

Stafsjö
SINCE 1666

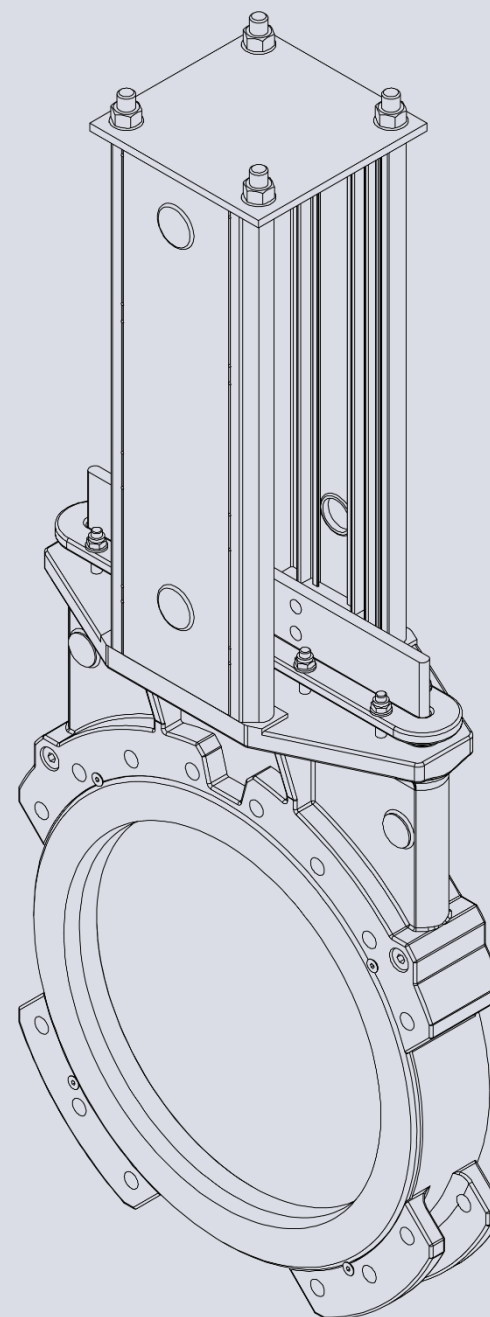
Maintenance instruction

Knife gate valve MV

DN 50 - DN 350 (2" - 14")

DN 400 - DN 800 (16" - 32")

DN 800 - DN 1600 (32" - 64")



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1. Introduction




This maintenance instruction is a step-by-step instruction for maintenance of

A. MV knife gate valve DN 50 - DN 350 (2" - 14")

B. MV knife gate valve DN 400 - DN 800 (16" - 32")

C. MV knife gate valve DN 800 - DN 1600 (32" - 64")

In this instruction notes and warnings are marked with symbols:

 XXXXX	Danger / Warning Points out a dangerous situation which may cause personal injuries or death.
	Advice Has to be respected.
	Information Information useful to follow.



If these notes and warnings are not respected by the user, dangerous situations may occur and may invalidate the warranty.

2. Spare parts

Each Stafsjö knife gate valve is identified with a label containing the valve item number and its serial number. When corresponding with Stafsjö or our local sales partner, please have this available to make sure you order and receive correct spare parts.


Stafsjö recommends the customer to keep one set of "basic" spare part kit for each valve type and size on stock. Spare parts can be ordered from Stafsjö or our local sales partners.

3. Disassembling of valve parts

	<ul style="list-style-type: none">• Steps and procedures described in this section are based on a valve which is not installed in a pipe system.• Follow procedure described in installation and service instruction for the knife gate valve and its actuator.• Maintenance shall be performed by qualified personnel. Qualified are those people who, due to experience, can judge the risk and execute the work correctly and who are able to detect and to eliminate possible risks.• Always consider the application of the valve and carefully prepare relevant personal safety equipment before starting any maintenance.
	<ul style="list-style-type: none">• Always have the knife gate valve's article and serial number available to ensure you order correct spare parts to your valve.

To simplify the disassembling of the knife gate valve, place the valve on a horizontal work bench.

