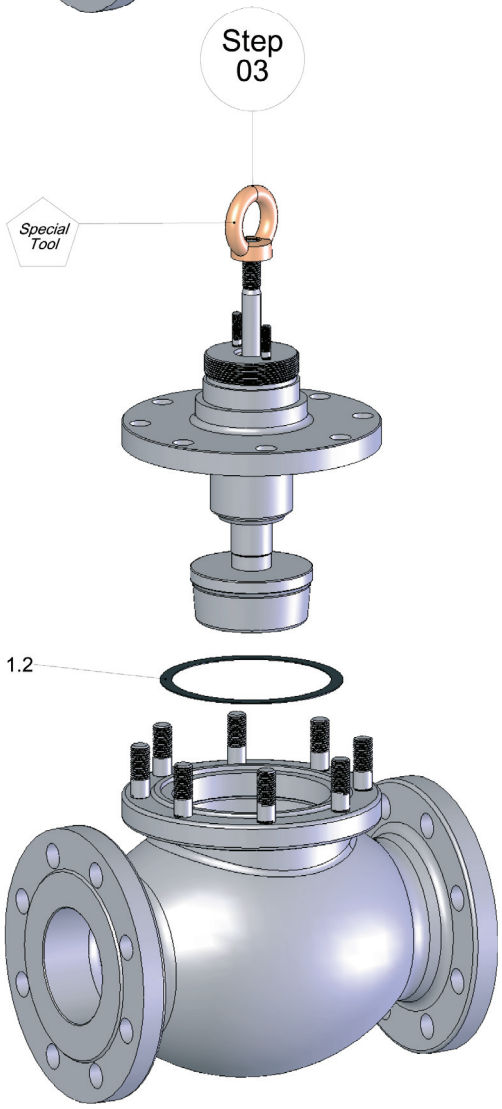
Step 02

- *Unscrew hexagon nuts (3.6)*
- *Remove washer (3.8) and gland flange (3.4)*

Reassembly

Step 02 not applicable

Arranging the packing unit see **Step 07**



Disassembly

Step 03

- *Twist Special Tool (Ring-nut) on the stem and put in place slowly*

  CAUTION !

  Ensure it hangs vertically !

- *Remove flat gasket (1.2)*

  CAUTION !

  Remove remains of flat gasket (1.2) in the body and on the bonnet. Do not damage sealing surface !

Reassembly

Step 03

After work step "Reassembly" **Step 06**

- Insert flat gasket (1.2)

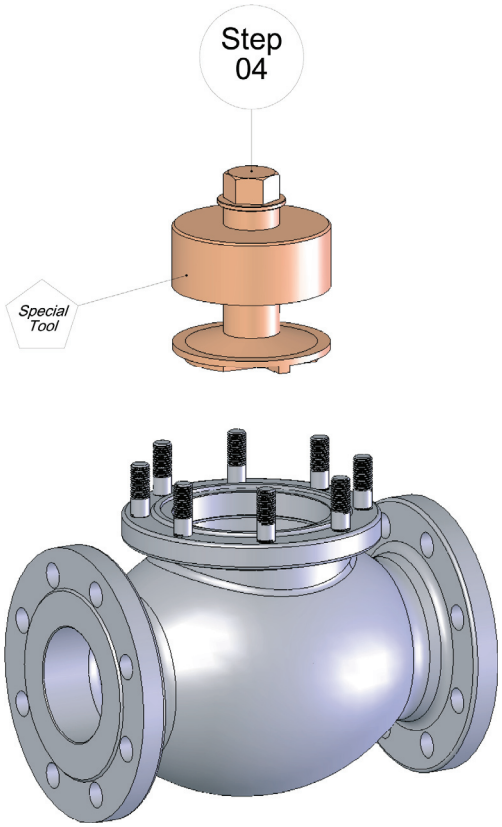
  CAUTION !

  Use new flat gasket (1.2) !

- Twist Special Tool (Ring-nut) on the stem and put in place slowly

  CAUTION !

  Ensure it hangs vertically !



Disassembly

Step 04

- *Insert Special Tool (change seat - tool) in the body (Ensure that the pin clicks in place!) and remove using a suitable tool*

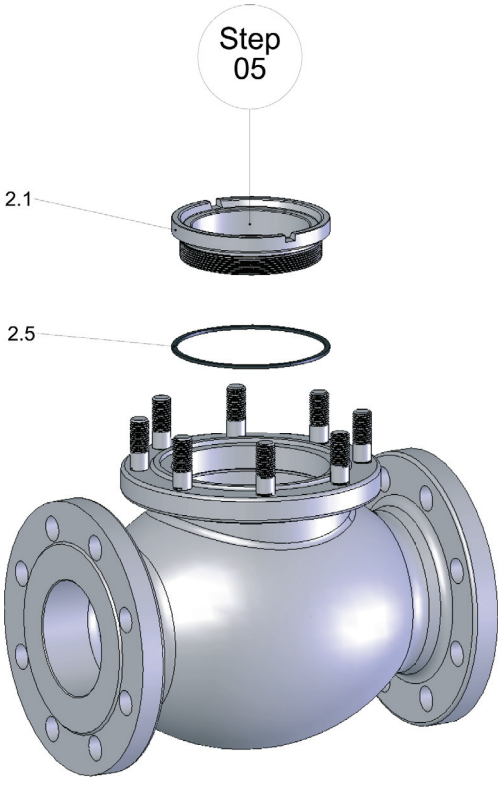
Reassembly

Step 04

- Insert Special Tool *(change seat - tool)* in the body *(Ensure that the pin clicks in place!)* and tighten using the torque wrench

CAUTION !

Tightening moment for the screwed seat (2.1) as per Table 02 (Page 64).



Disassembly

Step 05

- *Remove screwed seat (2.1) and profile ring (2.5)*

CAUTION !

Remove profile ring remains (2.5) in the body. Do not damage sealing surface !

Reassembly

Step 05

Reassembly takes place in reverse order.

CAUTION !

Clean parts

Check screwed seat, thread in the body and sealing surface for damage.

Use new profile ring (2.5) !

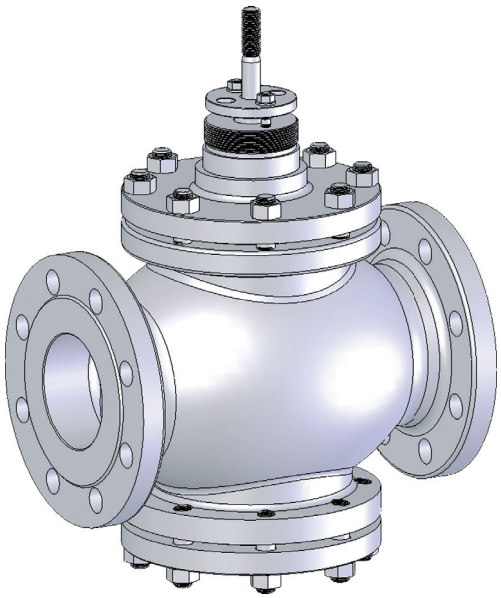
- Insert profile ring (2.5) in the body, grease the thread screwed seat (2.1) and screw in by hand

CAUTION !

Lubrication as per Table 06 (Page 65)

Four Flange Valve

SPM - Code : V7xx VxVNA



Disassembly

Step 01

- *Unsrcew hexagon nuts (1.4)*

Reassembly

Step 01

- Grease stud screws

  CAUTION !

  Lubrication as per Table 06 (Page 65)

- Screw hexagon nuts in place (1.4) and tighten in a diagonally opposite sequence using the torque wrench

  CAUTION !

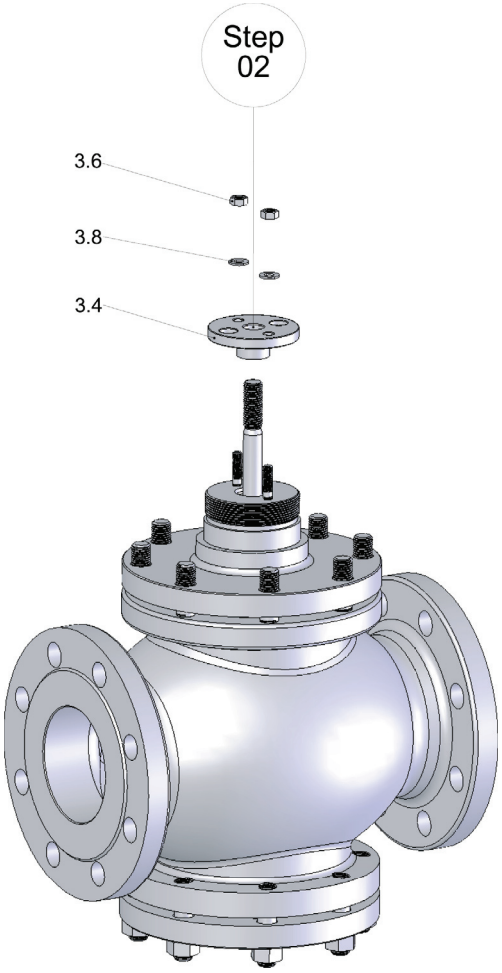
  Nut tightening moment (1.4)
  as per Table 01 (Page 64)

  When tightening the nuts pay attention to the alignment of the plug (do not rub or insert the plug in the open / closed movement)

- Tighten the hexagon nuts of the gland flange (3.6) using the torque wrench

  CAUTION !

  Tightening moment of the hexagon nuts (3.6)
  as per variant drawing (Page 61 - 63)



Disassembly

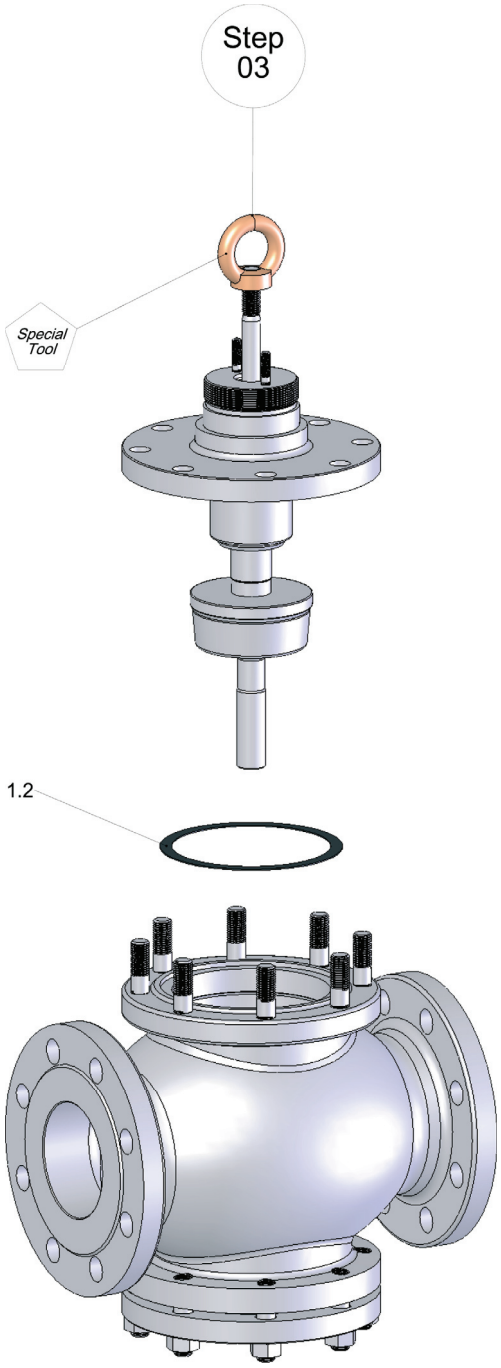
Step 02

- *Unscrew hexagon nuts (3.6)*
- *Remove washer (3.8) and gland flange (3.4)*

Reassembly

Step 02 not applicable

Reassembling the packing unit see **Step 07**



Disassembly

Step 03

- *Twist Special Tool (Ring-nut) on the stem and put in place slowly*

  CAUTION !

  Ensure it hangs vertically !

- *Remove flat gasket (1.2)*

  CAUTION !

  Remove remains of flat gasket (1.2) in the body and on the bonnet.
  Do not damage sealing surface !

Reassembly

Step 03

After work step "Reassembly" **Step 06**

- Insert flat gasket (1.2)

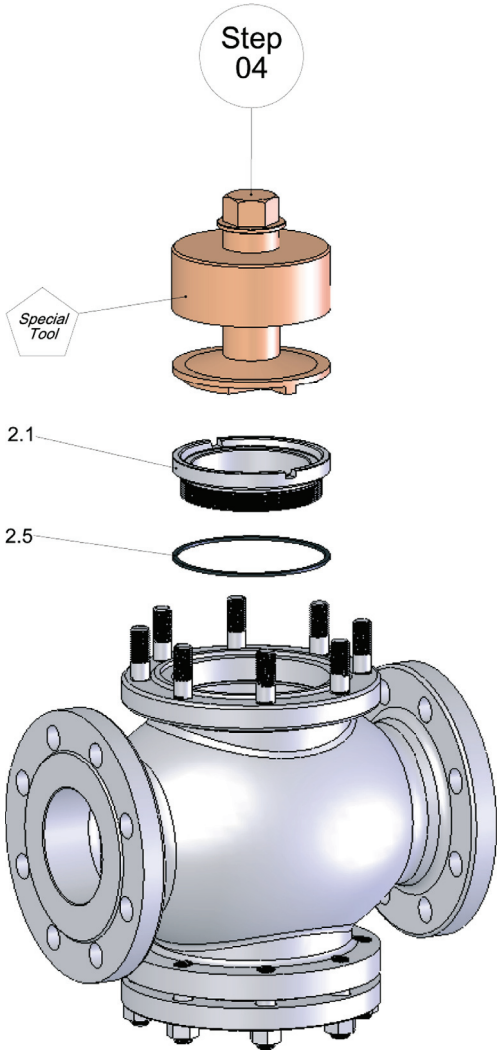
  CAUTION !

  Use new flat gasket (1.2) !

- Twist Special Tool (Ring-nut) on the stem and put in place slowly

  CAUTION !

  Ensure it hangs vertically !



Disassembly

Step 04

- *Insert Special Tool (change seat - tool) in the body (Ensure that the pin clicks in place !) and remove using a suitable tool*
- *Remove screwed seat (2.1) and profile ring (2.5)*

CAUTION !

Remove profile ring remains (2.5) in the body. Do not damage sealing surface !

