BALL-SECTOR VALVE

465, 46501 SERIES

INSTRUCTIONS FOR INSTALLATION, USE AND MAINTENANCE

1. Before installation.

Read these instructions carefully before starting the valve installation and start-up work.

During the receiving inspection, check that the valve and its accessories are free from any transportation-induced damage.
During storage, the valve must be protected from dirt, rain, prolonged sunshine or sub-zero temperatures. The protecting cap should be removed from the valve ends just before installation

2. Installation.

In outdoor installation, take care to drain the valve, as there is danger of freezing; especially the space between the ball and valve body.

The valve should not be fitted at the lowest point of the pipework or in over low-level locations.

The pipework should be carefully cleaned before the valve is fitted. Remove any foreign matter that may have got into the valve during transportation or storing.

Test the proper operation by opening and shutting the valve.

During installation, the ball sector must be close.

When installing the valve in the pipeline, the arrow on the body denotes the correct direction of flow.

After completion of flange welding, make sure that valve will not be under excess load, that flanges are parallel and coaxial to each other.

After installation, flush out the pipework through.

3. Valve operation.

The ball sector valve is specially design for the controlling pulp and liquid flows.

4. Maintenance.

In normal conditions, these valves do not require maintenance.

Never remove the gland and sub-shaft cover while the valve is pressurised.

The valve must be removed from pipe system and disassembled when performing the following maintenance operations:

- Inner cleaning of the valve.
- Ball seat cleaning/lapping.
- Bearing replacement.
- Body joint replacement.

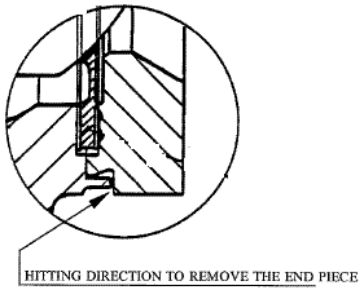
Disassembly

Always empty the valve before disassembling for maintenance operations or before returning it to the manufacturer for service.

Remove the hand lever or actuator and mounting bracket.

When detaching and installing the actuator, take care not to hit or load the stem, as this will result in damage to the ball sector.

- Mark the position of the actuator to the valve.
- Remove the end piece 2, secured by spot locking from the body 1.
- *For version with lock by kernel:* use suitable chisel, and hit on several spots to loose the end piece (see picture). After removing of end piece, correct hitting points in body so that the valve can be assembled again.
- *For version with lock screw:* unbolt 2 screws and remove the end piece.
- KC: remove shims 15, 16, 17 and seat 24 (actually 2 shims only in use).
- TC: remove shim 26, support ring 25 and seat 24.
- Remove hexagonal socket screws 23, sub-shaft cover 8 and sub-shaft cover packing 18.
- Remove cup spring 14 thrust bearing plate 10, lower thrust bearing 13.
- Remove nuts 22, gland 6, O-ring 20 and spacer ring 7.
- Pull out stem 4, and push sub-shaft 5 out through inside of the valve by supporting the ball at the same time.
- Remove V-ball 3.
- Remove (from upper shaft 4) gland packing 19, thrust bearing ring 9, upper thrust bearing 12 and shaft bearing 11.


HITTING DIRECTION TO REMOVE THE END PIECE

Assembling

In assembly, follow the disassembly instructions in reverse order. Note the marking groove when joining the upper shaft to the ball. Make sure all sliding and sealing surfaces are clean before assembling the valve.

The Pampus material journal bearing is mounted so that the stainless steel reinforcing net is on the outer surface.

The installation of the upper shaft bearing can be simplified by using special bushing (see picture) or by attaching the bearing on the stem with a piece of tape, which is removed after the stem and bearing have been partly pushed in place.

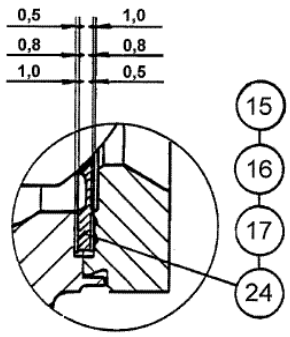
After assembling the shafts and linked parts, tighten nuts 22 evenly (gland 6) so that packing is tight. Tighten hexagonal socket screws 23 (sub-shaft cover 8) evenly. After the tightening, operate the valve several times ensuring smooth operation.

Set the ball to shut – position.

465KC / 46501KC:

The fit of contact of seat to the ball can be adjusted by the shims (15) and (16) on the side of the body. Try first 1.0 mm thickness, and if contact to the ball is not complete, use 0.8 or 0.5 mm thickness. On the side of body flange, use the remaining shim 15.

Possible shim combinations in 465/46501KC



Total thickness of body joints must be 1.5mm.