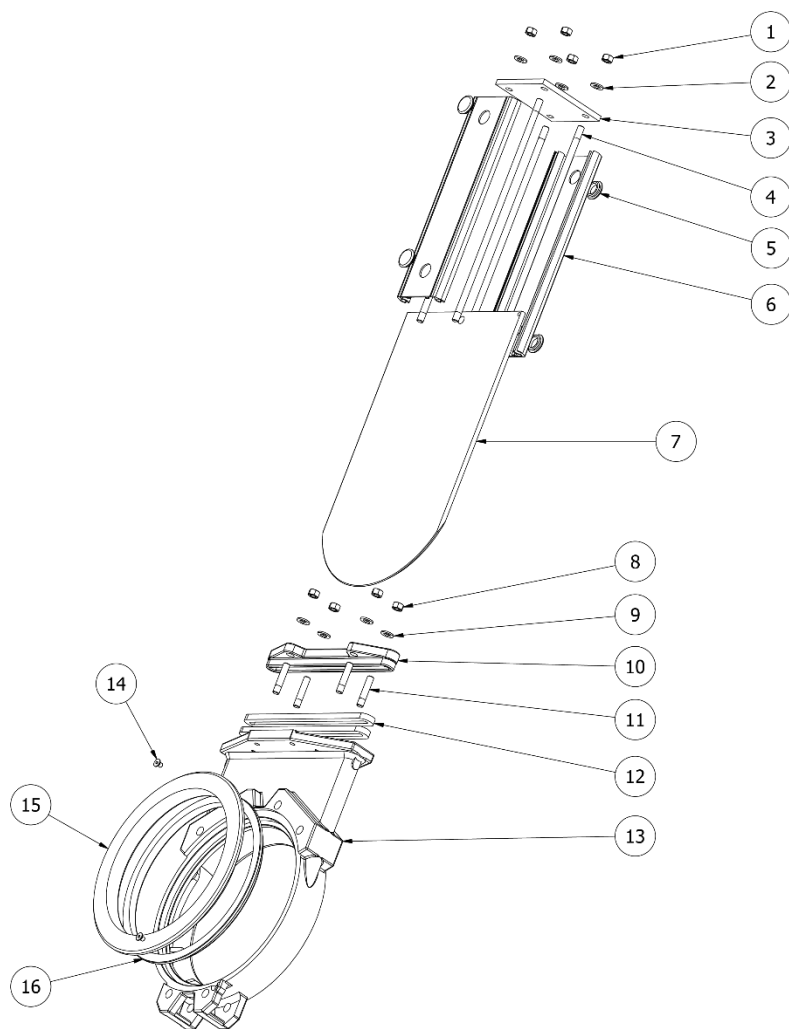
1. Disconnect the air/hydraulic/power supply. Follow procedure described in installation and service instruction for the knife gate valve and its actuator.
2. Disconnect the actuator and topworks.
3. Disconnect the gland.
4. Unscrew valve body bolting and remove one valve body side from the other.
5. Remove stuffing box braids and its scrapers (if any).
6. Remove the gate.
7. Inspect the gate for any damages. Dents and scratches will affect its ability to seal tight.
8. Remove retainer rings and the seat.
9. Remove the body gasket and guiding pads (if any).
10. Clean the inside of knife gate valve carefully, especially all sealing surfaces.

	<ul style="list-style-type: none">• Recycle worn out parts to extent possible.
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A. MV knife gate valve DN 50 - DN 350 (2" - 14")

Pos	Part	Spares		
1	Nut			
2	Washer			
3	Yoke (temporary)			
4	Tie rod			
5	Plug			
6	Beam ¹⁾			
7	Gate			
8	Nut			
9	Washer			
10	Gland			
11	Stud bolt			
12	Box packing braids			
13	Valve body			
14	Retainer ring screw			
15	Retainer ring			
16	Seat			

1) Gate guards are also recommended on remote operated valves.



Spare part kits

● Complete

● Essential

● Basic

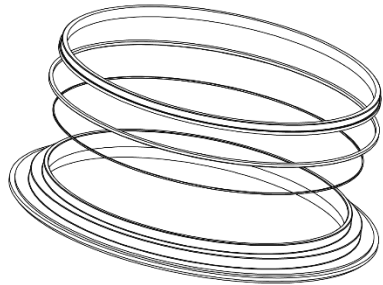
Each valve is marked with a label including the valve's article and serial number. With this info we can ensure you receive correct spare parts to your valve.

Request offer on spare parts at stafsjo.com/support/original-spare-parts/



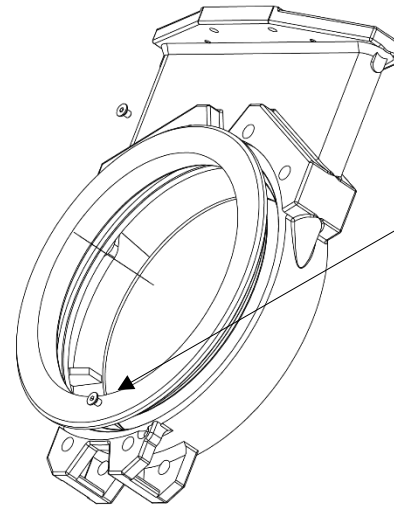
- Always consider the application of the valve and carefully prepare relevant personal safety equipment before starting any valve assembly.
- Valve assembly shall be performed by qualified personal. Qualified are those persons who, due to experience, can judge the risk and execute the work correctly and who are able to detect and to eliminate possible risks.

A1



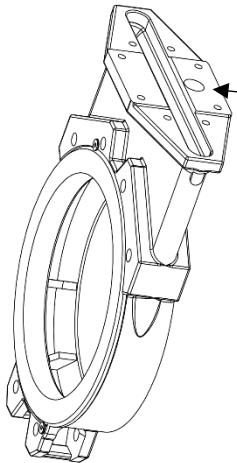
- Assemble the seat onto the retainer ring. See “**Re-packing instruction**”.

A2



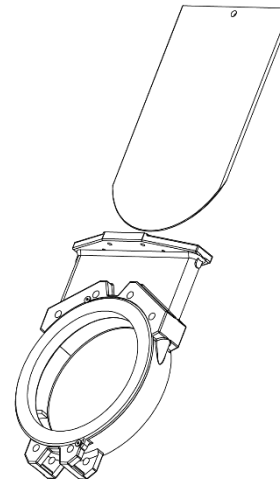
- Push the retainer ring kit into the valve body bore.
- Tighten the retainer ring screw. Top of the retainer ring screw must not be higher than the retainer ring surface.

A3



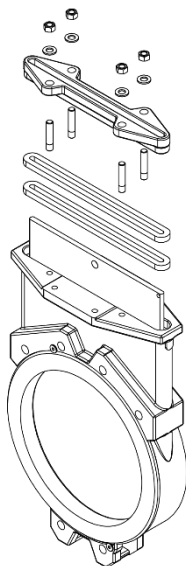
- Knock in the stem bushing into the hole. It is only needed if valve is manually operated with standard handwheel.