Reassembly

Step 04

Reassembly takes place in reverse order.

CAUTION !

Clean parts and screwed seat, check thread in the body and sealing surface for damage

Use new profile ring (2.5) !

- Insert profile ring (2.5) in the body, grease the thread on the screwed seat (2.1) and screw in by hand

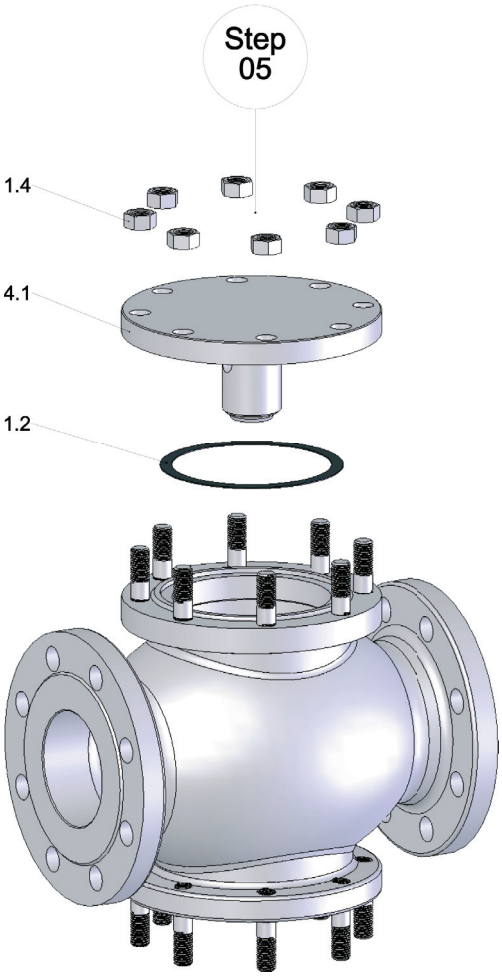
CAUTION !

Lubrication as per Table 06 (Page 65)

- Insert Special Tool *(change seat - tool)* in the body *(Ensure that the pin clicks in place !)* and tighten using the torque wrench

CAUTION !

Tightening moment for the screwed seat (2.1) as per Table 02 (Page 64)



Disassembly

Step 05

- *Turn body*
- *Unscrew hexagon nuts (1.4)*
- *Remove cover (4.1)*
- *Remove flat gasket (1.2)*

CAUTION !

Remove remains of flat gasket (1.2) in the body and on the cover (4.1).
Do not damage sealing surface !

Reassembly

Step 05

Reassembly takes place in reverse order.

CAUTION !

Clean parts and check sealing surfaces for damage.

Use new flat gasket (1.2) !

- Lay flat gasket (1.2) in the body
- Put cover in place (4.1).
- Grease stud screws

CAUTION !

Lubrication as per Table 06 (Page 65)

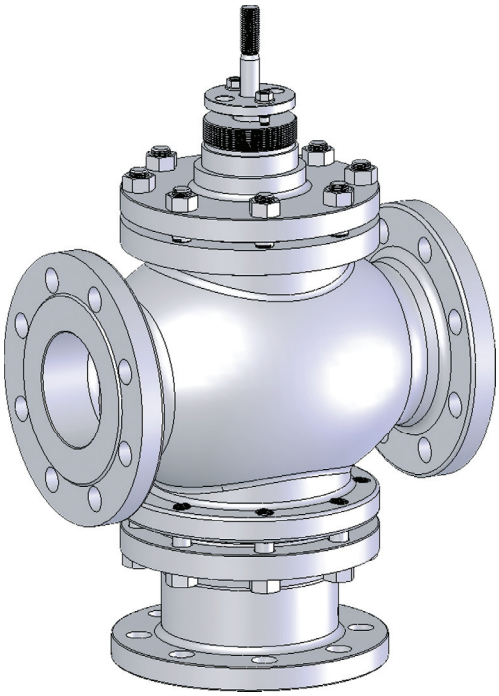
- Screw hexagon nuts in place (1.4) and tighten in a diagonally opposite sequence using the torque wrench

CAUTION !

Nut tightening moment (1.4)
as per Table 01 (Page 64)

Mixing Valve

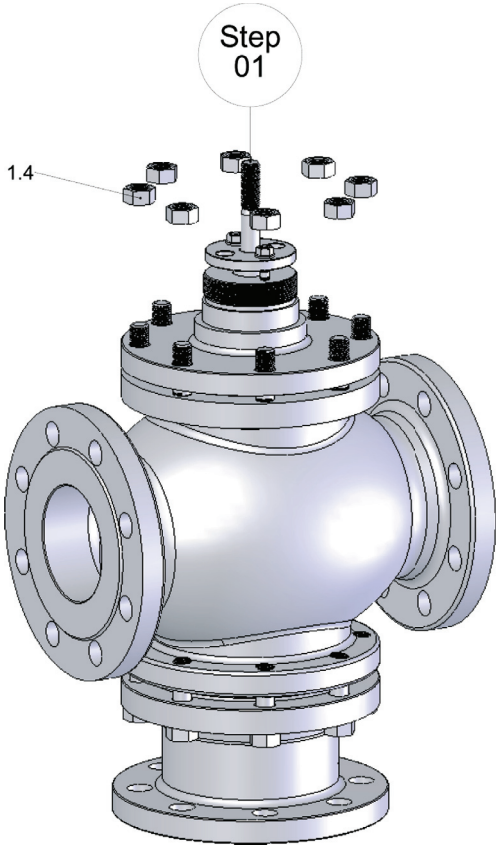
SPM - Code : V7xx WxVNA . . . MOTP2LG



Disassembly

Step 01

- *Unscrew hexagon nuts (1.4)*



Reassembly

Step 01

- Grease stud screws

  CAUTION !

  Lubrication as per Table 06 (Page 65)

- Screw hexagon nuts in place (1.4) and tighten in a diagonally opposite sequence using the torque wrench

  CAUTION !

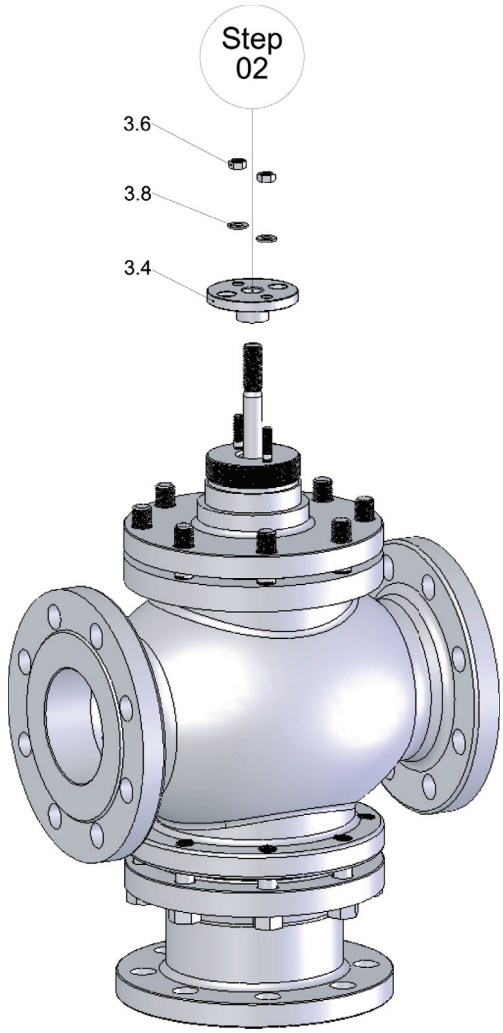
  Nut tightening moment (1.4)
  as per Table 01 (Page 64)

  When tightening the nuts pay attention to the alignment of the plug (do not rub or insert the plug in the open / closed movement)

- Tighten the hexagon nuts of the compression gland (3.6) using the torque wrench

  CAUTION !

  Tightening moment of the hexagon nuts (3.6)
  as per Variant drawing (Page 61 - 63)



Disassembly

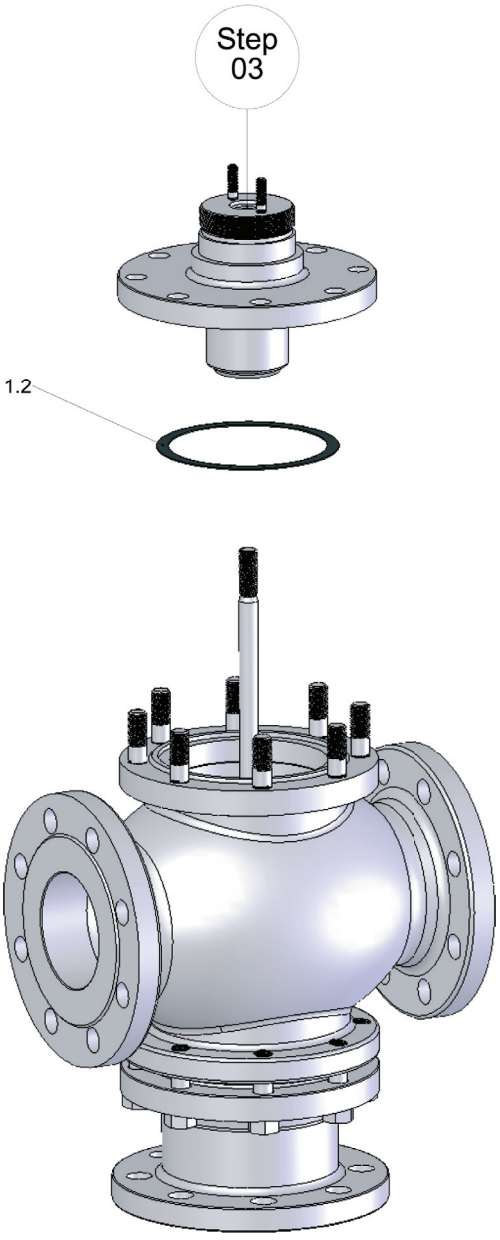
Step 02

- *Unscrew hexagon nuts (3.6)*
- *Remove washer (3.8) and gland flange (3.4)*

Reassembly

Step 02 not applicable

Reassembling the packing unit see **Step 07**



Disassembly

Step 03

- *Lift bonnet off*

  CAUTION !

  Do not damage stem surface !

- *Remove flat gasket (1.2)*

  CAUTION !

  Remove remains of flat gasket (1.2) in the body and on the bonnet.
  Do not damage sealing surface !

Reassembly

Step 03

After work step "Reassembly" **Step 06**

- Insert flat gasket (1.2)

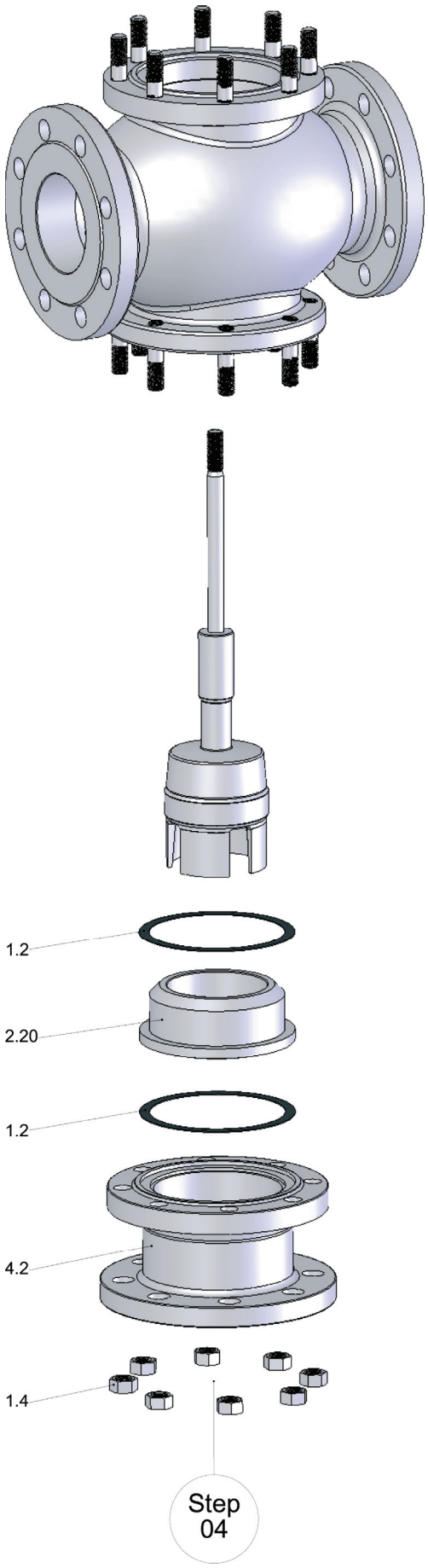
  CAUTION !

  Use new flat gasket (1.2) !

- Put cover in place

  CAUTION !

  Do not damage stem surface !



Disassembly

Step 04

- *Unscrew hexagon nuts (1.4), lift body off*

CAUTION !

Ensure it hangs vertically !

- *Remove flat gasket (1.2)*
- *Remove plug unit*
- *Lift seat ring (2.20) off the connection piece (4.2)*
- *Remove flat gasket (1.2)*

CAUTION !

Remove remains of flat gasket (1.2)
in the body, seat ring and connection piece.
Do not damage sealing surface !

Reassembly

Step 04

Reassembly takes place in reverse order.

CAUTION !

Clean parts and check sealing surfaces for damage.

Use new flat gasket (1.2) !

- Lay flat gasket (1.2) on the connection piece (4.2)
- Insert seat ring (2.20)
- Lay flat gasket (1.2) on the seat ring (2.20)
- Grease plug shaft and plug guides lightly

CAUTION !

Lubrication as per Table 06 (Page 65)

- Insert plug unit in the seat ring (2.20)
- Lift body on the connection piece (4.2)

CAUTION !

Ensure it hangs vertically !

