

## **ASSEMBLY PROCEDURES - 100mm Manual Flush Valve Gasket Seat**

### **Tooling required**

EP2 grease  
Bench vice with aluminium jaws  
Ring spanner 17mm  
Ring spanner 19mm  
Torque wrench

### **Testing Jigs required**

Outlet flange testing jig TEST FL 150 (shell & seat tightness 200kPa)  
Main flange testing jib TEST FL 190 (shell tightness 20kPa)

### **ASSEMBLY PROCEDURE**

#### **Spindle Assembly**

- 1 Fit the spindle (#12) into the sealing disc (#13). Fit PTFE gasket (#14) over the spindle (#12) and onto the sealing disc (#13) followed by (#15) spindle retainer.
- 2 Fit the spring washers (#16) onto the M10 x 20mm bolts (#17) and insert and hand tighten the bolts into the sealing disc (#13)
- 3 Secure the spindle assembly into the bench vice (with aluminium jaws). Tighten and secure M10 bolts (#17) with 17mm ring spanner followed by torque wrench (set at 70Nm).

#### **Spindle Nut Assembly**

- 4 Apply a small amount of EP2 grease to the M10 x 60mm bolts (#29) and fit the bolts to the M10 tapped holes on the spindle nut (#18). Place the spindle nut loosely into the bench vice (with aluminium jaws) Tighten and secure M10 x 60mm bolts (#29) with 17mm ring spanner.
- 5 Fit a M10 nut (#25) on each of the M10 x 60mm bolts (#29) secured on the spindle nut (#18) and hand tighten only.

#### **Fitment and assembly of Main body, Spindle Assembly, Top Gland and Spindle nut**

- 6 Fit main body over the spindle assembly (on a flat, clean surface).
- 7 Fit and secure the first PTFE bush (#7) followed by the PTFE yarn (#26) and last PTFE bush (#7) in the bottom of the gland box (#6).
- 8 Fit the top gland (#10/11) over the spindle and secure the top gland in the gland box (#6).
- 9 Fit the spindle nut (#18) on the spindle (#12) and secure the spindle nut on the gland box ears (#9). Fit the open and close plate (#24) on the gland box ear and spindle nut facing the outlet flange (#4) and secure with M10 x 30mm bolts (#28) followed by the M10 spring washer (#16) and M10 nut (#25) with 17mm ring spanner
- 10 Fit handle assembly (#22/23) on spindle square (#12). Secure handle assembly with M12 flat washer (#31) followed by M12 nylock nut (#32) and fasten with 19mm ring spanner.

#### **AFTER TESTING - Secure top gland**

- 11 Fit M10 nut (#25) on M12 x 60mm bolts (#29) located on spindle nut and lock in place with 17mm spanner

## **TESTING PROCEDURES - 100mm Manual Flush Valve Gasket Seat**

- 1 Adjust the packing of the gland box evenly on both sides of the top gland. Do not over-tighten. Test the opening/closing function of the sealing disc 4 - 5 cycles.
- 2 Fit and secure the main flange of the flush valve to the "TEST FL 190" jig with washers and nuts - ensure nuts are fully and securely fastened to the jig
- 3 Insure sealing disc is in the close position
- 4 Test the Seat tightness at 20kPa for 5 minutes
- 5 Check for leaks
  - a - internal sealing area - sealing disc/main body sealing area
- 6 Fit and secure the outlet flange of the flush valve to the "TEST FL 150" jig with washers and nuts - ensure nuts are fully and securely fastened to the jig
- 7 Insure the sealing disc is in the close position
- 8 Test the Shell and Seat tightness at 200kPa for 5 minutes
- 9 Check for leaks
  - a - all welding
  - b - external sealing area - sealind disc/main body sealing area
  - c - gland box (if there is leakage at the gland box release the testing pressure and tighten the top gland redo testing step 6 - 9)

As per EN12266-1:2012 and EN122662:2012 testing regulations Table A.5

"A"            No visually detectable leaks for the duration of the test

## ASSEMBLY & TESTING PROCEDURES - 100mm Manual Flush Valve Gasket Seat



1 - 3 Spindle assembly



4 - 5 Spindle nut assembly





6 - 10 Main body, spindle assembly, top gland and spindle nut assembly  
(see parts assembly drawing for parts configuration)



Test 1: Seat tightness @ 20kPa



Test 2: Shell tightness @ 200kPa and Seat tightness @ 200kPa