A4



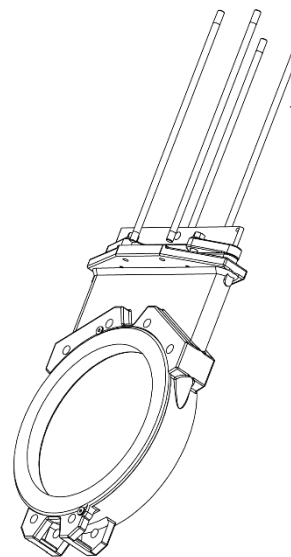
- Insert the gate into the valve body.
- Gate bevel should face/match valve body cams in the bore.

A5



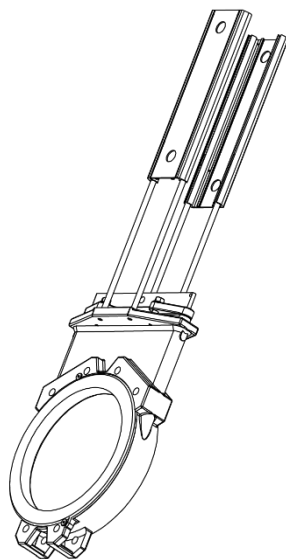
- Assemble box packing and the gland. See **"Re-packing instruction"**.

A6

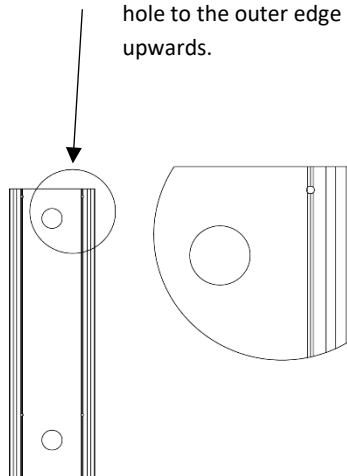


- Install the tie rods manually before using machine support.
- For DN 50 - DN 150 (2" - 6"): Long thread tie rod side should be threaded into the valve body. Short thread side should be on actuator side.
- For DN 200 - DN 350 (8" - 14"): Short thread tie rod side should be threaded into the valve body. Long thread side should be on actuator side.
- Use thread paste on all threads.

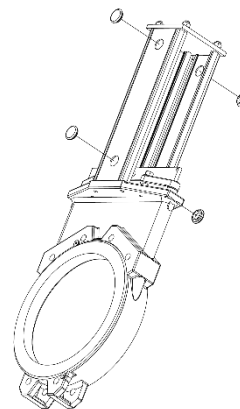
A7



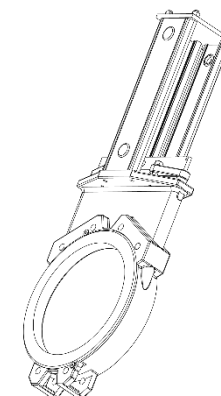
- Install the beams onto the tie rods.
- Shortest distance of the 3.7 mm hole to the outer edge is always upwards.



A8



- Install black plugs in the beams.
- Assemble temporary wooden plate if the valve should be left in storeroom.



- You are now ready to continue with assembly of actuator you intend to use on the valve, automation equipment and relevant gate guards (if any). Observe and respect relevant instructions.

B. MV knife gate valve DN 400 - DN 800 (16" - 32")

Pos	Part	Spares		
1	Nut			
2	Washer			
3	Yoke (temporary)			
4	Tie rod			
5	Plug			
6	Beam ¹⁾			
7	Gate			
8	Nut			
9	Washer			
10	Gland			
11	Stud bolt			
12	Box packing braids			
13	Box bottom scraper (if any)			
14	Guiding pad (if any)			
15	Valve body			
16	Seat			
17	Seat o-ring (if any)			
18	Seat o-ring (if any)			
19	Retainer ring screw			
20	Retainer ring			
21	Plug			
22	Packing			
23	Guiding pad, side (if any)			

1) Gate guards are also recommended on remote operated valves.

