

**Vehicle Research and Test Center
Rear Seat Sled Testing
THOR-50M**

**Prepared By:
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Summary Report

January - February 2024

**Prepared For
Vehicle Research and Test Center
P. O. Box 37
East Liberty, OH 43319**

SECTION 1

PURPOSE AND SUMMARY FOR THOR-50M

The purpose of the testing is: (1) Understand if there is a relationship between seat belt performance from quasi-static, European ECE R16 and rear seat vehicle environments; (2) Collect injury metrics for Hybrid III 50th and THOR 50th ATDs, including chest and pelvis excursion.

SUMMARY

A THOR-50M (serial number 016) was secured in the left rear occupant position (position 4 or P4). The THOR-50M was instrumented with head, spine (upper, middle and lower), and pelvis triaxial accelerometers and angular velocities, upper/lower neck, thoracic spine, ASIS and Femur force and moment load cells; acetabulum force load cells, thorax and abdomen IRTACC voltages. During this test series the dummy was restrained with a 2021 VW ID.4 (US or EU) 3-point seatbelt.

Section 2 contains the left hand side views of the dummy. Section 3 contains the dummy certification information.

SECTION 2
LEFT HAND TEST SUMMARY

TEST DUMMY INFORMATION

Description	Position # 4
ATD Type/Serial No.	THOR-50M/016
Belt Types	2021 VW ID.4
Regulation	US, EU
Positions	LH

CAMERA POSITIONING FARO MEASUREMENTS

Description	Units	X	Y	Z
Origin	mm	0.00	0.00	0.00
Side View	mm	1442.01	-1772.43	-353.06
Oblique View	mm	2513.92	491.07	-404.73

DUMMY POSITIONING

BELT: 2021 VW ID.4 – US

TRC Test Number: S240207-1

VRTC Test Number: SBE_RVW_04



DUMMY POSITIONING FARO MEASUREMENTS

Description	Units	X	Y	Z
Outboard Seat Anchor	mm	1188.02	-603.81	164.63
Inboard Seat Anchor	mm	1125.77	-141.93	200.24
Outboard Headrest Post	mm	846.74	-429.32	-496.61
Inboard Headrest Post	mm	845.83	-279.35	-496.40
Outboard Headrest Post Driver	mm	1861.67	-413.83	-489.83
Inboard Headrest Post Driver	mm	1858.07	-265.48	-478.51
HR1	mm	1822.32	-330.91	-589.05
SB1	mm	1794.84	-341.51	-426.46
SB2	mm	1798.34	-172.64	-373.17
SB3	mm	1821.47	-164.03	-296.41
Target A	mm	1844.12	366.78	-653.73
Target B	mm	1876.88	367.43	-493.93
Target C	mm	1840.71	368.26	-261.89
Target D	mm	1577.51	367.39	-499.61
Target E	mm	1232.23	367.70	-686.75
Target F	mm	1283.84	367.44	-545.12
Target G	mm	1321.40	368.23	-233.37
Top of Head	mm	989.11	-349.75	-730.85
Left Head CG	mm	1010.43	-429.81	-636.36
Bridge of Nose	mm	1105.45	-348.58	-647.52
LH Shoulder	mm	1005.49	-562.57	-412.47
LH Shoulder on Skin	mm	1064.08	-589.54	-353.83
LH H-Point on Skin	mm	1247.22	-547.33	10.39
LH Knee	mm	1660.08	-530.58	-85.38
LH Ankle	mm	1925.17	-517.83	234.82
RH Shoulder	mm	1005.38	-140.54	-401.08
RH Knee	mm	1655.56	-188.30	-83.33
Heel	mm	1856.35	-491.11	352.35

DUMMY POSITIONING FARO MEASUREMENTS, CONTINUED

SBLC Target	mm	953.82	-541.24	-477.11
Shoulder Belt Upper	mm	1146.38	-349.14	-399.21
Shoulder Belt Lower	mm	1183.59	-348.84	-325.45
Lap Belt Upper	mm	1305.91	-348.13	-125.96
Lap Belt Lower	mm	1321.60	-348.93	-80.64

