



Fittings & Valves

VCT863/VTH863 Series Ball Valve

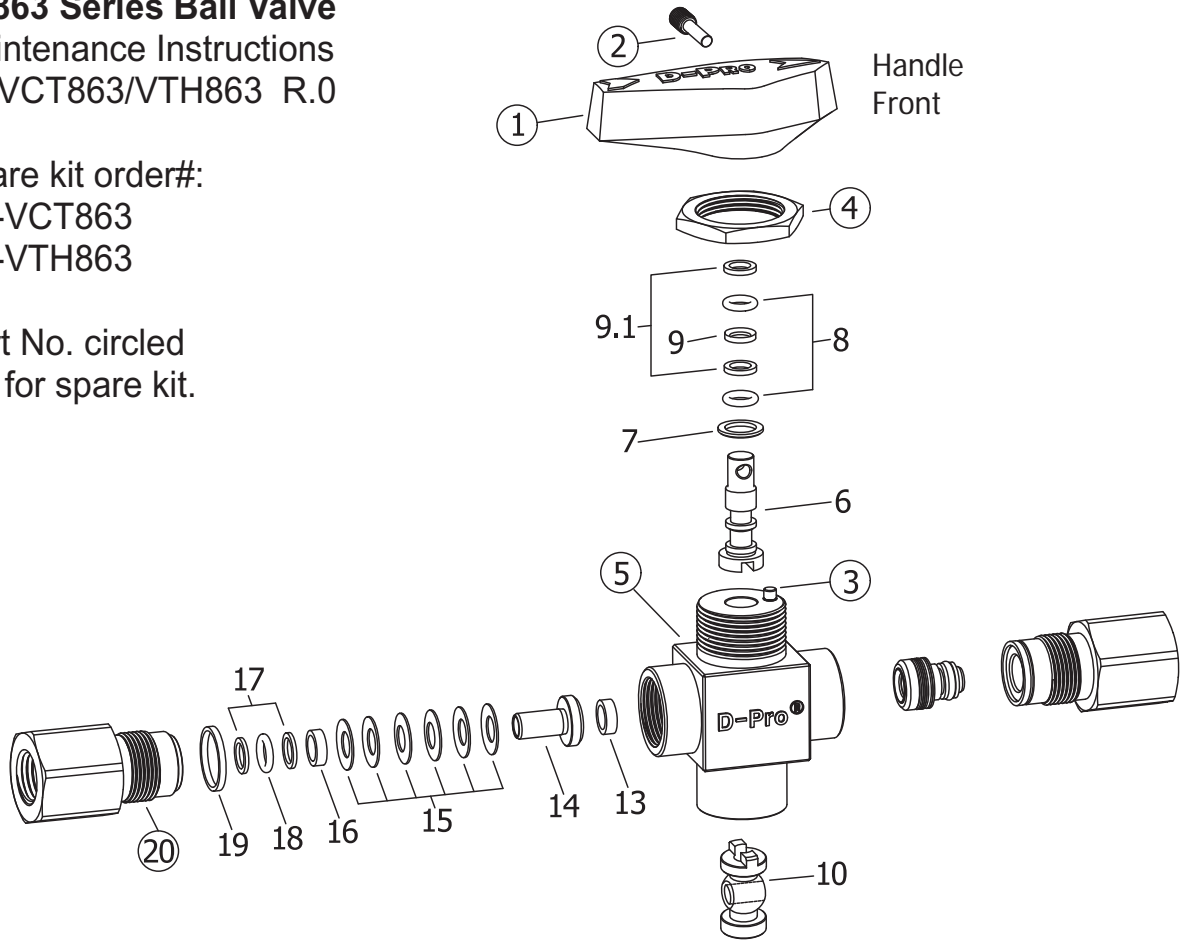
Maintenance Instructions
MI-VCT863 R.0



VT863 Series Ball Valve
 Maintenance Instructions
 MI-VCT863/VTH863 R.0

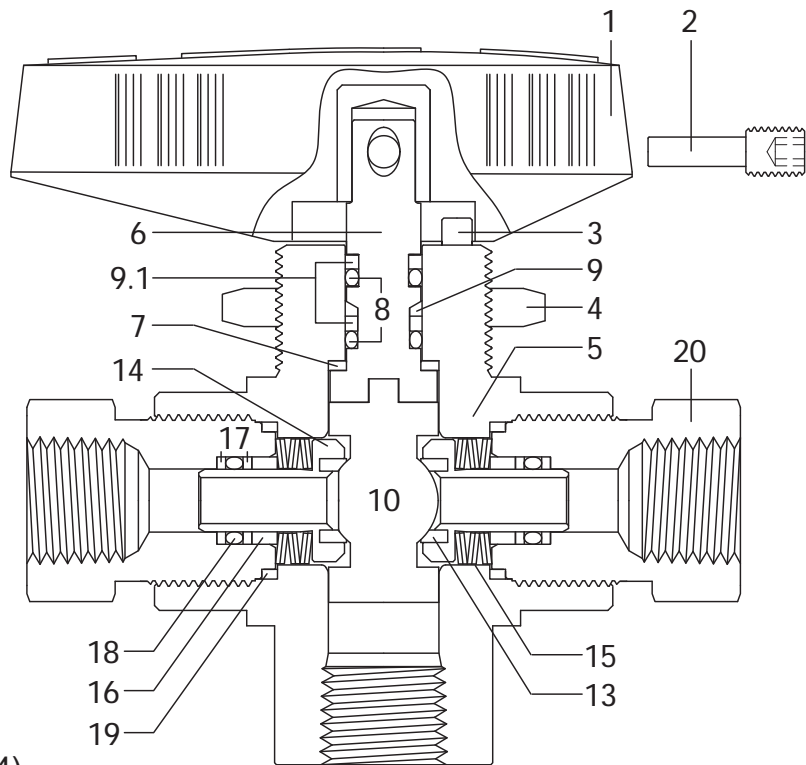
Spare kit order#:
 SK-VCT863
 SK-VTH863

Part No. circled
 not for spare kit.



Kit contains

- 6. Stem
- 7. Stem bearing
- 8. Stem O-rings (2)
- 9. Stem support ring
- 9.1. Stem backup rings (2)
- 10. Trunnion Ball
- 13. Seats (2)
- 14. Seat carriers (2)
- 15. Seat springs (12)
- 16. Seat carrier guides (2)
- 17. Seat carrier backup rings (4)
- 18. Seat carrier O-rings (2)
- 19. End connector seals (2)



Warning

Make sure to depressurize the system pressure where the valve is installed prior to the valve removal. Cycle the valve twice to remove any entrapped pressure in the valve. Failure to do so may cause death, personal injury and property damage.

Valve Disassembly

Handle

1. Remove the handle (1) by turning the set screw (2) counter-clockwise with size 2.5mm hex socket wrench.
2. Remove the valve from its mounting panel by turning the panel nut (4) counter-clockwise.

End connectors

1. Secure the body (5) at the wrench flats and carefully remove the two port end connectors (20), using a proper hex wrench.
2. Discard the seat carrier assembly (parts 13 thru.18) and the end connector seal (19).

Stem and Trunnion Ball

Press down on the top of the stem (6) and remove the stem (6) and trunnion ball (10) out through the bottom port.

Valve Reassembly

Lubricants

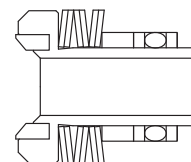
For seat (13), use Tribolube-16/ Aerospace. For other components like O-ring, use 111 valve Lub & sealant/ Dow Corning. Lubricants are not included in the maintenance kit.

End connector preparation

Clean all contaminants from end connector (20) to make it reusable and lubricate the threaded portion.

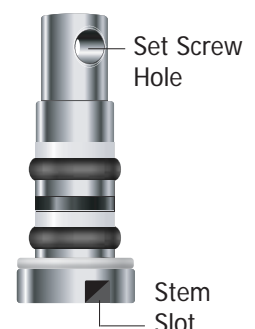
Seat carrier assembly preparation

1. Make sure the parts on the seat carrier assembly placed in the following order.