- grease stud screws

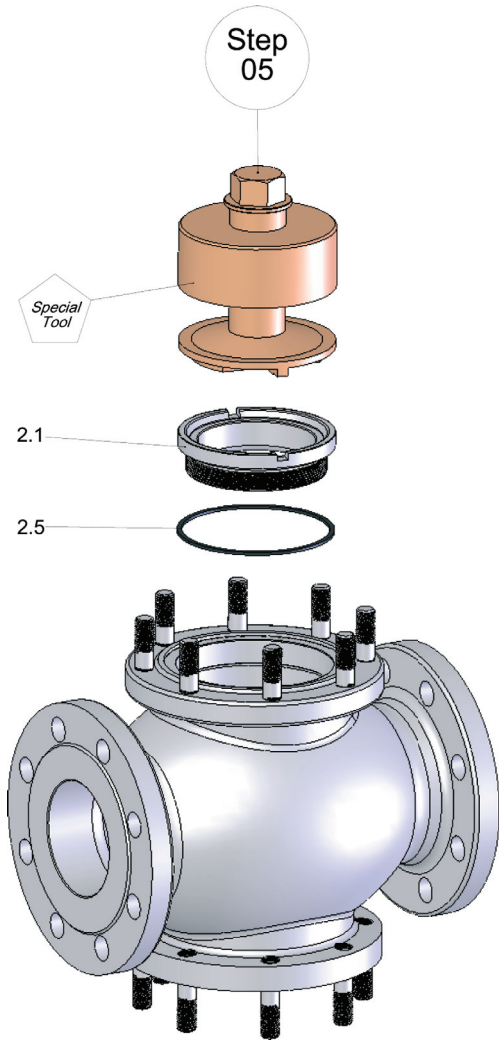
CAUTION !

Lubrication as per Table 06 (Page 65)

- Screw hexagon nuts in place (1.4) and tighten in a diagonally opposite sequence using the torque wrench

CAUTION !

Nut tightening moment (1.4)
as per Table 01 (Page 64)



Disassembly

Step 05

- *Insert Special Tool (change seat - tool) in the body (Ensure that the pin clicks in place !) and remove using a suitable tool*
- *Remove screwed seat (2.1) and profile ring (2.5)*

CAUTION !

Remove profile ring remains (2.5) in the body. Do not damage sealing surface !

Reassembly

Step 05

Reassembly takes place in reverse order.

CAUTION !

Clean parts and screwed seat, check thread in the body and sealing surface for damage

Use new profile ring (2.5) !

- Insert profile ring (2.5) in the body, grease the thread on the screwed seat (2.1) and screw in by hand

CAUTION !

Lubrication as per Table 06 (Page 65)

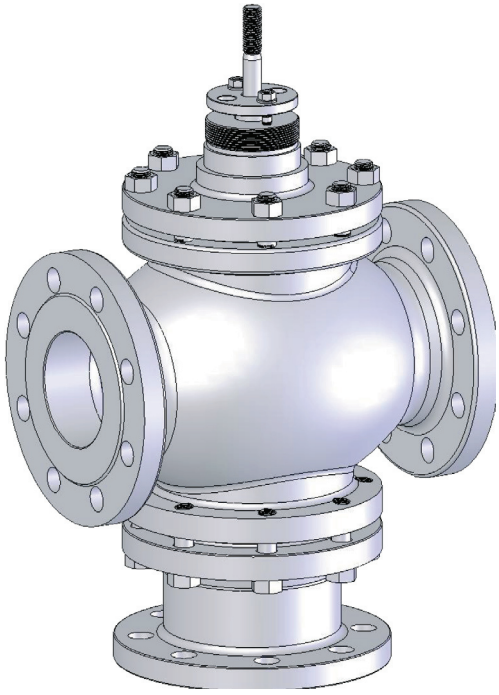
- Insert Special Tool *(change seat - tool)* in the body *(Ensure that the pin clicks in place !)* and tighten using the torque wrench

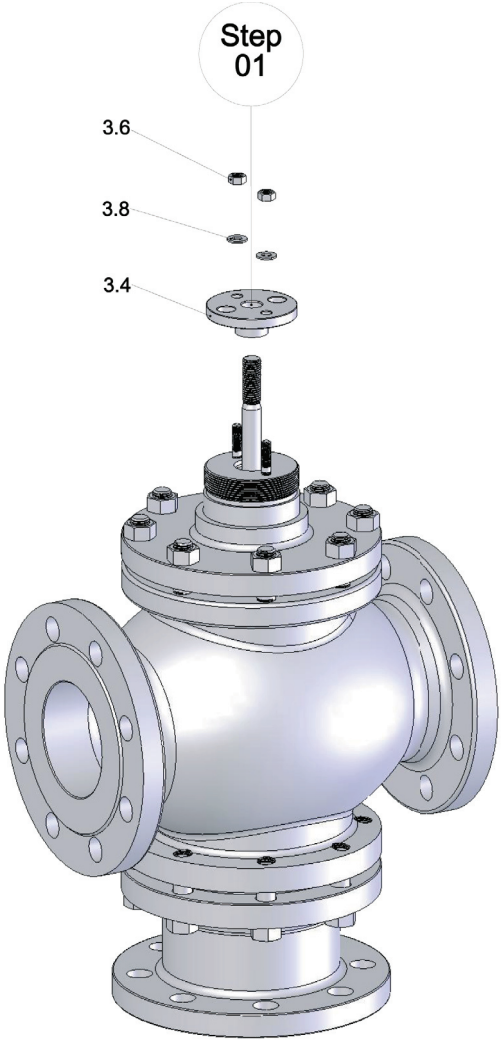
CAUTION !

Tightening moment for the screwed seat (2.1) as per Table 02 (Page 64)

Distributing Valve

SPM - Code : V7xx WxVNA . . . VOTP2LG





Disassembly

Step 01

- *Unscrew hexagon nuts (3.6)*
- *Remove washer (3.8) and gland flange (3.4)*

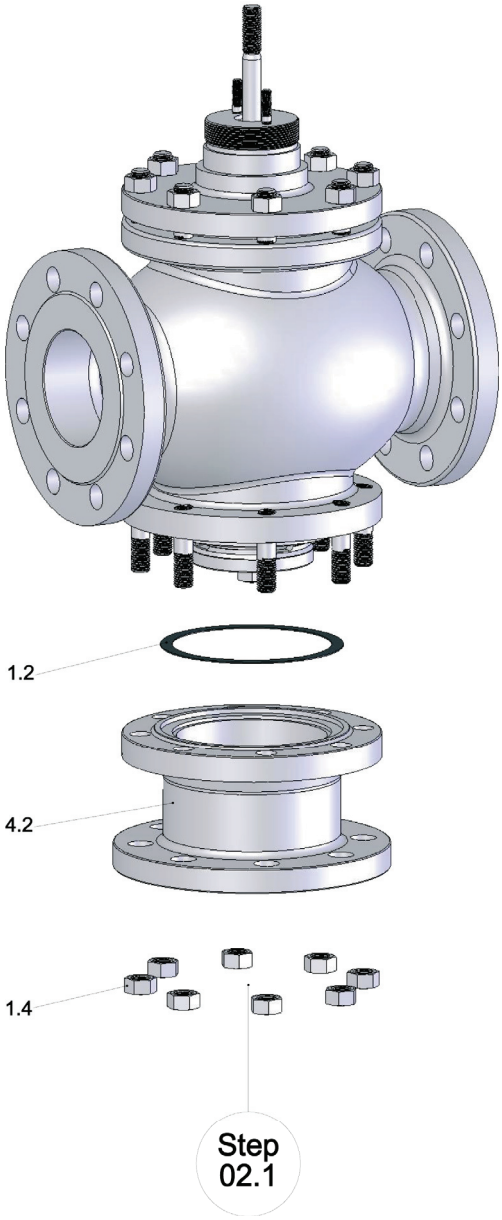
Reassembly

Step 01

- Tighten the hexagon nuts of the gland (3.6) using the torque wrench

CAUTION !

Tightening moment of the hexagon nuts (3.6) as per variant drawing (Page 61 - 63)



Disassembly

Step 02.1

- *Unscrew hexagon nuts (1.4)*
- *Remove connection piece (4.2)*
- *Remove flat gasket (1.2)*

CAUTION !

Remove remains of flat gasket (1.2) in the body and in the connection piece.
Do not damage sealing surface !

Reassembly

Step 02.1

Reassembly takes place in reverse order.

CAUTION !

Clean parts and check sealing surfaces for damage.

Use new flat gasket (1.2) !

- Lay flat gasket (1.2) in the connection piece
- Put complete body in place

CAUTION !

Ensure it hangs vertically !

- Grease stud screws

CAUTION !

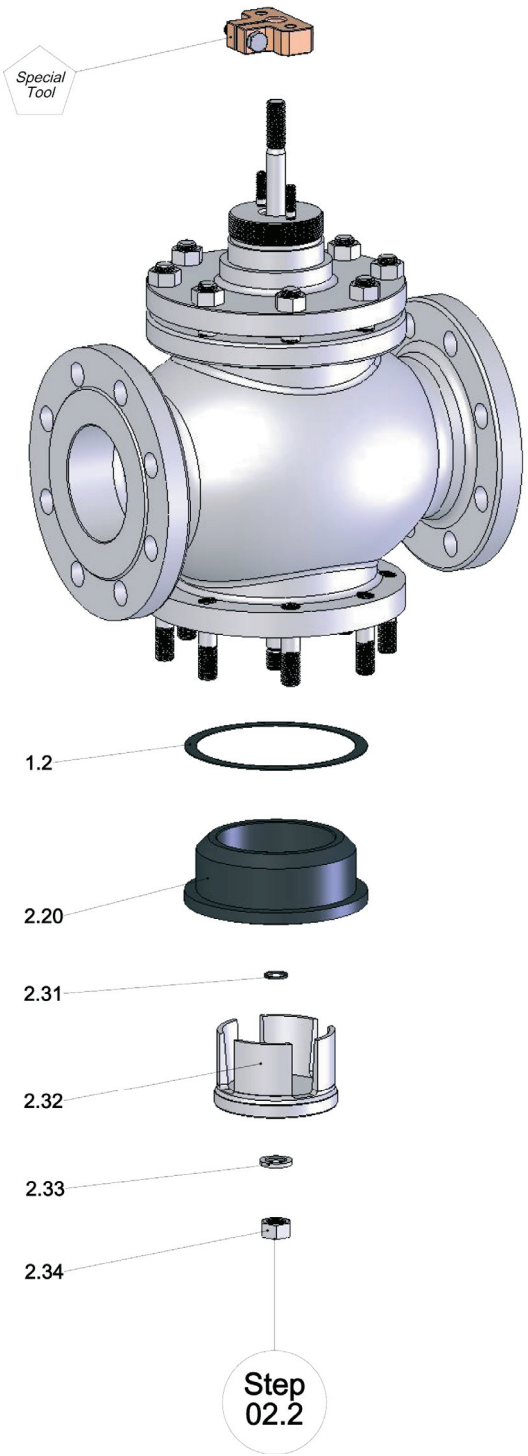
Lubrication as per Table 06 (Page 65)

- Screw hexagon nuts in place (1.4) and tighten in a diagonally opposite sequence using the torque wrench

CAUTION !

Nut tightening moment (1.4)
as per Table 01 (Page 64)

When tightening the nuts pay attention to the alignment of the plug (do not rub or insert the plug in the open / closed movement)



Disassembly

Step 02.2

- *Insert Special Tool (stem clamping tool) in the body and tighten (for fixing the stem to prevent twisting)*
- *Unscrew hexagon nuts (2.34)*
- *Remove spring washer (2.33), V-Port plug (2.32), profile seal ring (2.31), seat ring (2.20) and flat gasket (1.2)*

CAUTION !

Remove remains of flat gasket (1.2) in the body on the seat ring (2.20).
Do not damage sealing surface !

Reassembly

Step 02.2

Reassembly takes place in reverse order.

CAUTION !

Clean parts and check sealing surfaces for damage.

Use new flat gasket (1.2) !

Use new profile seal ring (2.31) !

- Fit Special Tool (stem clamping tool)
- Lay flat gasket (1.2) on the seat ring (2.20)
- Lay profile seal ring (2.31) in the V-Port plug (2.32)
- Insert V-Port plug (2.32) in the seat ring (2.20) and push on the stem together

CAUTION !

Grease the seat ring (2.20) inside and the thread on the stem

Lubrication as per Table 06 (Page 65)

- Screw on spring washer (2.33) and hexagon nut (2.34) and tighten using the torque wrench

CAUTION !

Nut tightening moment (2.34) as per Table 02 (Page 64)

Disassembly

Step 03

- *Unscrew hexagon nuts (1.4)*

Reassembly

Step 03

- Grease stud screws

  CAUTION !

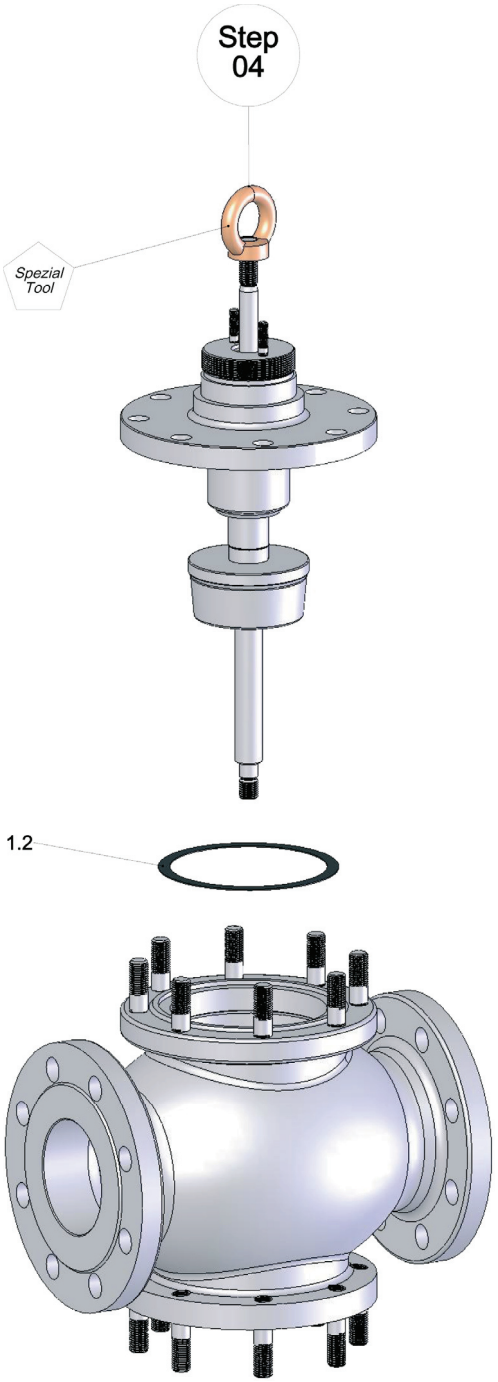
  Lubrication as per Table 06 (Page 65)

- Screw hexagon nuts in place (1.4) and tighten in a diagonally opposite sequence using the torque wrench

  CAUTION !

