CLORIUS CONTROLS 3-WAY CONTROL VALVES

CAST STEEL, DN 80 – 150 mm

Instructions for

- Installation
- Commissioning
- Operation and maintenance
- Transport and storage
- Spare parts

General safety instructions

The valves must be installed and serviced by fully trained and qualified personnel only, observing the accepted industry codes and practices. Make sure employees or third persons are not exposed to any danger.

Design

The valve components - seats and cone- are made of alu-bronze, the spindle is made of stainless steel.

The valve body is made of cast steel GP240GH (GS-C25) with flanges drilled according to EN 1092-2 or ANSI B16.5 Class 150. The connection thread for the actuator is G1B ISO 228.

The leakage rate is less than 0.5% of the full flow (according to VDI/VDE 2174).

Technical Data

- Valve body material: Cast steel GP240GH (GS-C25)
- Seat and cone material: Alu-bronze CuAl10Fe5Ni5
- Spindle material: stainless steel (W.no. 1.4436)
- Nominal pressure: PN 16
- Seating: Two balanced single seats
- Valve characteristic: Linear
- Temperature range: Max. 120ºC (160ºC option)
- Flanges drilled according to: EN 1092-2 PN 16 or ANSI B16.5 Class 150
- Counter flanges: DIN 2633
- Colour: Green

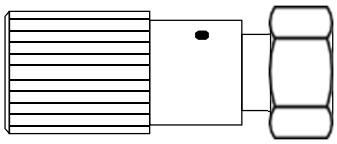
Installation

It is recommended to use a strainer in front of the control valve if the liquid contains suspended particles.

The valves can be installed vertical as well as horizontal.

Commissioning

Manual adjusting device

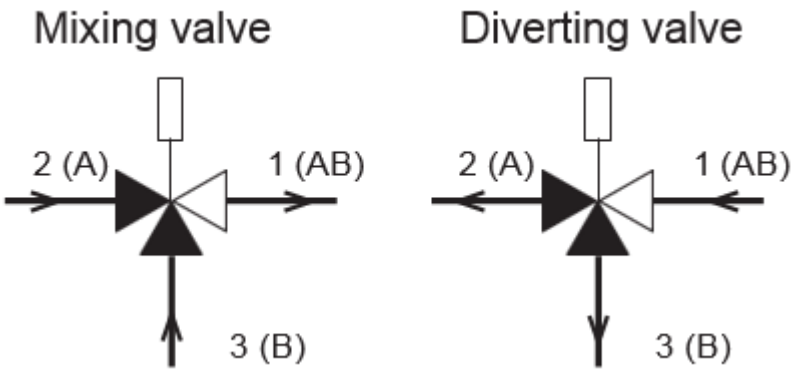


The device has a built-in stuffing box. For tightening and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction (max. 170ºC).

Port markings

The ports of valves type Soft Seated are marked with the letters AB, A and B.
The letters in parentheses refer to the corresponding internationally adapted designations.

- Port AB (1) common port always open
- Port A (2) closes at load on spindle
- Port B (3) opens at load on spindle



Operation

Without an actuator being installed, connection 2-1 is fully open and connection 3-1 completely closed, by means of a spring.
By increasing pressure on the spindle, the opening of the ports changes proportionally to the travel of the spindle, and when the spindle is pressed to the bottom, connection 3-1 is fully open and connection 2-1 completely closed.

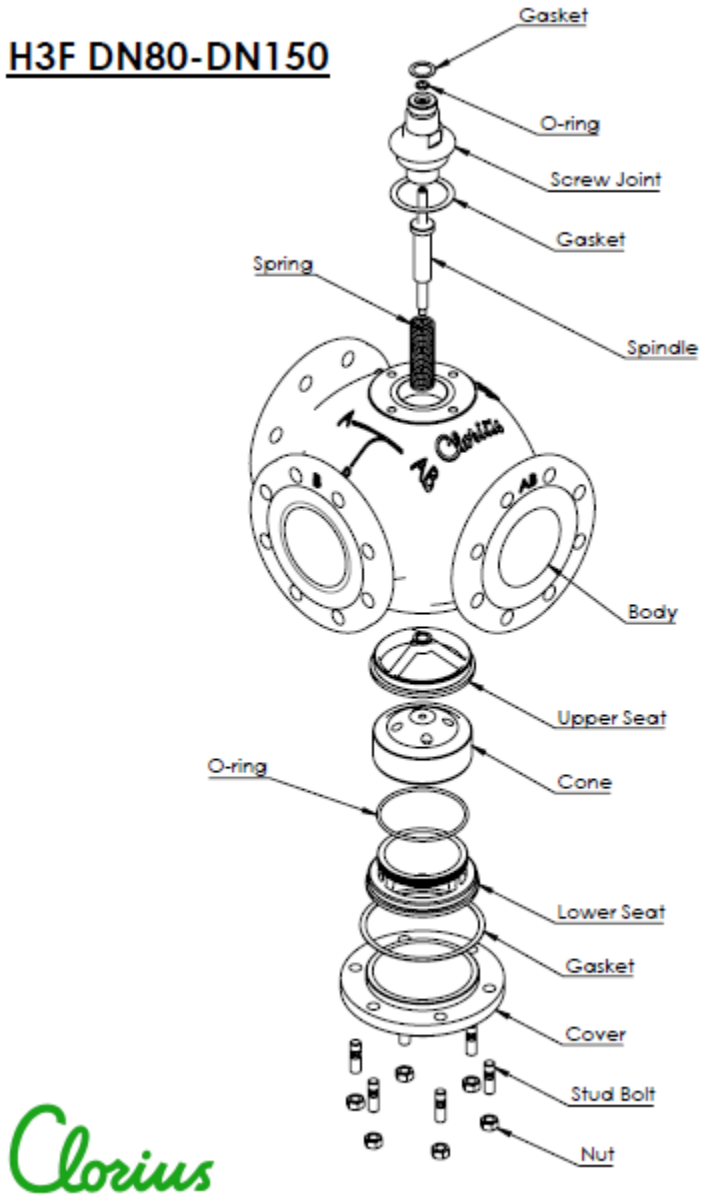
Maintenance schedule – age management

The seals have a durability of approximately 8 years at continuous use. However, it is recommended that the soft seals are inspected and changed every 4 years if possible.