Spare part kits

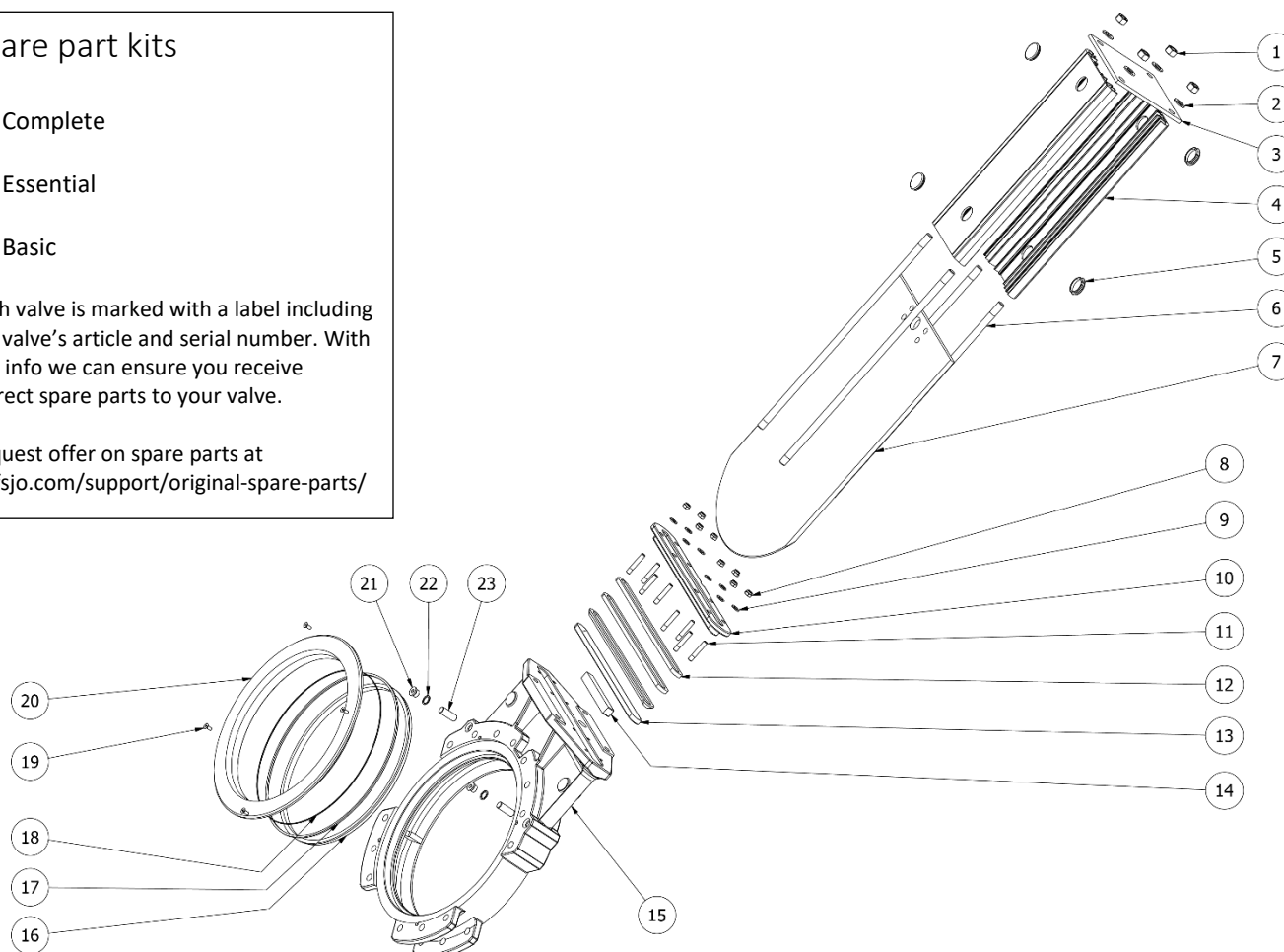
● Complete

● Essential

● Basic

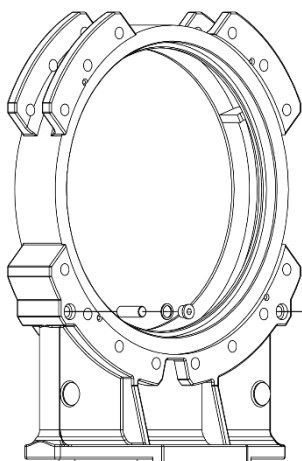
Each valve is marked with a label including the valve's article and serial number. With this info we can ensure you receive correct spare parts to your valve.

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- Always consider the application of the valve and carefully prepare relevant personal safety equipment before starting any valve assembly.
- Valve assembly shall be performed by qualified personal. Qualified are those persons who, due to experience, can judge the risk and execute the work correctly and who are able to detect and to eliminate possible risks.

B1

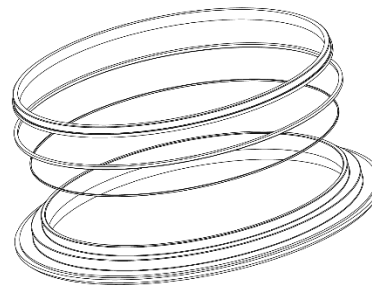


- Insert the guiding pad (side) into the hole.
- Install the plug with its packing. Tighten with 5 Nm.



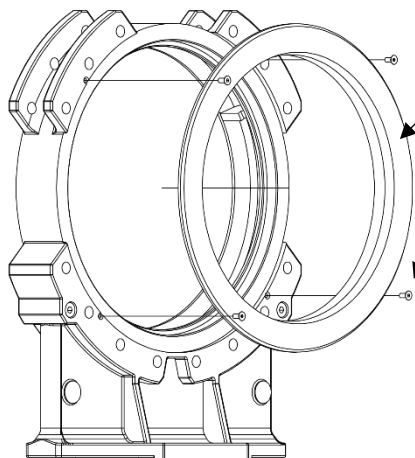
DN 400 - DN 450 (16"-18") are available in two versions: one with guiding pads and one without.

B2



- Assemble the seat onto the retainer ring. See "Re-packing instruction".

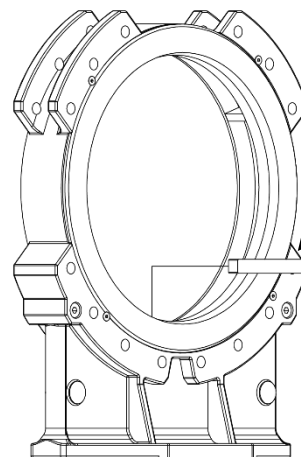
B3



- Push the retainer ring kit into the valve body bore.
- Tighten the retainer ring screw. Top of the retainer ring screw must not be higher than the retainer ring surface.