  Nut tightening moment (1.4)
  as per Table 01 (Page 64)

  When tightening the nuts pay attention to the alignment of the plug (do not rub or insert the plug in the open / closed movement)



Disassembly

Step 04

- *Twist Special Tool (Ring-nut) on the stem and put in place slowly*

  CAUTION !

  Ensure it hangs vertically !

- *Remove flat gasket (1.2)*

  CAUTION !

  Remove remains of flat gasket (1.2) in the body and on the bonnet.
  Do not damage sealing surface !

Reassembly

Step 04

After work step "Reassembly" **Step 06**

- Insert flat gasket (1.2)

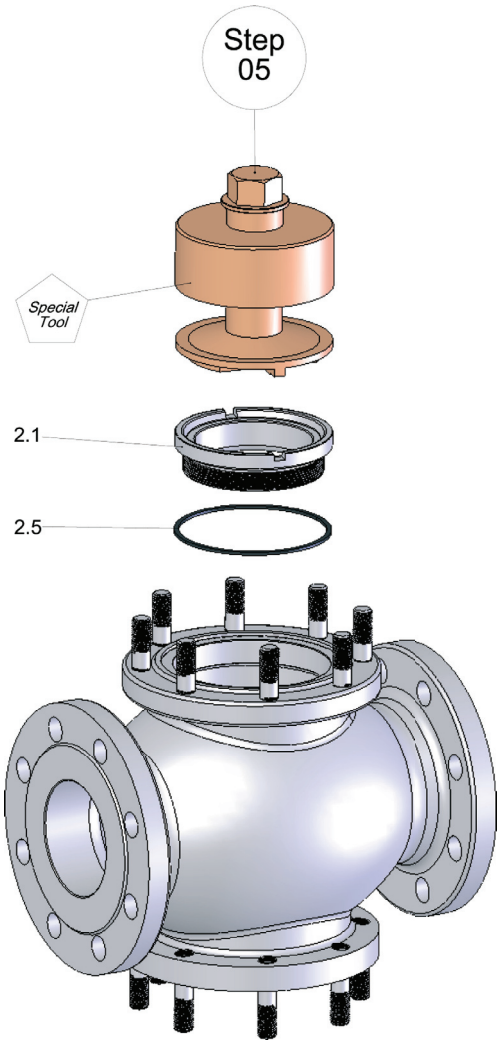
  CAUTION !

  Use new flat gasket (1.2) !

- Twist Special Tool *(Ring-nut)* on the stem and put in place slowly

  CAUTION !

  Ensure it hangs vertically !



Disassembly

Step 05

- *Insert Special Tool (change seat - tool) in the body (Ensure that the pin clicks in place !) and remove using a suitable tool*
- *Remove screwed seat (2.1) and profile ring (2.5)*

CAUTION !

Remove profile ring remains (2.5) in the body. Do not damage sealing surface !

Reassembly

Step 05

Reassembly takes place in reverse order.

CAUTION !

Clean parts and screwed seat, check thread in the body and sealing surface for damage

Use new profile ring (2.5) !

- Insert profile ring (2.5) in the body, grease the thread on the screwed seat (2.1) and screw in by hand

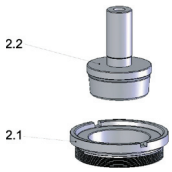
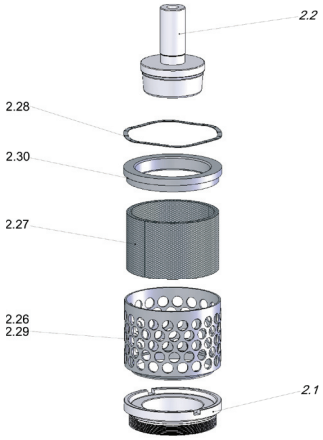
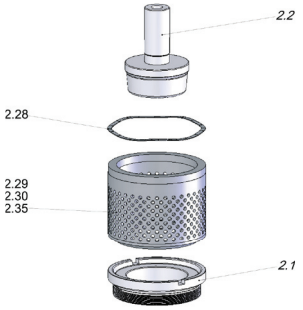
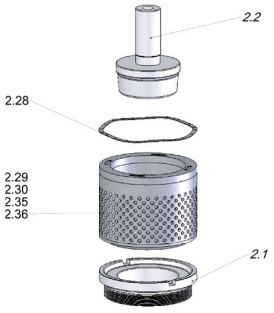
CAUTION !

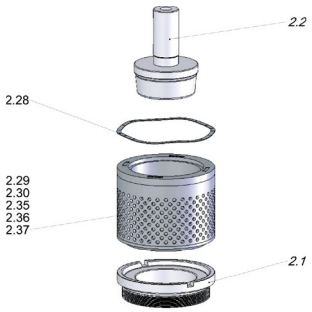
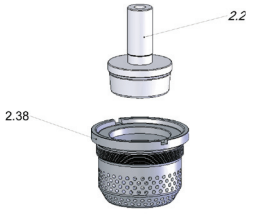
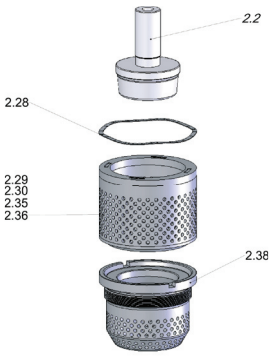
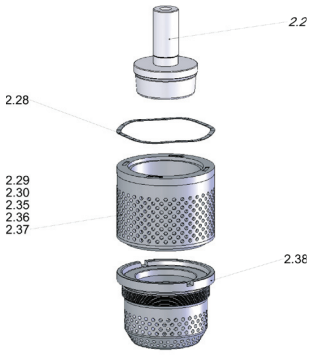
Lubrication as per Table 06 (Page 65)

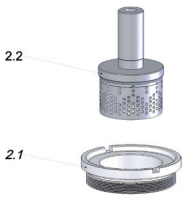
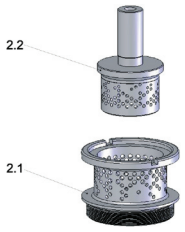
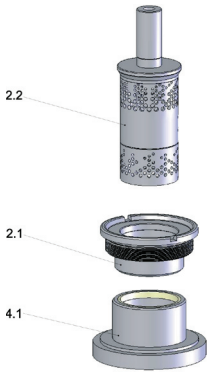
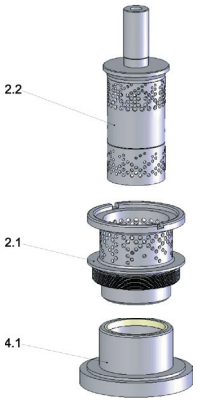
- Insert Special Tool *(change seat - tool)* in the body *(Ensure that the pin clicks in place!)* and tighten using the torque wrench

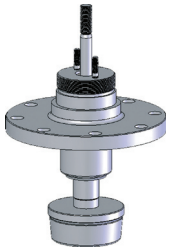
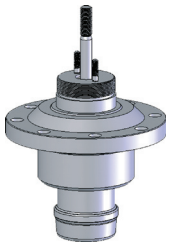
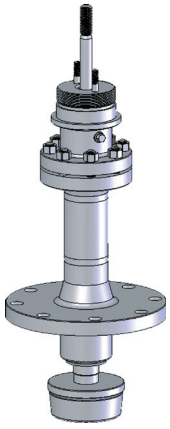
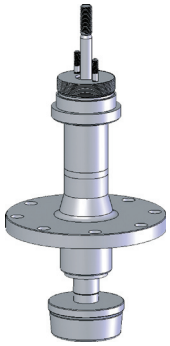
CAUTION !

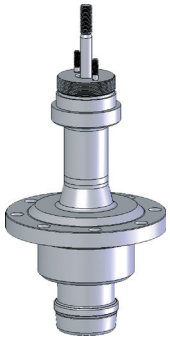
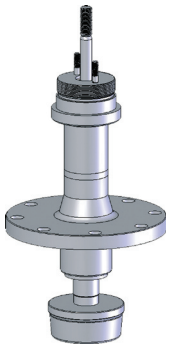
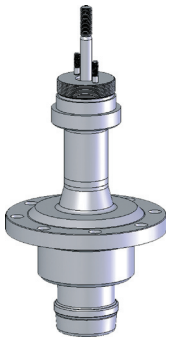
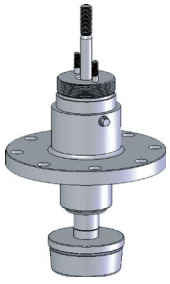
Tightening moment for the screwed seat (2.1) as per Table 02 (Page 64)

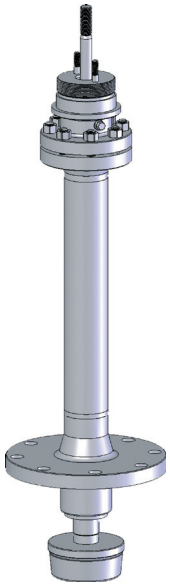
Trim Type	Data Field 3	Disassembly / Reassembly
Standard Parabolic Plug 	PONx1xx PODx1xx POKx1xx POWx1xx POHx1xx	*Disassembly* / Reassembly 2.1 Screwed seat 2.2 Plug as described !
SilentPack 	PKxx1xx	*Disassembly* / Reassembly 2.1 Screwed seat 2.2 Plug as described, additionally however 2.29 Internal ring 2.26 Perforated cage 2.27 Wire netting 2.30 Space bush 2.28 Pressure spring insert in the sequence shown !
XStream 	PCxx1xx PDxx1xx	*Disassembly* / Reassembly 2.1 Screwed seat 2.2 Plug as described, additionally however 2.29 Internal ring 2.30 Space bush 2.35 Perforated cage 1 2.28 Pressure spring insert in the sequence shown !
XStream 	PExx1xx PFxx1xx	*Disassembly* / Reassembly 2.1 Screwed seat 2.2 Plug as described, additionally however 2.29 Internal ring 2.30 Space bush 2.35 Perforated cage 1 2.36 Perforated cage 2 2.28 Pressure spring insert in the sequence shown !

Trim Type	Data Field 3	Disassembly / Reassembly
XStream 	PGxx1xx PHxx1xx	*Disassembly* / Reassembly 2.1 Screwed seat 2.2 Plug as described, additionally however 2.29 Internal ring 2.30 Space bush 2.35 Perforated cage 1 2.36 Perforated cage 2 2.37 Perforated cage 3 2.28 Pressure spring insert in the sequence shown !
XStream 	PIxx1xx	*Disassembly* / Reassembly 2.38 Perforated seat cage 2.2 Plug as described !
XStream 	PQxx1xx	*Disassembly* / Reassembly 2.38 Perforated seat cage 2.2 Plug as described, additionally however 2.29 Internal ring 2.30 Space bush 2.35 Perforated cage 1 2.36 Perforated cage 2 2.28 Pressure spring insert in the sequence shown !
XStream 	PWxx1xx	*Disassembly* / Reassembly 2.38 Perforated seat cage 2.2 Plug as described, additionally however 2.29 Internal ring 2.30 Space bush 2.35 Perforated cage 1 2.36 Perforated cage 2 2.37 Perforated cage 3 2.28 Pressure spring insert in the sequence shown !

Trim Type	Data Field 3	Disassembly / Reassembly
Perforated plug 	LOxx1xx	*Disassembly* / Reassembly 2.1 Screwed seat 2.2 Perforated plug as described !
RLS-System 	AOxx1xx	*Disassembly* / Reassembly 2.1 Perforated screwed seat 2.2 Perforated plug as described !
RLS-System 	BOxx1xx	*Disassembly* / Reassembly 2.1 Screwed seat 2.2 Perforated plug 4.1 Cover as described !
RLS-System 	DOxx1xx	*Disassembly* / Reassembly 2.1 Screwed seat 2.2 Perforated plug 4.1 Cover as described !

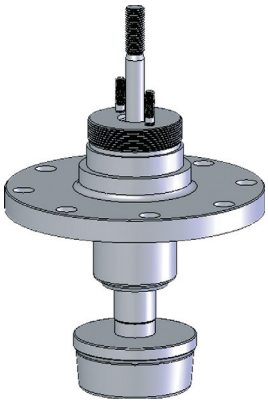
Bonnet Type	Data Field 2	Data Field 3	Page
Standard Bonnet 	V7xx xx**VN**x	-	38 - 39
Standard Bonnet with V-Ring Balancing 	V7xx xx**ON**x	-	40 - 41
Bellows Seal Bonnet 	V7xx xx**VB**x	-	42 - 45
High-Temperature Extension Bonnet 	V7xx xx**VR**x	-	46 - 47

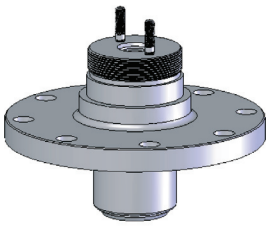
Bonnet Type	Data Field 2	Data Field 3	Page
High-Temperature Extension Bonnet with Piston-Ring Balancing 	V7xx xx**KR**x	-	48 - 49
Low-Temperature Extension Bonnet 	V7xx xx**VK**x	-	50 - 51
Low-Teperature Extension Bonnet with V-Ring Balancing 	V7xx xx**OK**x	-	52 - 53
Lantern Bonnet 	V7xx xx**VL**x	-	54 - 55

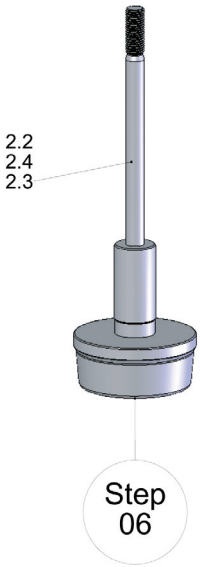
Bonnet Type	Data Field 2	Data Field 3	Page
Insulating Bonnet 	V7xx xx**VI**x	-	56 - 59
Heavy Bonnet	V7xx xx**SN**x	-	in preparation

Standard Bonnet

SPM - Code : V7xx xx**VN**x







Disassembly

Step 06

- *Remove plug unit (2.2, 2.3, 2.4) from the bonnet*

CAUTION !

Do not damage high quality stem surface and plug guide !

Reassembly

Step 06

Reassembly takes place in reverse order.

CAUTION !

