



Inspection Certificate

Project: **ISO 15848 Fugitive Emissions Testing:
Flowserve Worcester 51/52 Series, ASME Class 150 & 300,
Reduced Bore, Flanged, Soft-seated, Floating Ball Valves**

Client: **Flowserve Flow Control (UK) Ltd
a division of Flowserve GB Ltd
Burrell Road, Haywards Heath
West Sussex, RH16 1TL**

Office: **Birmingham**

Client's Order Number: **2104**

Date: **30 June 2021**

Order Status: **Complete**

Inspection Dates

First: **17 May 2021**

Final: **27 May 2021**

This certificate is issued to **Flowserve Flow Control (UK) Ltd.**, to certify that the undersigned Surveyor did, at their request, attend their works at **Haywards Heath, West Sussex**, on and between the above dates for the purpose of inspecting the following:

Quantity	Description	Identification	Material	Test Report No.
1	Reduced Bore, Flanged, Soft-seated, Floating Ball Valve 1.5 inch Class 300 Drg - F051052-0520-200, Rev. A	15 S052-66MTT7-Z300 A Tag No: 15 S052	Body – ASTM A351 CF8M Insert – ASTM A351 CF8M Ball – ASTM A351 CF8M Stem – ASTM A479 S31803 Seat Ring – PTFE Body seal – PTFE Thrust seal – PTFE Gland Packing - Graphite	2104 Part 1 +150°C, Date 13/05//2021 2104 Part 2 - 29°C, Date 24/05/2021
1	Reduced Bore, Flanged, Soft-seated, Floating Ball Valve 3.0 Inch Class 300 Drg - F051052-3080-200, Rev. A	30 S052-66MTT7-TZ300 A Tag No: 30 S052		

Scope of Inspection:

Witness Fugitive Emission Testing in line with the requirements of ISO 15848-1:2015 +A1:2017, Endurance Class CO1;

- Test 1 Temperature, +150°C - acceptable
- Test 2 Temperature, - 29°C - acceptable

Verified serial numbers of items tested.

Visually examination of stripped components - acceptable

Review calibration certificates

Review & endorse test reports.

Review type approval justification documentation

It is concluded that the above testing qualifies the valves listed below as per the applicable sections of ISO 15848-1:2015 +A1:2017 Para 8.0;

- Name: Worcester Series F051/S051/F052/S052– ASME Class 150 & 300, Reduced Bore, Flanged, Soft Seated, Floating Ball Valves
- Pressure: F051/S051 CL150, F052/S052 CL300
- Size: DN15, DN20, DN25, DN40, DN50, DN80, DN100, DN150, DN200, ½", ¾", 1", 1 ½", 2", 3", 4", 6", 8"
- GA drawings – F051052-0520-200 Rev. A, S051052-0520-001 Rev. A, F051052-3080-200, Rev. A & S051052-3080-001, Rev. A
- Temperature Range - 29°C to +150°C

Sizes Qualified	Series Qualified	Temperature Range	Tightness Class	Endurance Class
DN15-DN200, 1/2" - 8"	F051/S051/F052/S052	Ambient to + 150°C	BH	C01
DN15-DN200, 1/2" - 8"	F051/S051/F052/S052	Ambient to + 150°C	BH	
DN15-DN40, 1/2" - 1 1/2"	F051/S051/F052/S052	-29°C to + 150°C	BH	
DN50-DN200, 2" - 8"	F051/S051/F052/S052	-29°C to + 150°C	AH	

Calibration:

Digital Thermometer – Serial Number 718561, Calibrated 28-05-19, Calibration due 28-05-21, Southern Calibration Laboratories Ltd Certificate No.19051467 refers

JTS Environmental chamber – Serial Number 1205, Calibrated 30-06-20, Calibration due 30-06-21, James Technical Services Ltd Certificate No.1326 refers

Mass Spectrometer – Serial Number HLD 1302474, Calibrated 15-04-21, Calibration due 15-04-22, Pfeiffer Vacuum SAS, Certificate No. 72265

Torque Wrench – Serial Number 08758, Calibrated 21-09-20, Calibration due 21-09-21, Southern Calibration Laboratories Ltd, Certificate No. 20090992 refers

Torque Wrench – Serial Number 11929, Calibrated 13-10-20, Calibration due 13-10-21, Southern Calibration Laboratories Ltd, Certificate No. 20100381 refers

Pressure Gauge – Serial Number 08770, 0-70 bar - Calibrated 09-03-21, Calibration due 09-10-21, Southern Calibration Laboratories Ltd, Certificate No. 21030282 refers

Calibration Traceable to National Standards.



David Hodges on behalf of Cliff Moss
Surveyor to Lloyd's Register EMEA

a member of the Lloyd's Register group.