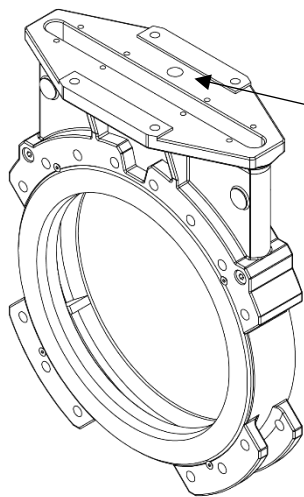
B4

Only applicable on MV DN 500 - DN 800 (20" - 32")



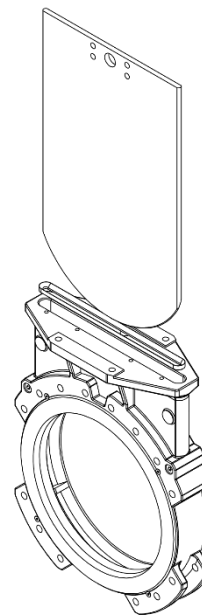
- Insert the guiding pad with the unground side facing the gate.

B5



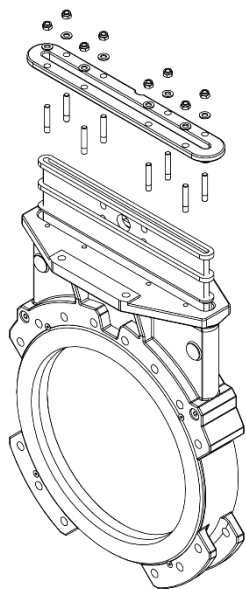
- Knock in the stem bushing into the hole. It is only needed if valve is manually operated with standard handwheel.

B6



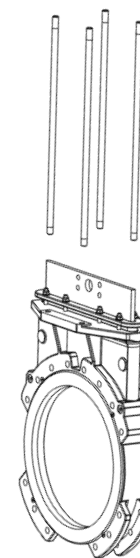
- Install the scraper first (if any).
- Insert the gate into the valve body. Gate bevel should face/match valve body cams in the bore.

B7



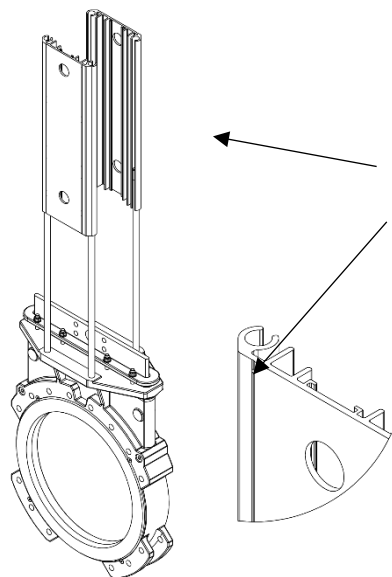
- Assemble box packing and the gland. See "Re-packing instruction".

B8



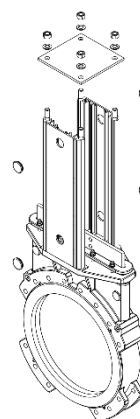
- Install the tie rods manually before using machine support.
- Short thread tie rod side should be threaded into the valve body. Long thread side should be on actuator side.
- Use thread paste on all threads.

B9

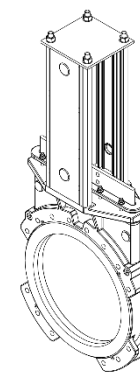


- Install the beams onto the tie rods.
- Shortest distance of the 3.7 mm hole to the outer edge is always upwards.

B10



- Install black plugs in the beams.
- Assemble temporary wooden plate if the valve should be left in storeroom.



- You are now ready to continue with assembly of actuator you intend to use on the valve, automation equipment and relevant gate guards (if any). Observe and respect relevant instructions.

C. MV knife gate valve DN 800 - DN 1600 (32" - 64")

Pos	Part	Spares		
1	Retainer ring screw	■		
2	Retainer ring	■		
3	Seat o-ring (if any)	■	■	
4	Seat o-ring (if any)	■	■	
5	Seat	■	■	
6	Valve body (seat side)			
7	Body gasket	■	■	
8	Valve body (inlet side)			
9	Washer			
10	Screw			
11	Plug			
12	Plug packing			
13	Locking nut			
14	Washer			
15	Guiding pad	■	■	
16	Gate	■	■	
17	Boxpacking braids	■	■	
18	Plug	■		
19	Beam	■		
20	Tie rod			
21	Yoke (temporary)			
22	Washer			
23	Nut			
24	Locking nut	■	■	
25	Washer	■	■	
26	Stud bolt	■	■	
27	Gland			
28	Stem bushing (if any)			