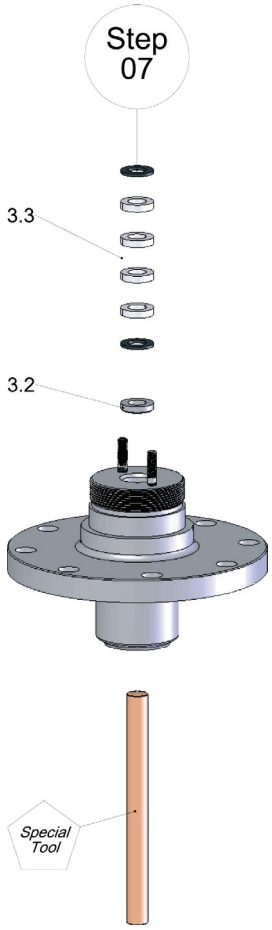
Clean parts and check sealing surfaces for damage

- Grease plug shaft lightly and insert in the bonnet

CAUTION !

Lubrication as per Table 06 (Page 65)

Do not grease stem !



Disassembly

Step 07

- *Remove packing (3.3) and bottom ring (3.2) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 07

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws !
(Damage to the packing packing area will lead to early leaks in the packing unit)

Lubrication as per Table 06 (Page 65)

The packing unit is configurated as per the variant drawing (Page 61 - 63)

Use new packing (3.3) !

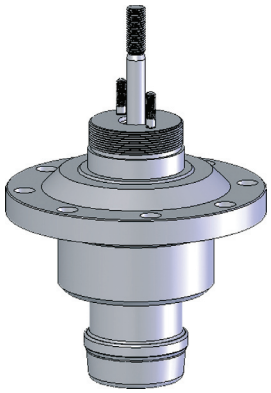
- Tighten hexagon nuts (3.6 / 3.9) by hand first

CAUTION !

The hexagon nuts (3.6 / 3.9) are tightened in the "Reassembly" step Step 01

Standard Bonnet with V-Ring Balancing

SPM - Code : V7xx xx**ON**x



Disassembly

Step 06

- *Remove plug unit (2.2, 2.3, 2.4) with balancing from the bonnet*

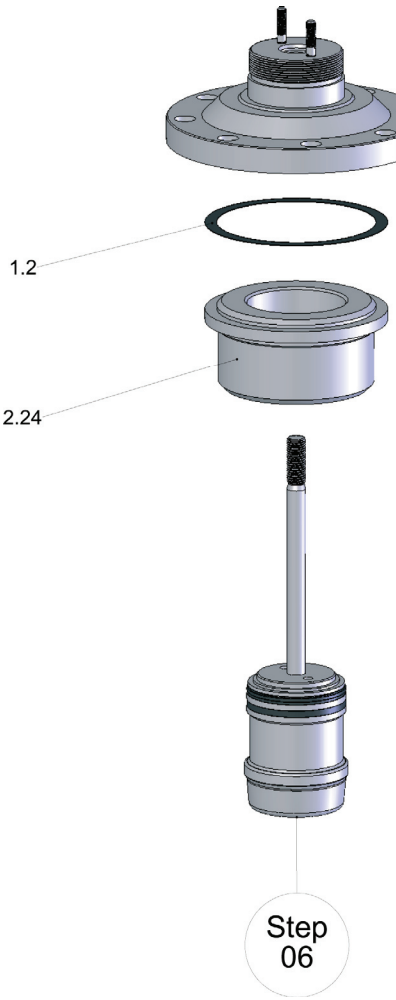
CAUTION !

Do not damage high quality stem surface and plug guide !

- *Remove flat gasket (1.2)*

CAUTION !

Remove remains of flat gasket (1.2) in the bonnet and the balancing. Do not damage sealing surface !



Reassembly

Step 06

Reassembly takes place in reverse order.

CAUTION !

Clean parts and check sealing surfaces for damage

Check plug guide and packing area in the bonnet
(Damage to the packing packing area will lead to early leaks in the packing unit)

Use new flat gasket (1.2) !

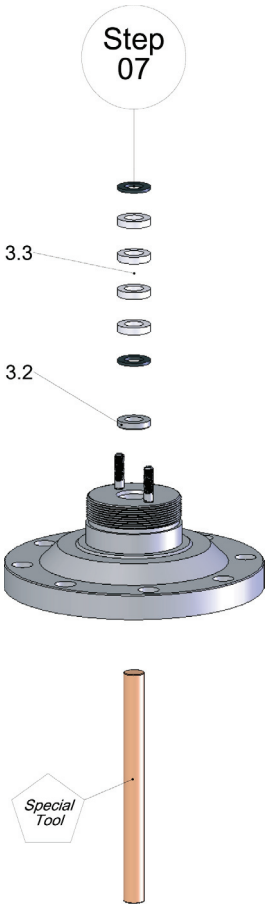
- Grease balancing (2.24) lightly inside and place on the plug up to as far as the guide band groove
- Lay driving band (2.21) in place and push balancing (2.24) "halfway"

CAUTION !

Lubrication as per Table 06 (Page 65)

Do not grease stem !

- Lay flat gasket (1.2) in the body - see also "Reassembly" **Step 03**
- Place plug unit in the body with the balancing
- Lay flat gasket (1.2) on the balancing (2.24)
- Put bonnet in place



Disassemly

Step 07

- *Remove packing (3.3) and bottom ring (3.2) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 07

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws!
(Damage to the packing packing area will lead to early leaks in the packing unit)

Lubrication as per Table 06 (Page 65)

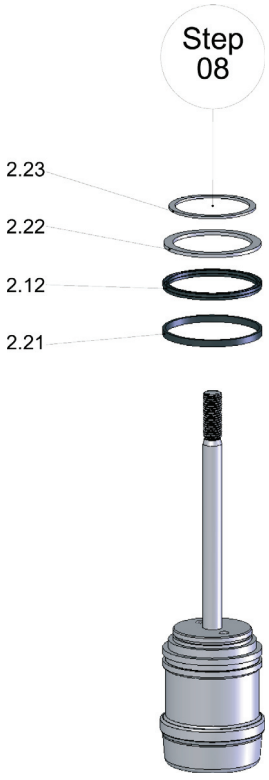
The packing unit is configurated as per the variant drawing (Page 61 - 63)

Use new packing (3.3) !

- Tighten hexagon nuts (3.6 / 3.9) by hand first

CAUTION !

The hexagon nuts (3.6 / 3.9) are tightened at the "Reassembly" step Step 01



Disassembly

Step 08

- *Remove driving band (2.21)*
- *Remove circlip for shafts (2.23)*
- *Remove ring (2.22) and balancing seal ring (2.12)*

CAUTION !

Do not damage stem and plug !

Reassembly

Step 08

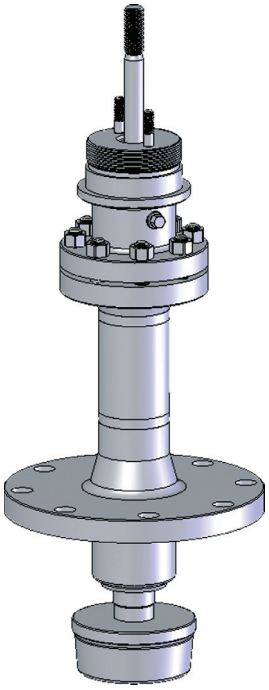
Reassembly takes place in reverse order.

CAUTION !

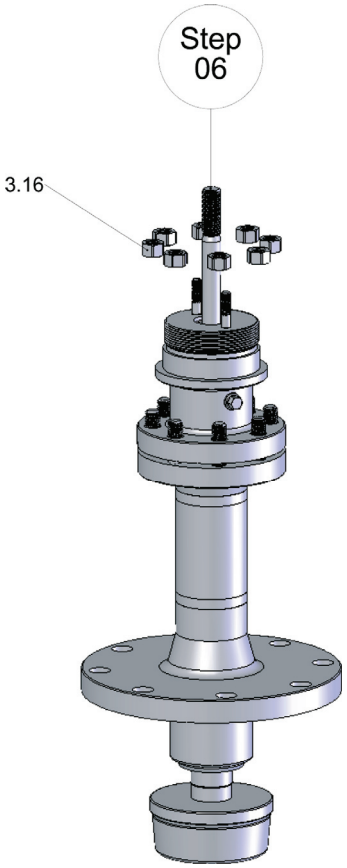
Clean parts, check sealing surfaces for damage and renew if necessary.

- Push balancing seal ring (2.12) on the plug
- Lay ring (2.22) in place
- Secure using circlip for shafts (2.23)
- Only insert guide band at "Reassembly" Step 06

Bellows Seal Bonnet



SPM - Code : V7xx xx**VB**x



Disassembly

Step 06

- *Unscrew hexagon nuts (3.16)*

Reassembly

Step 06

- grease stud screws

CAUTION !

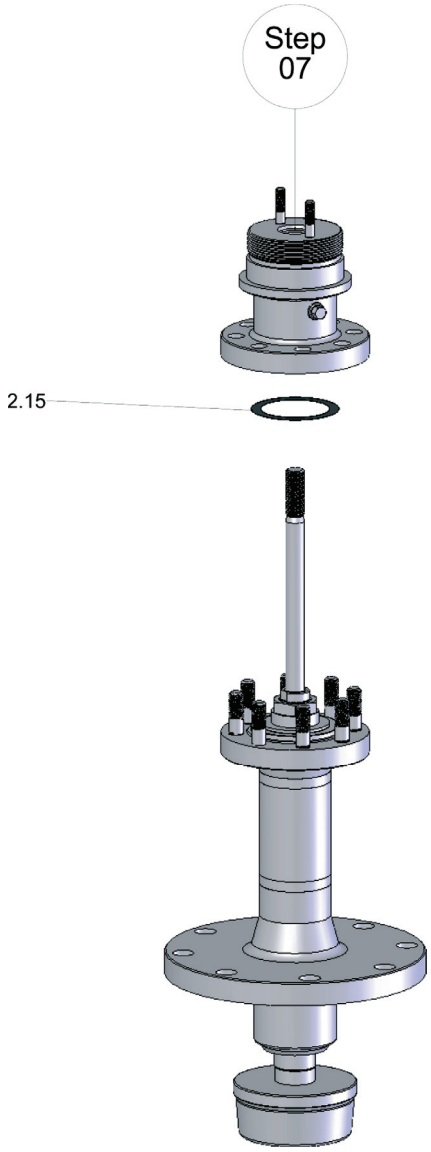
Lubrication as per Table 06 (Page 65)

- Screw hexagon nuts in place (3.16) and tighten in a diagonally opposite sequence using the torque wrench

CAUTION !

Nut tightening moment (3.16)
as per Table 04 (Page 64)

When tightening the nuts pay attention to the alignment of the plug (do not rub or insert the plug in the open / closed movement)



Disassembly

Step 07

- *Remove head piece*

  CAUTION !

  Ensure it hangs vertically !

- *Remove gasket (2.15)*

  CAUTION !

  Remove remains of gasket (2.15) in the body and on the head piece.
  Do not damage sealing surface !

Reassembly

Step 07

After work step "Reassembly" **Step 10**

- Insert gasket (2.15)

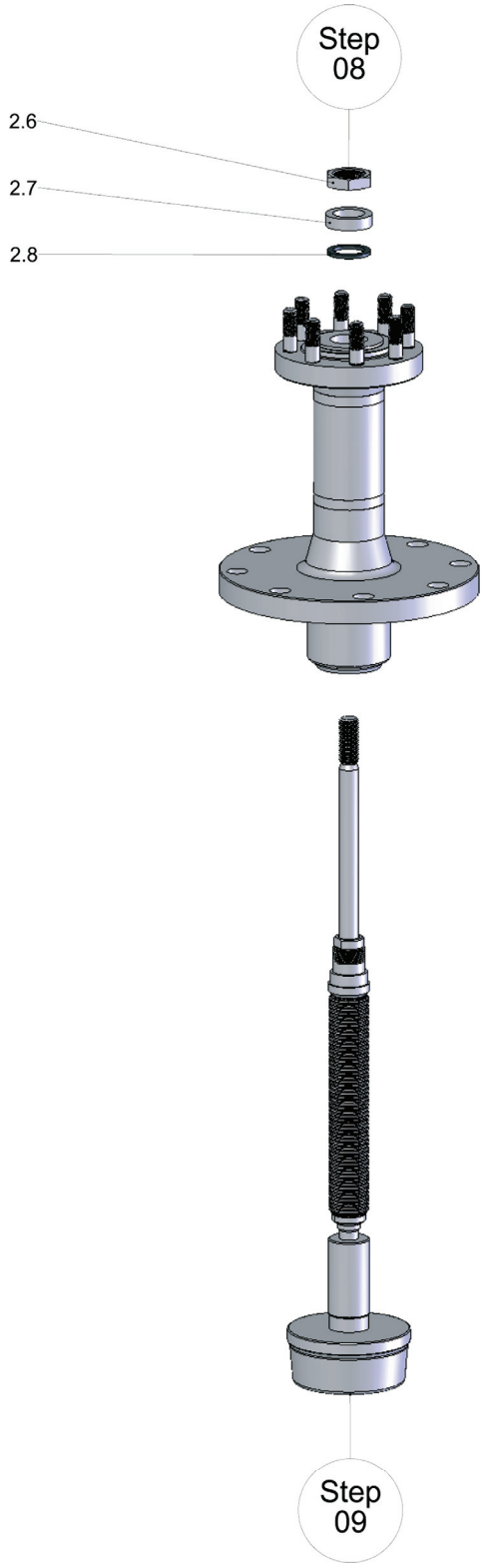
  CAUTION !

  Use new gasket (2.15) !

- Put head piece in place

  CAUTION !

  Ensure it hangs vertically !



Disassembly

Step 08

- *Unscrew hexagon nut (2.6)*
- *Remove pressure ring (2.7) and profile seal ring (2.8)*

CAUTION !

The plug unit can drop down !
Do not damage the high quality stem surface !

Step 09

- *Remove plug unit from the bonnet*

CAUTION !

Do not damage high quality stem surface, plug guide and bellows !

Reassembly

Step 09

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check plug unit and plug guide in the bonnet for damage.

- Grease plug shaft and thread on the bellows lightly and insert in the bonnet

CAUTION !

Lubrication as per Table 06 (Page 65)

Do not grease stem !