DUMMY INJURY

HIC (36 ms)	921
HIC (15 ms)	709
BrIC	0.94
NIJ Max	0.90
Chest Clip (3 ms)	51.0 ¹
Chest Deflection (mm)	61.9 ²

¹Chest clip calculated from T6 accel resultant

²Chest deflection calculated from average of chest IRTRACC resultants

DUMMY POSITIONING

BELT: 2021 VW ID.4 – EU

TRC Test Number: S240208-1

VRTC Test Number: SBE_RVW_05



DUMMY POSITIONING FARO MEASUREMENTS

Description	Units	X	Y	Z
Outboard Seat Anchor	mm	1188.61	-603.10	164.32
Inboard Seat Anchor	mm	1126.86	-139.62	200.68
Outboard Headrest Post	mm	845.35	-428.10	-497.18
Inboard Headrest Post	mm	843.60	-278.97	-496.10
Outboard Headrest Post Driver	mm	1866.21	-410.83	-495.45
Inboard Headrest Post Driver	mm	1859.09	-259.68	-485.04
HR1	mm	1822.32	-330.91	-589.05
SB1	mm	1794.84	-341.51	-426.46
SB2	mm	1798.34	-172.64	-373.17
SB3	mm	1821.47	-164.03	-296.41
Target A	mm	1844.12	366.78	-653.73
Target B	mm	1876.88	367.43	-493.93
Target C	mm	1840.71	368.26	-261.89
Target D	mm	1577.51	367.39	-499.61
Target E	mm	1232.23	367.70	-686.75
Target F	mm	1283.84	367.44	-545.12
Target G	mm	1321.40	368.23	-233.37
Top of Head	mm	987.74	-350.98	-730.75
Left Head CG	mm	1006.91	-429.98	-635.44
Bridge of Nose	mm	1105.09	-352.74	-647.42
LH Shoulder	mm	1003.25	-560.10	-407.58
LH Shoulder on Skin	mm	1064.12	-587.74	-352.77
LH H-Point on Skin	mm	1246.55	-547.38	7.94
LH Knee	mm	1662.87	-536.14	-83.72
LH Ankle	mm	1927.49	-526.44	239.74
Heel	mm	1855.81	-490.81	350.81
RH Shoulder	mm	1013.73	-137.29	-406.78
RH Knee	mm	1661.10	-188.80	-85.02

DUMMY POSITIONING FARO MEASUREMENTS, CONTINUED

SBLC Target	mm	941.85	-561.17	-475.71
Shoulder Belt Upper	mm	1161.49	-348.45	-380.14
Shoulder Belt Lower	mm	1195.23	-349.23	-303.95
Lap Belt Upper	mm	1308.47	-348.56	-128.44
Lap Belt Lower	mm	1327.58	-348.80	-84.14

DUMMY INJURY

HIC (36 ms)	1409
HIC (15 ms)	864
BrIC	1.15
NIJ Max	1.01
Chest Clip (3 ms)	61.3 ¹
Chest Deflection (mm)	66.3 ²

¹Chest clip calculated from T6 accel resultant

²Chest deflection calculated from average of chest IRTRACC resultants

SECTION 3

DUMMY CALIBRATION DATA

THOR-50M Face Disk Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Head Skin: EE8625
Face Insert: 001