Spare part kits

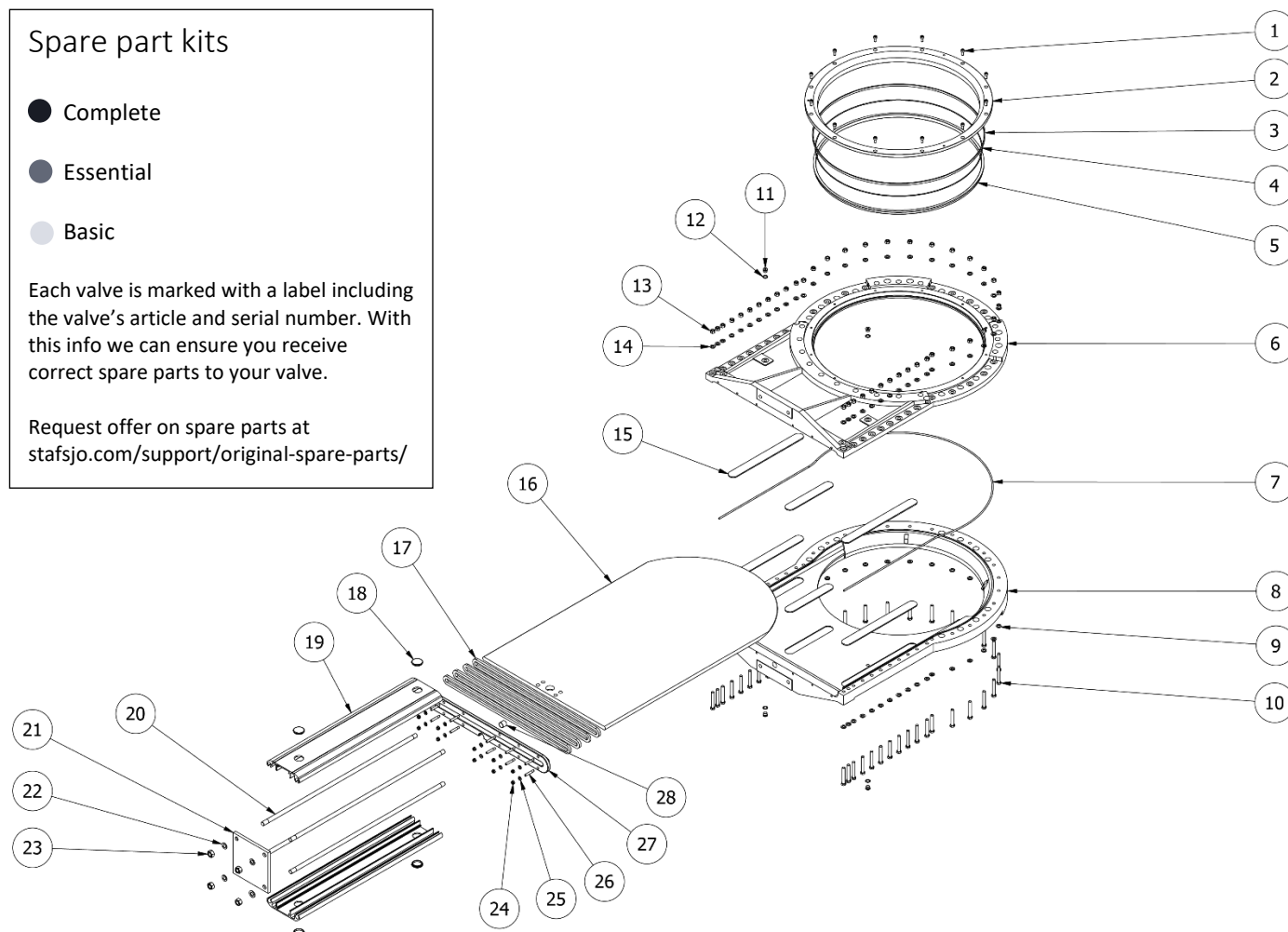
● Complete

● Essential

● Basic

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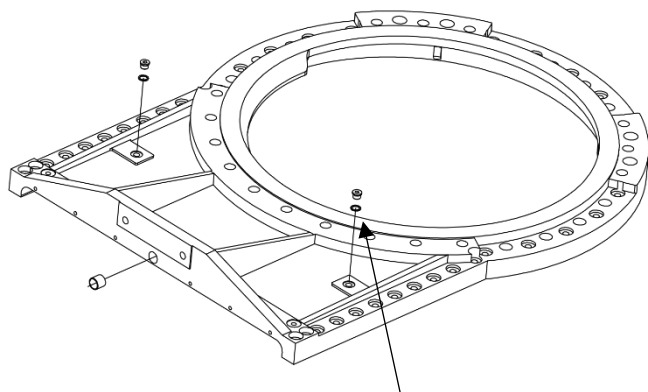
1) Gate guards are also recommended on remote operated valves.



- Always consider the application of the valve and carefully prepare relevant personal safety equipment before starting any valve assembly.
- Valve assembly shall be performed by qualified personal. Qualified are those persons who, due to experience, can judge the risk and execute the work correctly and who are able to detect and to eliminate possible risks.

C1

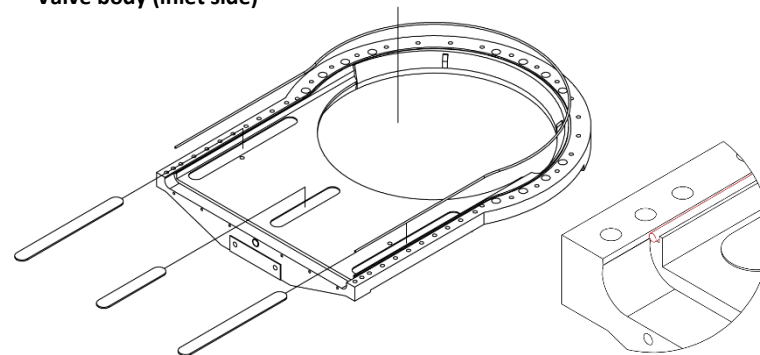
Valve body (inlet side)