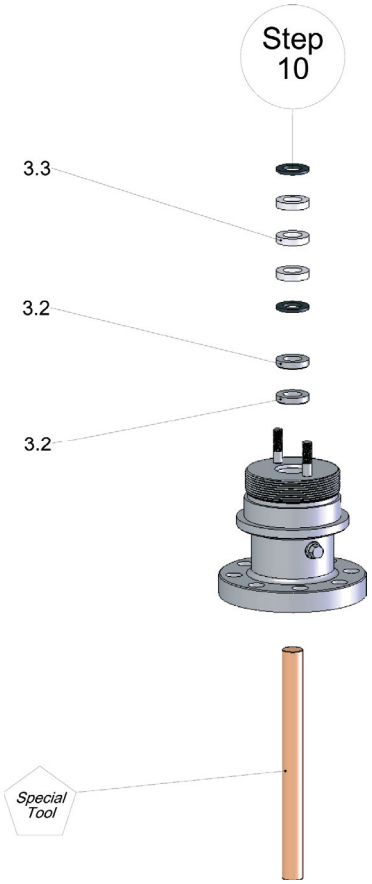
Step 08

- Put profile seal ring (2.8) and pressure ring (2.7) on
- Screw on hexagon nut (2.6) and tighten "on block"

CAUTION !

Use new profile ring (2.8) !

Secure bellows against twisting !



Disassembly

Step 10

- *Remove packing (3.3) and bottom ring (3.2 - 2x !) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 10

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws !
(Damage to the packing packing area will lead to early leaks in the packing unit)

Lubrication as per Table 06 (Page 65)

The packing unit is configurated as per the variant drawing (Page 61 - 63)

Use new packing (3.3) !

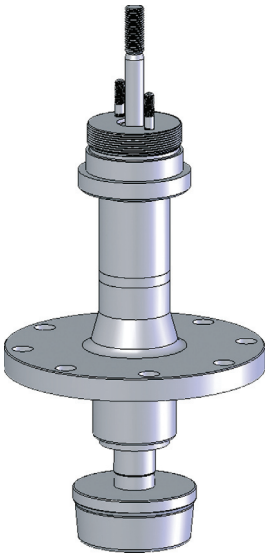
- Tighten hexagon nuts (3.6 / 3.9) by hand first

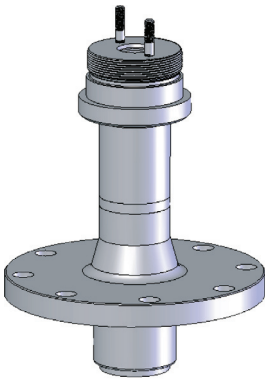
CAUTION !

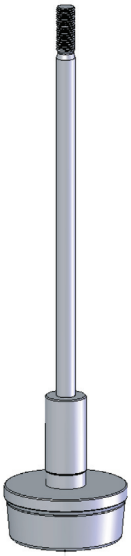
The hexagon nuts (3.6 / 3.9) are tightened at the "Reassembly" step Step 01

High-Temperature Extension Bonnet

SPM - Code : V7xx xx**VR**x







Disassembly

Step 06

- *Remove plug unit from the bonnet*

CAUTION !

Do not damage high quality stem surface and plug guide !

Reassembly

Step 06

Reassembly takes place in reverse order.

CAUTION !

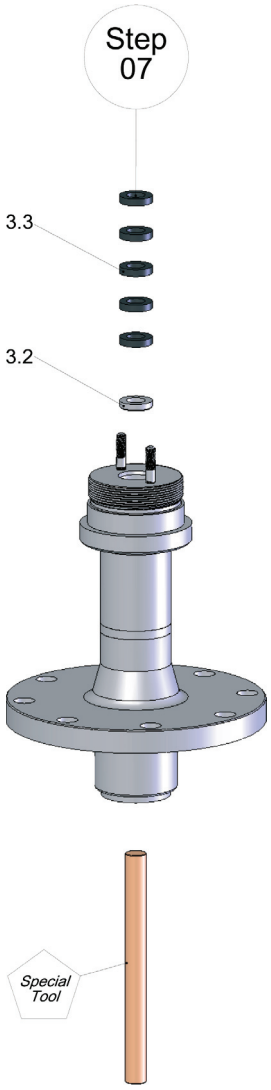
Clean parts and check sealing surfaces for damage.

- Grease plug shaft lightly and insert in the bonnet

CAUTION !

Lubrication as per Table 06 (Page 65)

Do not grease stem !



Disassembly

Step 07

- *Remove packing (3.3) and bottom ring (3.2) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 07

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws !
(Damage to the packing packing area will lead to early l eaks in the packing unit)

Lubrication as per Table 06 (Page 65)

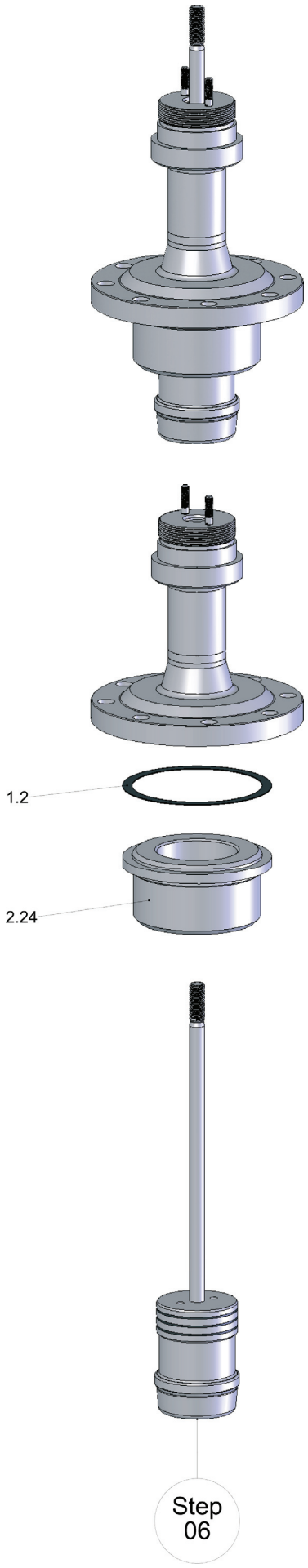
The packing unit is configurated as per the variant drawing (Page 61 - 63)

Use new packing (3.3) !

- Tighten hexagon nuts (3.6 / 3.9) by hand first

CAUTION !

The hexagon nuts (3.6 / 3.9) are tightened at the "Reassembly" step Step 01



High-Temperature Extension Bonnet with Piston-Ring Balancing

SPM - Code : V7xx xx**KR**x

Disassembly

Step 06

- *Remove plug unit with balancing (2.4) from the bonnet*

  CAUTION !

  Do not damage high quality stem surface and plug guide !

- *Remove flat gasket (1.2)*

  CAUTION !

  Remove remains of flat gasket (1.2) in the bonnet and the balancing. Do not damage sealing surface !

Reassembly

Step 06

Reassembly takes place in reverse order.

CAUTION !

Clean parts and check sealing surfaces for damage.

Check plug guide and packing area in bonnet
(Damage to the packing packing area will lead to early leaks in the packing unit)

Use new flat gasket (1.2) !

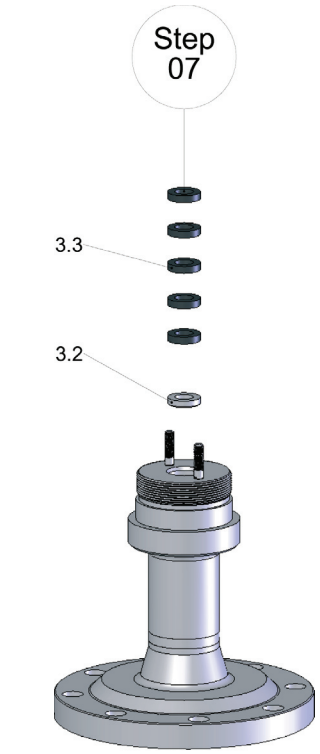
- Grease balancing (2.24) lightly inside and place on the plug "halfway"

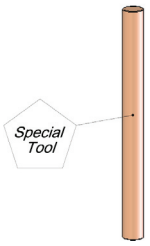
  CAUTION !

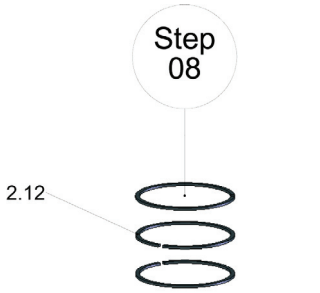
  Lubrication as per Table 06 (Page 65)

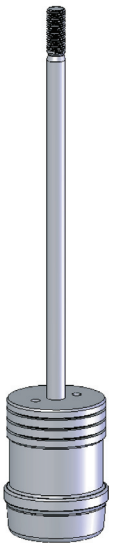
  Do not grease stem !

- Lay flat gasket (1.2) in the body
  - see also "Reassembly" **Step 03**
- Place plug unit in the body with the balancing
- Lay flat gasket (1.2) on the balancing (2.24)
- Put bonnet in place









Disassembly

Step 07

- *Remove packing (3.3) and bottom ring (3.2) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 07

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws!
(Damage to the packing packing area will lead to early leaks in the packing unit)

Lubrication as per Table 06 (Page 65)

The packing unit is configurated as per the variant drawing (Page 61 - 63)

Use new packing (3.3) !

- Tighten hexagon nuts (3.6 / 3.9) by hand first

CAUTION !

The hexagon nuts (3.6 / 3.9) are tightened at the "Reassembly" step Step 01

Disassembly

Step 08

- *Remove piston rings (2.12)*

CAUTION !

Do not damage stem and plug !

Reassembly

Step 08

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check sealing surfaces for damage and renew if necessary.

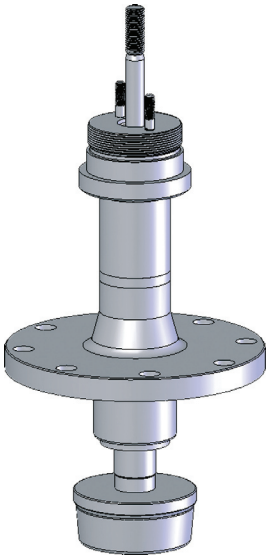
- Push piston rings (2.12) onto the plug carefully

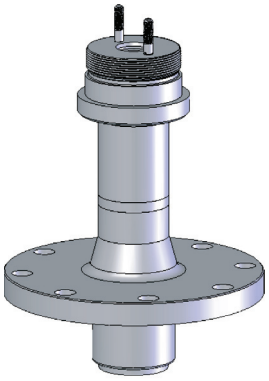
CAUTION !

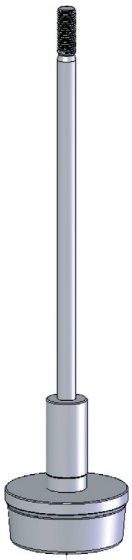
Do not overstretch piston rings and assemble offset at 120° !

Low-Teperature Extension Bonnet

SPM - Code : V7xx xx**VK**x







Disassembly

Step 06

- *Remove plug unit from the bonnet*

CAUTION !

Do not damage high quality stem surface and plug guide !

Reassembly

Step 06

Reassembly takes place in reverse order.

CAUTION !

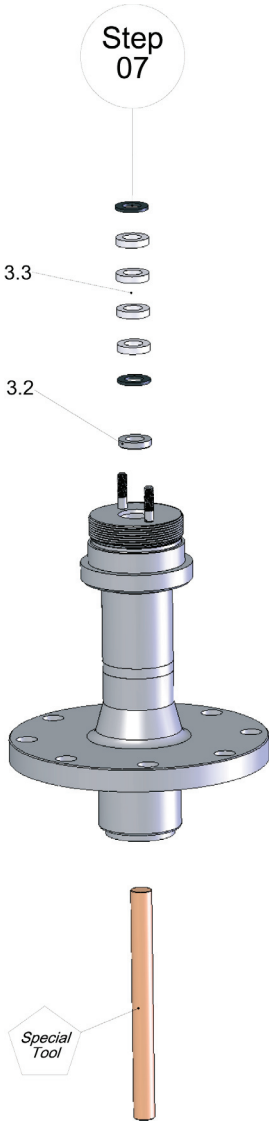
Clean parts and check sealing surfaces for damage

- Grease plug shaft lightly and insert in the bonnet

CAUTION !

Lubrication as per Table 06 (Page 65)

Do not grease stem !



Disassembly

Step 07

- *Remove packing (3.3) and bottom ring (3.2) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 07

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws !
(Damage to the packing packing area will lead to early leaks in the packing unit)

Lubrication as per Table 06 (Page 65)

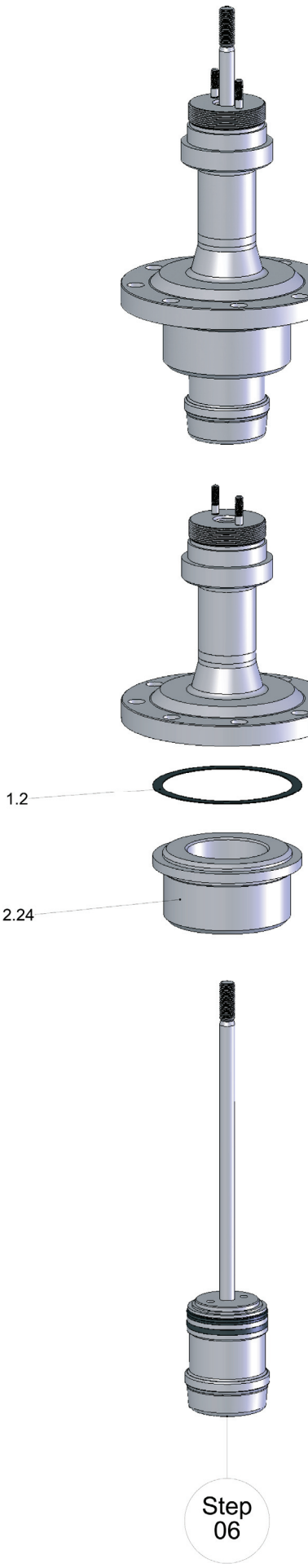
The packing unit is configurated as per the variant drawing (Page 61 - 63)

Use new packing (3.3) !

- Tighten hexagon nuts (3.6 / 3.9) by hand first

CAUTION !

The hexagon nuts (3.6 / 3.9) are tightened at the "Reassembly" step Step 01



Low-Temperature Extension Bonnet with V-Ring Balancing

SPM - Code : V7xx xxOKx

Disassembly

Step 06

- *Remove plug unit with balancing (2.4) from the bonnet*

CAUTION !

Do not damage high quality stem surface and plug guide !

- *Remove flat gasket (1.2)*

CAUTION !

Remove remains of flat gasket (1.2) in the bonnet and the balancing. Do not damage sealing surface !