 - 1) x 6 seat springs (15) onto the shank of the seat carrier (14) in the right direction as shown.
 - 2) Seat carrier guide (16)
 - 3) One back-up ring (17)
 - 4) Seat carrier O-ring (18)
 - 5) One back-up ring (17)
2. Insert the seat carrier (14) assembly into the end connector (20).
3. Place the new end connector seal (19) over the end connector (20).



Stem assembly preparation

With set screw hole side up, make sure stem bearing (7), stem O-rings (8), stem backup rings (9.1), and stem support ring (9) are placed in each groove.

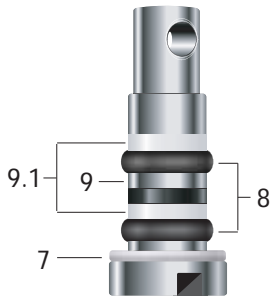


Trunnion ball preparation

The ball (10) must be handled free from scratches to ensure a leak-tight seal.

Reassembly procedure

1. Make sure the parts on the stem assembly placed in the following order.



Carefully insert the stem (6) assembly through the bottom of the valve body (5) and gently press the stem up into position using a blunt instrument. Gently press upwards until the stem reaches its uppermost position against the body bore.

NOTE

- Take care not to score the inside walls of the body (5) bore nor clip the stem o-rings (8) during installation.
- The direction of stem (6) slot and stem (6) set screw hole is identical.
- Stem (6) slot perpendicular to the end connector holes keeps the ball open orifice positioned towards the end connector holes.

2. Place the handle (1) over the stem (6).
Align the handle set screw hole with the stem hole. Place the set screw (2) in handle (1) and tighten.

3-way valve handle (1) front should be installed on the same direction of the arrow on the top of the stem (6). ⇄

3. Insert the new ball (10) with the ball tang up through bottom of valve body (5). Press upward until the ball tang engages the stem (6) slot.
To test the engagement: turn handle, if ball rotates, tang is engaged.

Make sure the open orifice is positioned towards the handle (1) front.

4. Center-off the valve to keep the ball open orifice perpendicular to end connector holes. This helps cause no damage to seats (13) during end connector (20) assemblies.

5. Insert the end connectors (20) and torque to 68 Nm each.