Place end piece 2. Press body and end piece together, and lock by kernel at 4 points.

Actuator assembly

Check the limit switches. Refer to the actuator installation manual. Execute pressure test if necessary.

When installing the valve to the pipeline, the ball sector must be closed.

5. Spare part kits

465 / 46501KC:

Shims .....(0.5, 0.8, 1.0mm) . (15, 16, 17)
Sub-shaft cover packing ..... (18)
Graphite packing..... (19)
Shaft bearing ..... (11)
Stellite seat..... (24)
Thrust bearings..... (12, 13)
O-ring ..... (20)
Order number **465KX__**
Order number **46501KX__**

465TC:

Shim ..... (26)
Sub-shaft cover packing ..... (18)
Graphite packing ..... (19)
Shaft bearing ..... (11)
PTFE seat ..... (24)
Support ring..... (25)
Thrust bearing ..... (12, 13)
O-ring ..... (20)
Order number **465TX__**

6. Warranty.

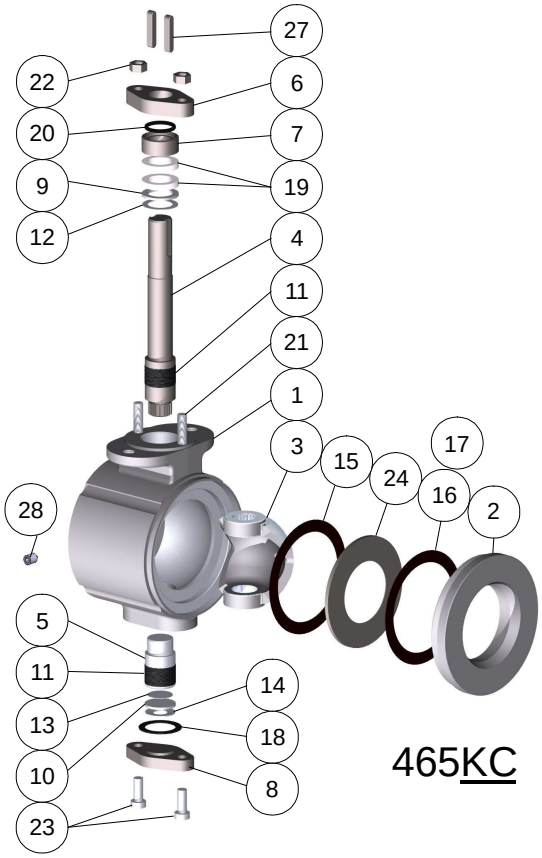
The warranty period is stated in the contract.

HÖGFORS OY takes no responsibility for any damage caused by the valve's incorrect transportation, handling, installation or use.

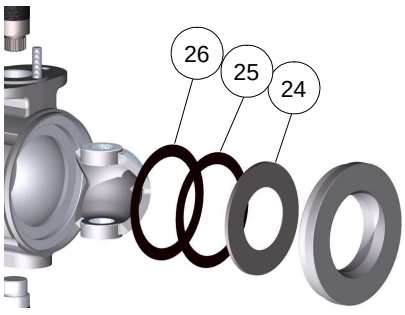
The non-leakage warranty exclusively applies to the valves that are provided with a hand gear or an actuator installed at the manufacturer's factory, provided that the hand gear or actuator in question has not been removed or adjusted by the user.

7. Parts list and standard materials

	Part	Material
1	Body	Stainless steel ASTM A351 CF8M
2	End piece	Stainless steel ASTM A351 CF8M
3	V-ball	Stainless steel ASTM A351 CF8M
4	Stem	Stainless steel 1.4404
5	Subshaft	Stainless steel 1.4404
6	Gland	Stainless steel 1.4404
7	Spacer ring	Stainless steel 1.4404
8	Subshaft cover	Stainless steel 1.4404
9	Thrust bearing ring	Stainless steel 1.4404
10	Thrust bearing plate	Stainless steel 1.4404
11	Shaft bearing	PTFE on stainless steel net
12	Upper thrust bearing	PTFE on stainless steel net
13	Lower thrust bearing	PTFE on stainless steel net
14	Cup spring	Stainless steel 1.4404
15, 16,	Shim	Carbon Fibre SFS5811/ Graphite
18	Subshaft cover	Carbon Fibre SFS5811/ Graphite
19	Packing	Graphite
20	O-ring	EPDM
21, 22	Bolt or stud and nut	Stainless steel ISO 3506 A4-80
23	Hexagonal socket	Stainless steel ISO 3506 A4-80
24	T-seat	PTFE
24	K-seat	Stellite
25	Support ring	Stainless steel 1.4404
26	Shim	Carbon Fibre SFS5811/ Graphite
27	Key	Carbon steel
28	Screw	Stainless steel A4 DIN914



465KC



465TC