Test ID: 231221-1
Test Date: 12/21/2023
Test Time: 7:41 AM

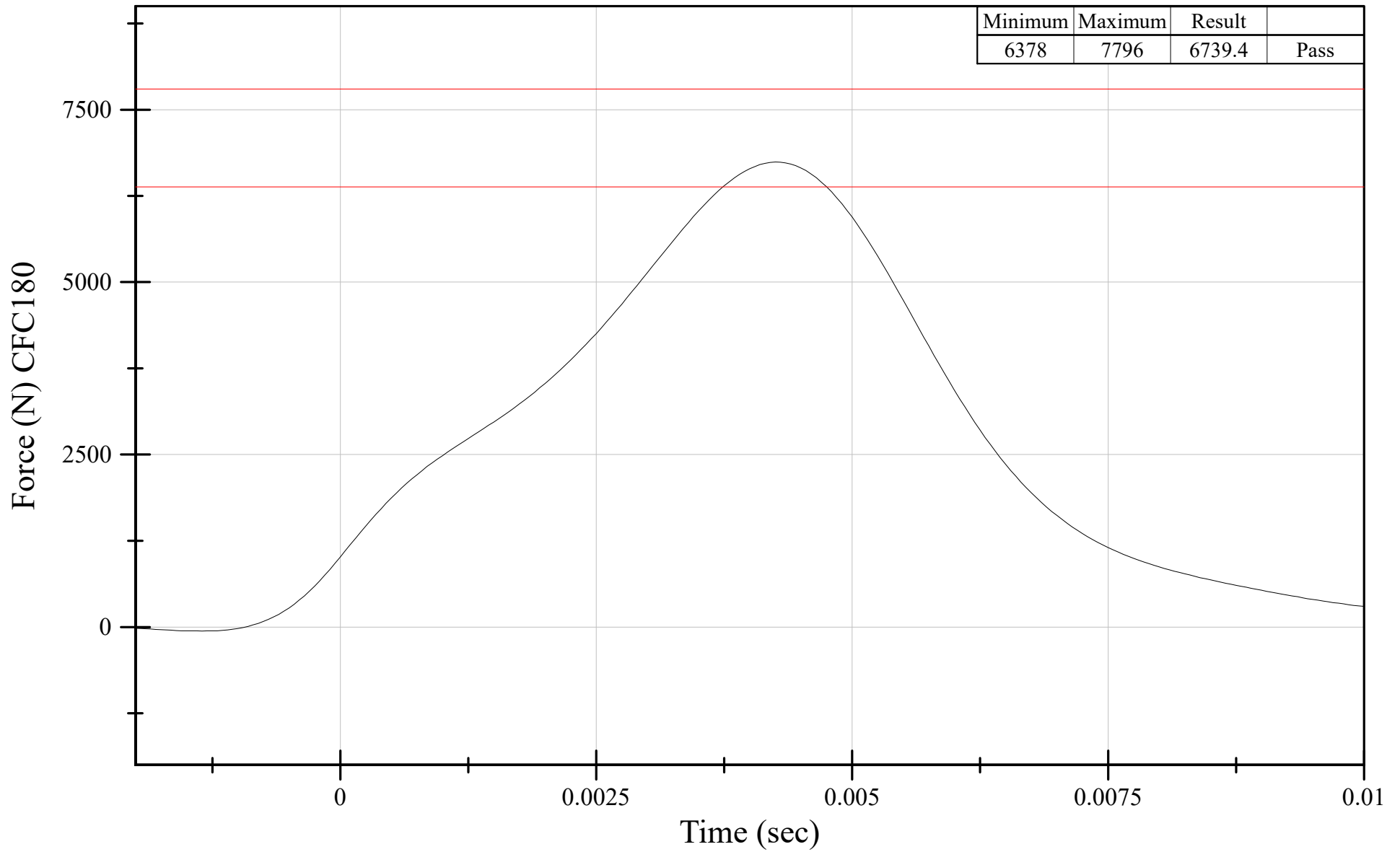
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.2	Pass
Test Humidity (%)	10 - 70	34	Pass
Test Velocity (m/s)	6.68 - 6.78	6.735	Pass
Peak Probe Force (N)	6378 - 7796	6739.4	Pass
Peak Head CG Resultant Acceleration (g)	124 - 152	137.0	Pass