Reassembly

Step 06

Reassembly takes place in reverse order.

CAUTION !

Clean parts and check sealing surfaces for damage.

Check plug guide and packing area in bonnet
(Damage to the packing packing area will lead to early leaks in the packing unit)

Use new flat gasket (1.2) !

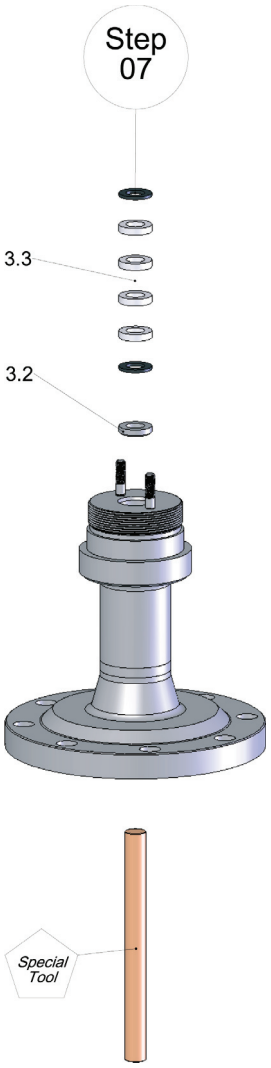
- Grease balancing (2.24) lightly inside and place on the plug up to as far as the driving band groove
- Lay driving band (2.21) in place and push balancing (2.24) "halfway"

CAUTION !

Lubrication as per Table 06 (Page 65)

Do not grease stem !

- Lay flat gasket (1.2) in the body - see also "Reassembly" **Step 03**
- Place plug unit in the body with the balancing
- Lay flat gasket (1.2) on the balancing (2.24)
- Put bonnet in place



Disassembly

Step 07

- *Remove packing (3.3) and bottom ring (3.2) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 07

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws !
(Damage to the packing packing area will lead to early leaks in the packing unit)

Lubrication as per Table 06 (Page 65)

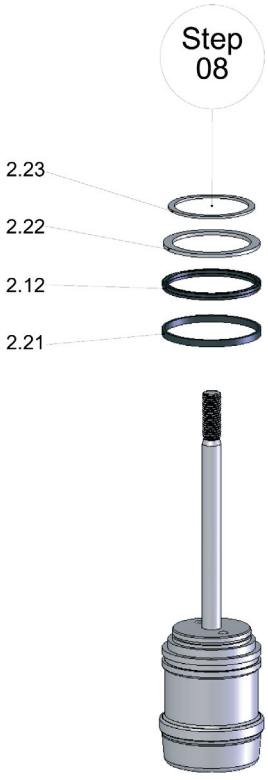
The packing unit is configurated as per the variant drawing (Page 61 - 63)

Use new packing (3.3) !

- Tighten hexagon nuts (3.6 / 3.9) by hand first

CAUTION !

The hexagon nuts (3.6 / 3.9) are tightened at the "Reassembly" step Step 01



Disassembly

Step 08

- *Remove driving band (2.21)*
- *Remove circlip for shafts (2.23)*
- *Remove ring (2.22) and balancing ring (2.12)*

CAUTION !

Do not damage stem and plug !

Reassembly

Step 08

Reassembly takes place in reverse order.

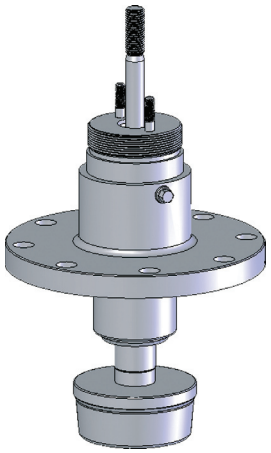
CAUTION !

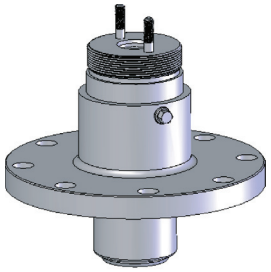
Clean parts, check sealing surfaces for damage and renew if necessary.

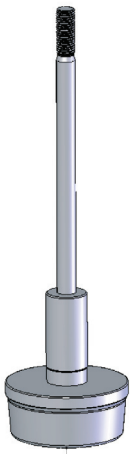
- Push balancing ring (2.12) on the plug
- Lay ring (2.22) in place
- Secure using circlip for shafts (2.23)
- Only insert driving band at "Reassembly" Step 06

Lantern Bonnet

SPM - Code : V7xx xx**VL**x







Step 06

Disassembly

Step 06

- *Remove plug unit from the bonnet*

CAUTION !

Do not damage high quality stem surface and plug guide !

Reassembly

Step 06

Reassembly takes place in reverse order.

CAUTION !

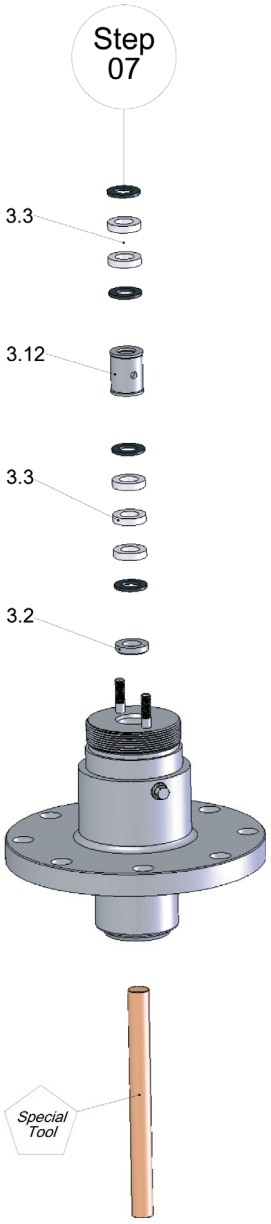
Clean parts and check sealing surfaces for damage

- Grease plug shaft lightly and insert in the bonnet

CAUTION !

Lubrication as per Table 06 (Page 65)

Do not grease stem !



Disassembly

Step 07

- *Remove packing (3.3) and bottom ring (3.2) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 07

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws !
(Damage to the packing packing area will lead to early leaks in the packing unit)

Lubrication as per Table 06 (Page 65)

- Fit bottom ring (3.2), packing (3.3), lantern (3.12), gland flange (3.4), washers (3.8) and hexagon nuts (3.6) in the sequence given, follow INFORMATION on page 63 !

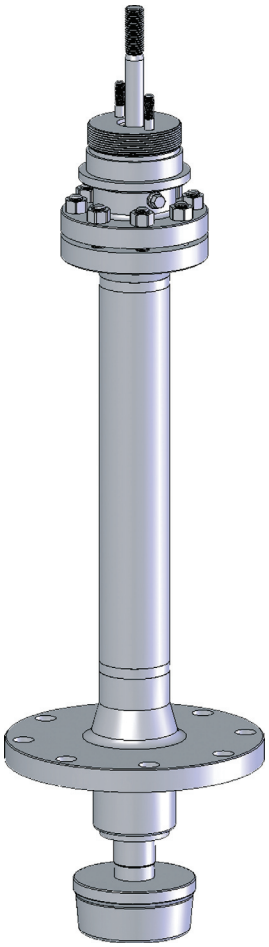
CAUTION !

Use new packing (3.3) !

- Tighten hexagon nuts (3.6 / 3.9) by hand first

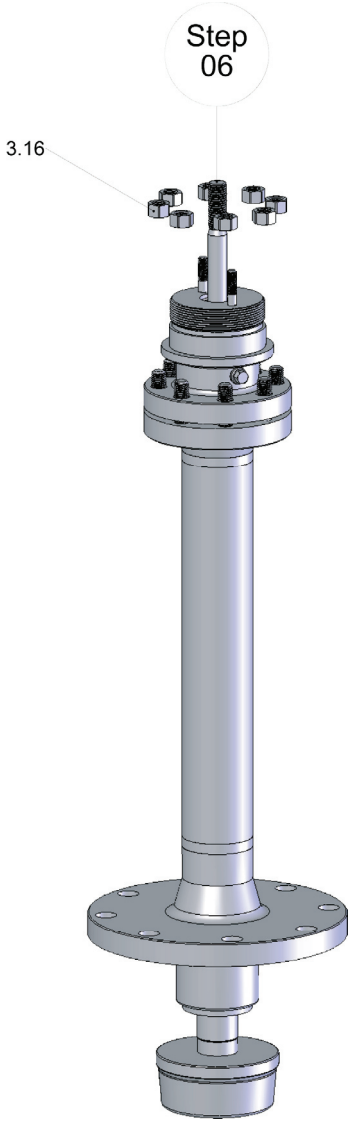
CAUTION !

The hexagon nuts (3.6 / 3.9) are tightened at the "Reassembly" step Step 01 as per Table 06 (Page 65)



Insulating Bonnet

SPM - Code : V7xx xx**VI**x



Disassembly

Step 06

- *Unscrew hexagon nuts (3.16)*

Reassembly

Step 06

- Grease stud screws

CAUTION !

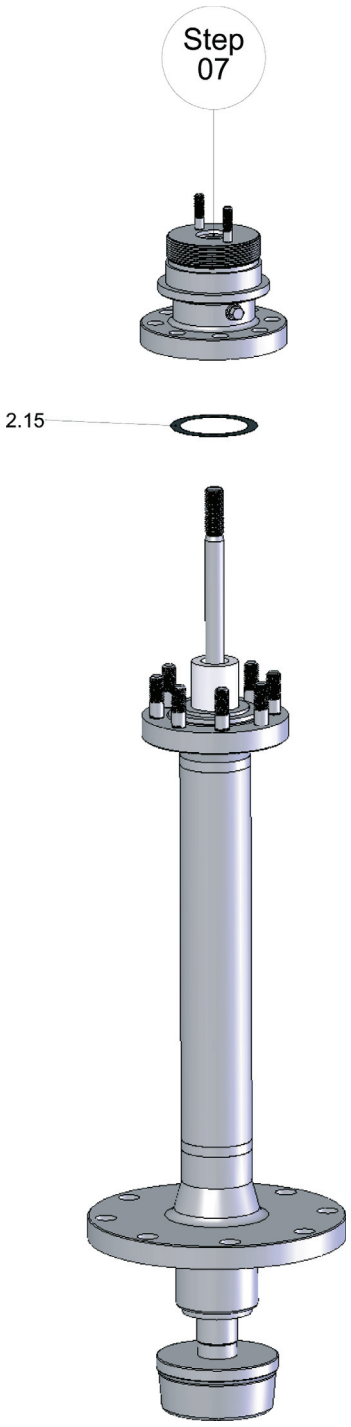
Lubrication as per Table 06 (Page 65)

- Screw hexagon nuts in place (3.16) and tighten in a diagonally opposite sequence using the torque wrench

CAUTION !

Nut tightening moment (3.16)
as per Table 04 (Page 64)

When tightening the nuts pay attention to the alignment of the plug (do not rub or insert the plug in the open / closed movement)



Disassembly

Step 07

- *Remove head piece*

  CAUTION !

  Ensure it hangs vertically !

- *Remove gasket (2.15)*

  CAUTION !

  Remove remains of gasket (2.15) in the body and on the head piece.
  Do not damage sealing surface !

Reassembly

Step 07

After work step "Reassembly" **Step 10**

- Insert gasket (2.15)

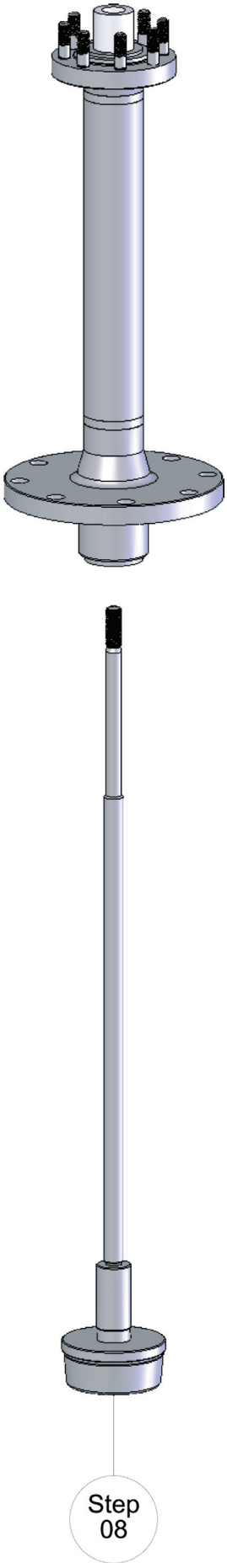
  CAUTION !

  Use new gasket (2.15)!

- Put head piece in place

  CAUTION !

  Ensure it hangs vertically !



Disassembly

Step 08

- *Remove plug unit from the bonnet*

CAUTION !

Do not damage high quality stem surface and plug guide !

Reassembly

Step 08

Reassembly takes place in reverse order.

CAUTION !

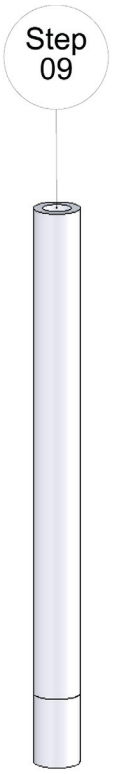
Clean parts, check plug unit and plug guide in the bonnet for damage.

- Grease plug shaft lightly and insert in the bonnet

CAUTION !

Lubrication as per Table 06 (Page 65)

Do not grease stem !



Disassembly

Step 09

- *Remove insulation pipe (3.23) from the bonnet*

Reassembly

Step 09

Reassembly takes place in reverse order.

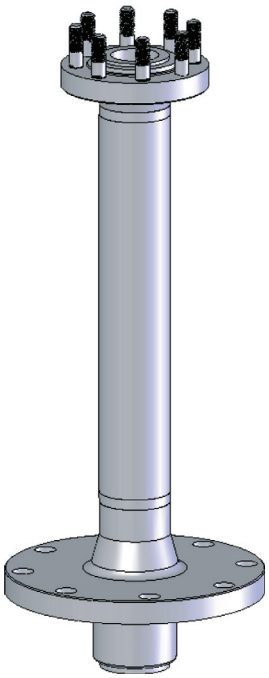
CAUTION !