- Install the plug with its packing. Tighten with 5 Nm

C2

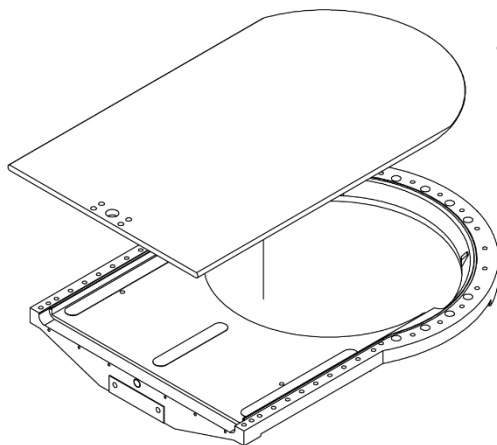
Valve body (inlet side)



- Install guiding pads in the slots. Quantity and type differ from size to size. They are either knocked, pushed into a slot or screwed in place.
- Install the **body gasket (o-ring)** with 3 mm protrusion in the gland box. Glue spotwise if needed.

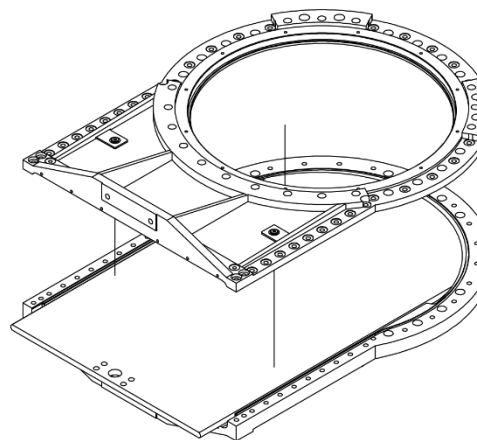
C3

Valve body (inlet side)



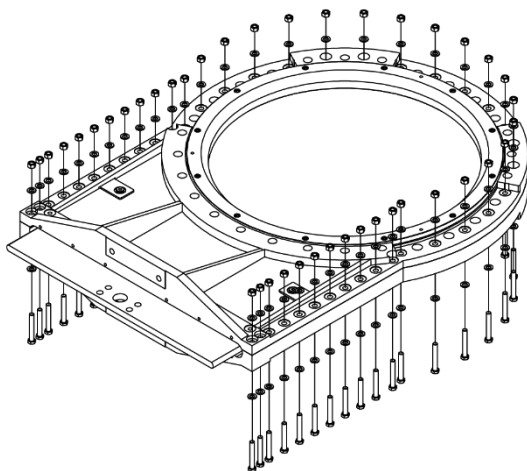
- Put the gate into the valve body. Gate bevel should face/match valve body cams in the bore.

C4



- Put the other valve body side (retainer ring side) in place. Align holes.

C4



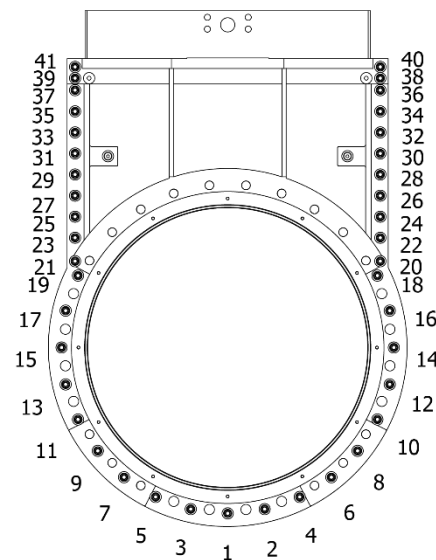
- Apply thread paste.
- Nut should be on the top side.
- There may be several different bolt lengths.
- Assemble body bolts manually by hand before using the machine.

C5

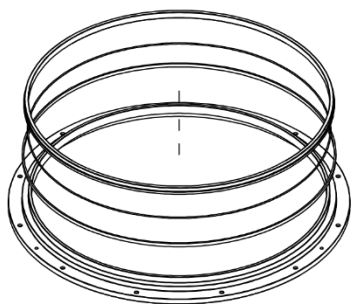
Torque (Nm) for valve body bolting

Valve size	Bolt	Nm A2-70	Nm A4-80
DN 800 - DN 1000	M16	140	187
DN 1200 - DN 1600	M20	273	364

Tighten the bolts crosswise, **minimum twice**.