Maintenance: disassembly actuator from the valve:

a. Follow the separate instructions manual according to the actuator type which is installed on the valve.

Maintenance of H3F valves DN80-150 – Fig. 2



a. Remove positioner and actuator following the separate actuator instructions – Note: When the actuator is removed the valve will no longer be tight.
b. Remove bottom cover. Replace gasket -See Appendix of spare part list for correct item number
c. It is not necessary to remove stud bolts – Note: Loctite has been added to bolts for protection against vibrations.

d. For DN80-DN100 which have no bolts the seat is screwed tight and Loctite has been added to the threading. For DN125 and 150 the bolts must be removed first in order to remove the seat.
e. Remove lower seat. Replace O-ring -See Appendix of spare part list for correct item number.
f. Remove screw joint. Note: Loctite has been added to protect against vibrations.
g. Replace gasket. Replace O-ring -See Appendix of spare part list for correct item number
h. Unscrew spindle. Note: Loctite has been added to protect against vibrations.
i. Remove cone through the bottom opening.
j. Replace cone with new cone if necessary -See Appendix of spare part list for correct item number.
k. Replace spindle with new spindle. Connect the cone and spindle. Add Loctite.
l. Mount lower seat and fasten bolts. Add Loctite.
m. Mount gasket , cover. Add Loctite to nuts and fasten them.
n. Mount screw-joint. Add Loctite.
o. Follow separate instructions for the actuator how to calibrate and install the actuator. If the actuator will not be it is possible to install a manual adjusting device in order to secure no external leakage from the valve.

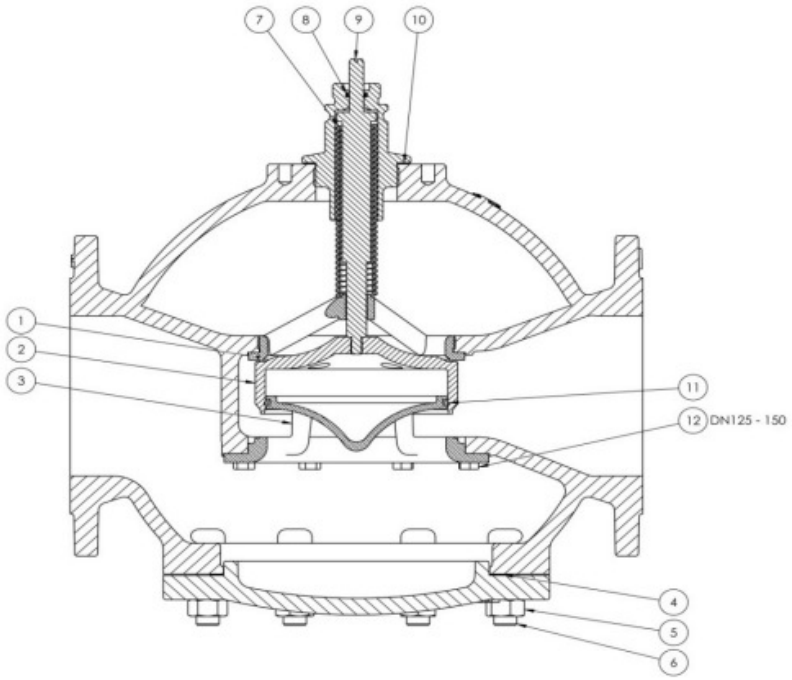
Important! Use Loctite for all screw connections that were disassembled.

Transport and storage

The valve must be transported and stored dry and clean. In humid rooms, a drying material or heating must be used to avoid condensation.
During transport and intermediate storage the valve should not be exposed to temperatures lower than -10°C.
The valves are painted (top coated) on the outside. This coating must remain without damage, otherwise the faulty spots must be repaired immediately.
The standard packaging protects valves and equipment against rain and snow during trucking.
For critical transports, such as sea freight, equipment will be protected by VCI (Volatile Corrosion Inhibitor) material.
If protected by VCI do not remove the packaging until the equipment is going to be installed.

APPENDIX – Spare part manual

This spare part sheet contains spare part numbers for the following M/H/G3F valve sizes: 80, 100, 125 and 150 mm. **18.22.31-F**



Packingssæt komponenter pos.: Packing set components pos.: Dichtungs Satz Komponente pos.: 4, 5, 6, 8, 10, 11.	Valve	No.
	80 M/H/G3F	2991620
	100M/H/G3F	2991623
	125 M/H/G3F	2992627
	150 M/H/G3F	2991632

Reparationssæt komponenter pos.: 1 til 12 Trim set components pos.: 1 to 12 Reparatur Satz Komponente pos.: 1 bis 12	Valve	No.
	80 M/H/G3F	2991640
	100M/H/G3F	2991643
	125 M/H/G3F	2991645
	150 M/H/G3F	2991653