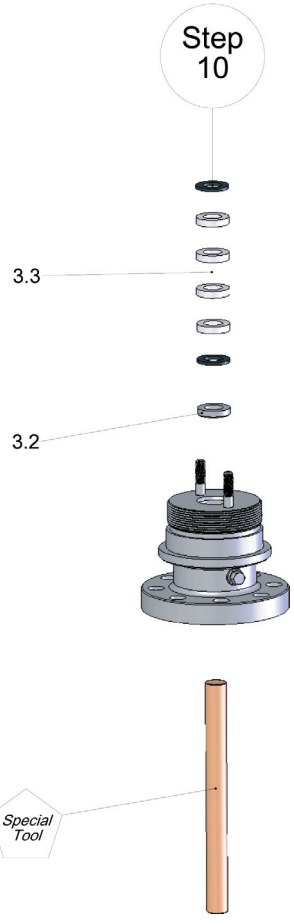
Clean parts and check insulation pipe for damage.

- Place insulation pipe (3.23) in the bonnet

CAUTION !

Note markings !





Disassembly

Step 10

- *Remove packing (3.3) and base ring (3.2 - 2x !) with Special Tool (Packing driver tool)*

CAUTION !

Do not damage packing area and guide !

Reassembly

Step 10

Reassembly takes place in reverse order.

CAUTION !

Clean parts, check packing area and guide for damage, grease stud screws !
(Damage to the packing packing area will lead to early leaks in the packing unit)

Lubrication as per Table 06 (Page 65)

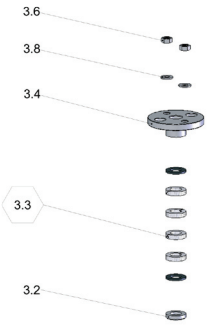
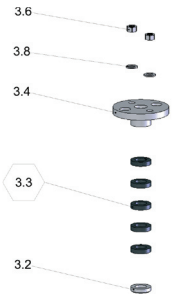
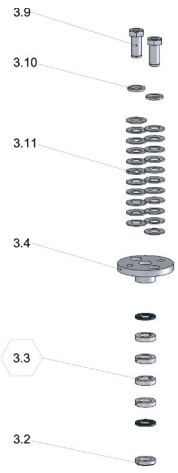
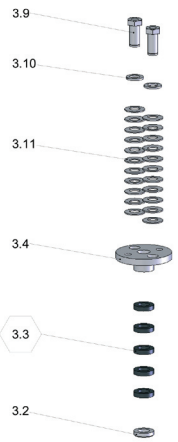
The packing unit is configurated as per the variant drawing (Page 61 - 63)

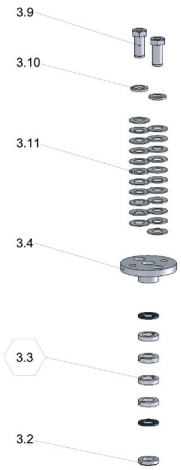
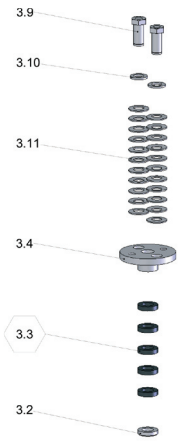
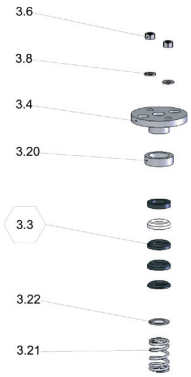
Use new packing (3.3) !

- Tighten hexagon nuts (3.6 / 3.9) by hand first

CAUTION !

The hexagon nuts (3.6 / 3.9) are tightened at the "Reassembly" step Step 01

Packing Type	Data Field 2	Reassembly
Teflon Packing 	V7xx xxxx**A**	3.2 Bottom ring 3.3 Packing 3.4 Gland flange 3.8 Washers 3.6 Hexagon nuts in sequence shown, follow INFORMATION on page 63 ! Tightening moments for gland nuts (3.6) as per Table 05 Page 65
Graphite Packing 	V7xx xxxx**B**	3.2 Bottom ring 3.3 Packing 3.4 Gland flange 3.8 Washers 3.6 Hexagon nuts in sequence shown, follow INFORMATION on page 63 ! Tightening moments for gland nuts (3.6) as per Table 05 Page 65
Teflon Packing spring loaded 	V7xx xxxx**N**	3.2 Bottom ring 3.3 Packing 3.4 Gland flange 3.11 Belleville spring 3.10 Washers 3.9 Hexagon nuts in sequence shown, follow INFORMATION on page 63 ! Tightening moments for gland nuts (3.6) as per INFORMATION Page 63
Graphite Packing spring loaded 	V7xx xxxx**O**	3.2 Bottom ring 3.3 Packing 3.4 Gland flange 3.11 Belleville spring 3.10 Washers 3.9 Hexagon nuts in sequence shown, follow INFORMATION on page 63 ! Tightening moments for gland nuts (3.6) as per INFORMATION Page 63

Packing Type	Data Field 2	Reassembly
Teflon Packing “TA-Luft” 	V7xx xxxx**Q**	3.2 Bottom ring 3.3 Packing 3.4 Gland flange 3.11 Belleville spring 3.10 Washers 3.9 Hexagon nuts in sequence shown, follow INFORMATION on page 63 ! Tightening moments for gland nuts (3.6) as per INFORMATION Page 63
Graphite Packing “TA-Luft” 	V7xx xxxx**V**	3.2 Bottom ring 3.3 Packing 3.4 Gland flange 3.11 Belleville spring 3.10 Washers 3.9 Hexagon nuts in sequence shown, follow INFORMATION on page 63 ! Tightening moments for gland nuts (3.6) as per INFORMATION Page 63
Teflon V-Ring Packing 	V7xx xxxx**S**	3.21 Compression spring 3.22 Disc 3.3 Packing 3.20 Space bush 3.4 Gland flange 3.8 Washers 3.6 Hexagon nuts insert in the sequence shown. Tighten gland nuts (3.6) to lock.

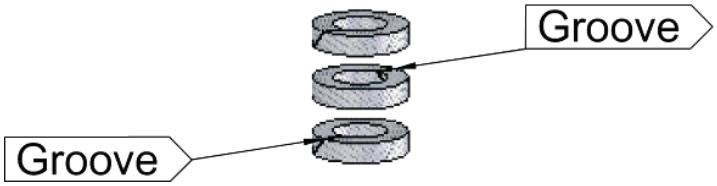
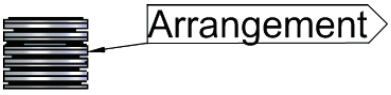
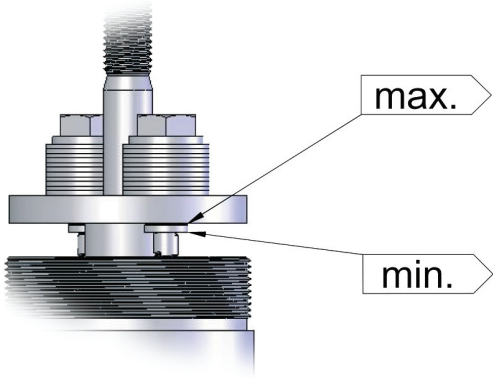
INFORMATION	Comment
	**"Packing"** Always fit packing / rings (3.3) at a 180 ° offset !
	**"Belleville Springs"** Layer belleville springs (3.11) as shown !
	**"Spring Loaded Packing"** Always tighten the gland nuts (3.9) as far as the mark (channel = max. ≈ 2.5 mm projecting length) tighten evenly in diagonally opposite sequence!

Table 01 - Tightening moments for nuts (1.4)

Moisten thread on the stud screws (1.3) sparingly with lubricant (Table 06).

Data Field 1	Tightening moment in Nm for Nuts (1.4) per nominal width DN													
	15	20	25	32	40	50	65	80	100	125	150	200	250	300
	1/2“	3/4“	1“	-	1 1/2“	2“	-	3“	4“	-	6“	8“	10“	12“
V726	12,5			26		19	51		78	110	140	125	225	350
V738	7,3			-	17	22	-	26	46	-	76	143	250	367
V740	9,2				21	27		43	76		146			

Table 02 - Tightening moments for screwed seats (2.1)

Moisten thread on the screwed seat (2.1) sparingly with lubricant (Table 06).

Data Field 1	Tightening moment in Nm for Screwed Seats (2.1) per nominal width DN													
	15	20	25	32	40	50	65	80	100	125	150	200	250	300
	1/2“	3/4“	1“	-	1 1/2“	2“	-	3“	4“	-	6“	8“	10“	12“
V726	40			100		162	457		841	1046	1653	2550	3900	6200
V738														
V740														

Table 03 - Tightening moments for plug nuts (2.34)

Moisten thread on the plug (2.2) sparingly with lubricant (Table 06).

Data Field 1	Tightening moment in Nm for “Plug” Nuts (2.34) per nominal width DN													
	15	20	25	32	40	50	65	80	100	125	150	200	250	300
	1/2“	3/4“	1“	-	1 1/2“	2“	-	3“	4“	-	6“	8“	10“	12“
V726	-		7,0	15			60			-	210	1400	-	

Table 04 - Tightening moments for head piece nuts (3.16)

Moisten thread on the stud screws (3.17) sparingly with lubricant (Table 06).

Data Field 1	Tightening moment in Nm for “Head Piece” Nuts (2.34) per nominal width DN													
	15	20	25	32	40	50	65	80	100	125	150	200	250	300
	1/2“	3/4“	1“	-	1 1/2“	2“	-	3“	4“	-	6“	8“	10“	12“
V726	13			22						44				
V738	13			-	14		-	30		-	24			
V740	10				12			25			46			

Table 05 - Tightening moments for packing nuts (3.6)

Moisten thread on the stud screws (3.5) sparingly with lubricant (Table 06).

Data Field 1	PN Class	Tightening moment in Nm for "Packing" Nuts (3.6) per nominal width DN												
		15	20	25	32	40	50	65	80	100	125	150	200	250	300
		1/2"	3/4"	1"	-	1 1/2"	2"	-	3"	4"	-	6"	8"	10"	12"
V726	PN 10	0,3						0,4			0,5				
	PN 16	0,4						0,6			0,8				
	PN 25	0,6						1,0			1,1				
	PN 40	1,0						1,5			1,8				
V738	Class 150	0,5						0,8			0,9				
V740	Class 300	1,3						2,0			2,3				

Table 06 - Lubricant

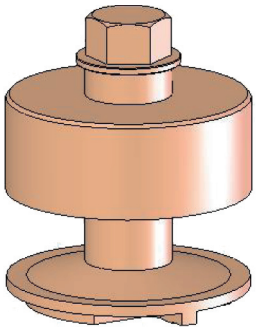
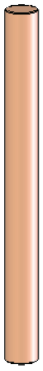
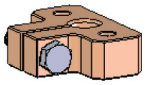
Use lubricant sparingly on the specified locations!

Use		Lubricant / Antiseize
Standard from -40 °C to +538 (+1000) °C	for threads of screws, screwed seat, stem	Klüberpaste HEL 46-450 „silicone free"
	for plug guide	
Low temperature from -41 °C to -200 °C	for threads of screwed seat, plug / stem	Alcohol
	for plug guide	
	for screw threads not touched by medium, Stem / Coupling	Klüberpaste HEL 46-450 „silicone free"
Oxygen from -40 °C to +160 °C	for threads of screws, screwed seat, stem for plug guide	Klüber Oxigenoex S4

CAUTION !

The lubricants specified in Table 06 apply for standard applications !
(= neutral liquids, vapours, gases and oxygen)

To prevent damage through the use of "incorrect" lubricants take the respective product sheets, application information and operator specifications into consideration!

Special Tools	Use
	**Ring - Nuts** Recommended tools for disassembling and reassembly tool ! Part no. see spare parts catalogue
	**Seat Change - Tools** Recommended tools for disassembling and reassembling the screwed seat ! Part no. see spare parts catalogue
	**Packing Driver - Tool** Recommended tools for disassembling the packing ! Part no. see spare parts catalogue
	**Stem Clamping Tools** Recommended tools for disassembling and reassembly of the plug nut (2.34)! Part no. see spare parts catalogue

If the problem is not solved by taking the measures listed, contact the customer service department or contractual partner.

Service-Hot-Line

+43 (0)664 341 8 616

Regional Headquaters

Flowserve
1350 N. Mt. Springs Prkwy.
Springville, UT 84663
USA

Telephone: +1 801 489 8611
Fax: +1 801 489 3719

Flowserve
Manderscheidstr. 19
45141 Essen
Germany

Telephone: +49 (0) 201 89195
Fax: +49 (0) 201 8919662

Flowserve
12 Tuas Avenue 20

Republic of Singapore 638824

Telephone: +65 862 2332
Fax: +65 862 4940

Main Sales Offices (Europe, Middle East, Africa)

Flowserve
12, Av. du Québec
91965 Courtaboeuf Cedex
France

Telephone: +33 (0) 1 60 923 251
Fax: +33 (0) 1 60 923 299

Flowserve
Van Leewenhoekweg
3225 LX Hellevoetsluis
Netherlands

Telephone: +31 (0) 181 330044
Fax: +31 (0) 181 330040

Flowserve
Station Road
Pershore, Worcestershire
England WR102BZ

Telephone: +44 (0) 1386 554551
Fax: +44 (0) 1386 554968

Flowserve
Burrell Road
Hayward Heath, West Sussex
England

Telephone: +44 (0) 1444 314400
Fax: +44 (0) 1444 314401

Flowserve
Via Prealpi 30
20032 Cormano
Italy

Telephone: +39 02 663251
Fax: +39 02 6151863

Flowserve
Allee du Quartz 1
2300 La-Chaux-de Fonds
Switzerland

Telephone: +41 (0) 32 925 9700
Fax: +41 (0) 32 926 5422

Flowserve
Kassernengasse 6
9500 Villach
Austria

Telephone: +43 (0) 4242 41181-0
Fax: +43 (0) 4242 4118150

Flowserve
Units 1 and 2
26, Imvuba Road, Sebenza Ext 6
Edenvale,Gauteng
Edenglen 1613
South Africa

Telephone: +27 11 609 2094
Fax: +2711 609 3735

Flowserve
c/o Saleh & Abdulaziz Abahsain
P.O. Box 209
Al Khobar 31952
Saudi Arabia

Telephone: 9663 857 3442
Fax: 9663 859 5284

Schmidt Armaturen

Branch of
Flowserve (Austria) GmbH

Kassernengasse 6
A-9500 Villach

Telephone: +43 (0) 4242 41181-0
Fax: +43 (0) 4242 41181-50 or 51
e-mail: schmidt@flowserve.com
www.flowserve.com