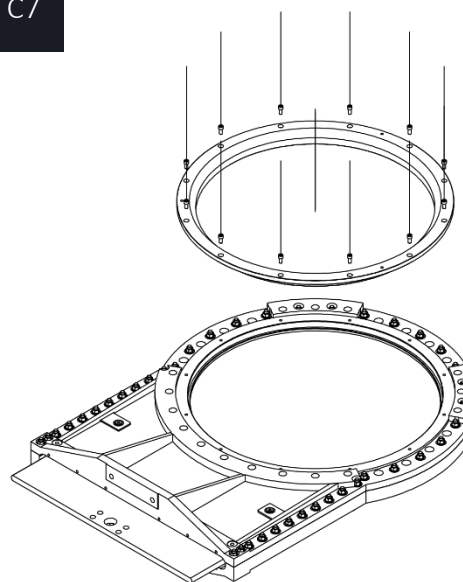


C6



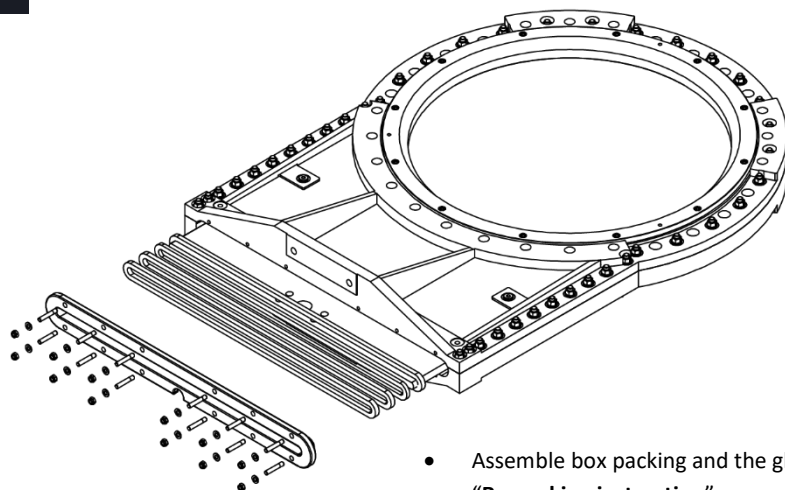
- Assemble the seat onto the retainer ring. See **“Re-packing instruction”**.

C7



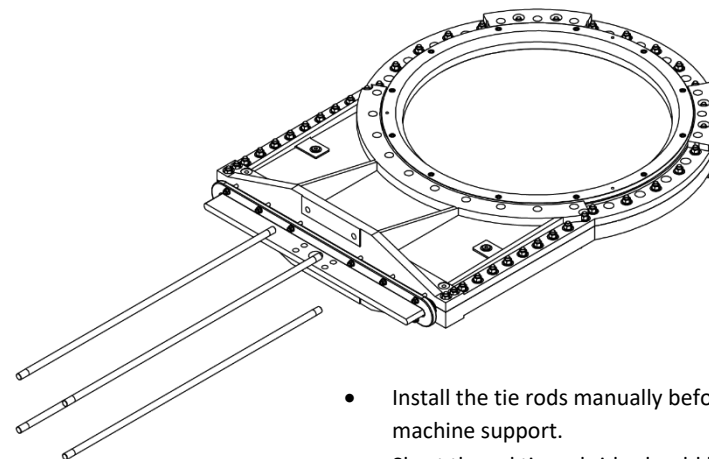
- Push the retainer ring kit into the valve body bore.
- Apply thread paste on the retainer ring screws.
- Tighten the retainer ring screw. Top of the retainer ring screw must not be higher than the retainer ring surface.

C8



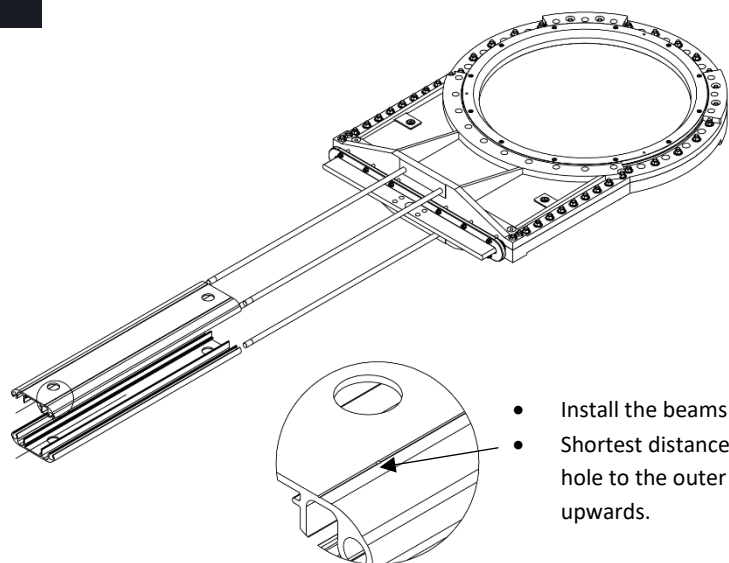
- Assemble box packing and the gland. See “Re-packing instruction”.

C9



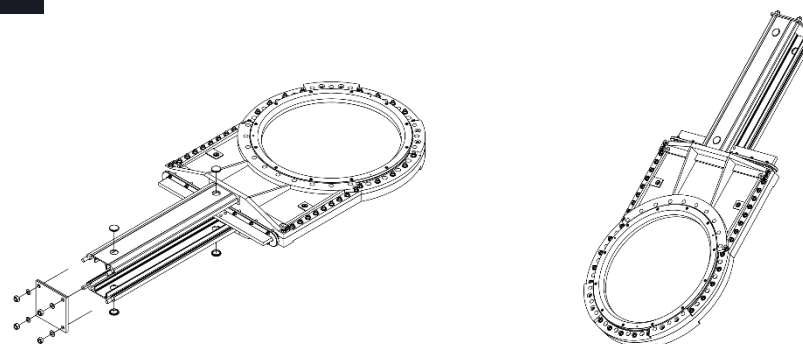
- Install the tie rods manually before using machine support.
- Short thread tie rod side should be threaded into the valve body. Long thread side should be on actuator side.
- Use thread paste on all threads.

C10



- Install the beams onto the tie rods.
- Shortest distance of the 3.7 mm hole to the outer edge is always upwards.

C11



- Install black plugs in the beams.
- Assemble temporary wooden plate if the valve should be left in storeroom.
- You are now ready to continue with assembly of actuator you intend to use on the valve, automation equipment and relevant gate guards (if any). Observe and respect relevant instructions.