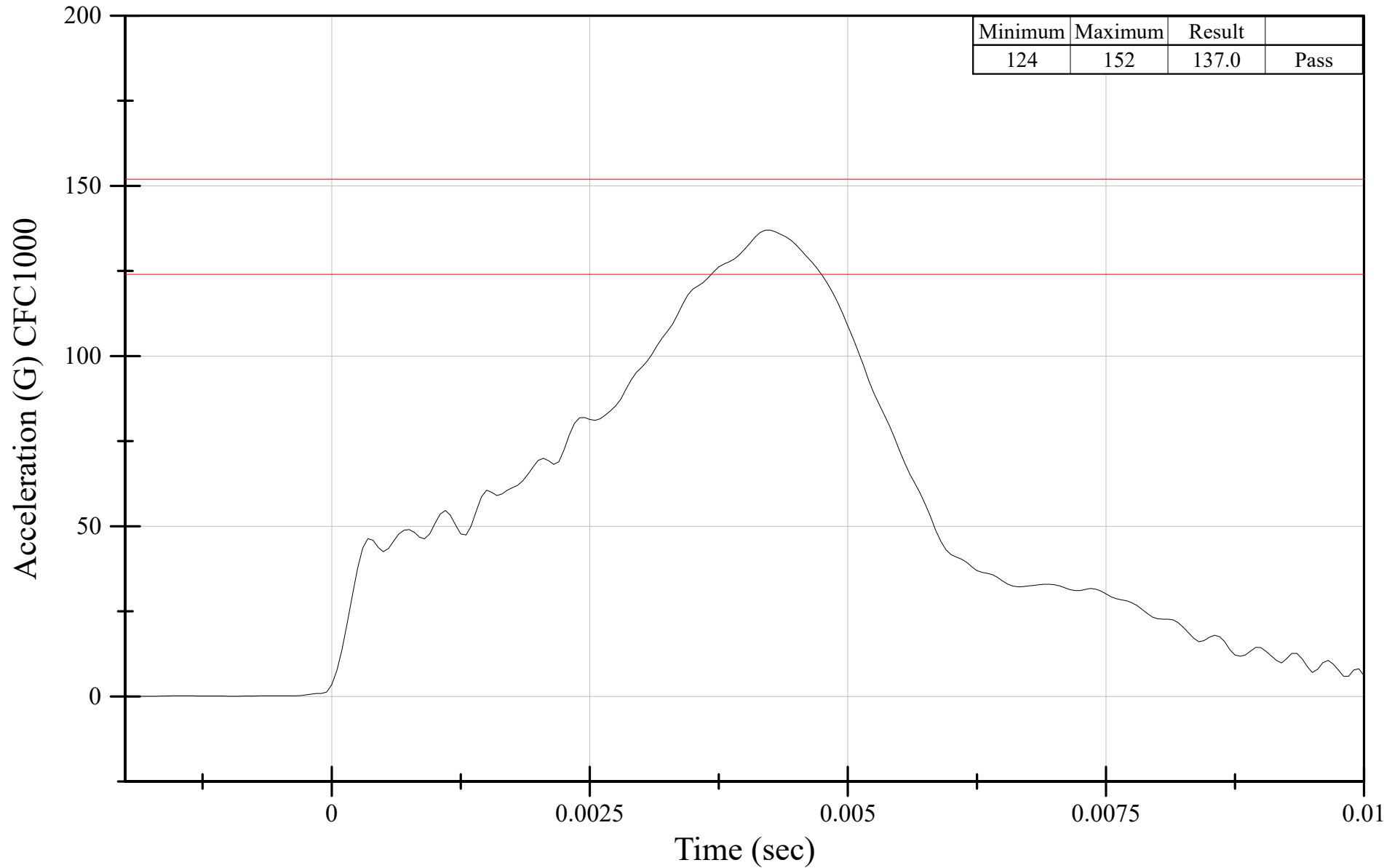
THOR-50M Face Disk Qualification

Probe Force

Serial Number: 016



THOR-50M Face Disk Qualification
Head CG Resultant Acceleration
Serial Number: 016



THOR-50M Head Impact Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Head Skin: EE8625

Test ID: 231214-2

Test Date: 12/14/2023

Test Time: 10:17 AM

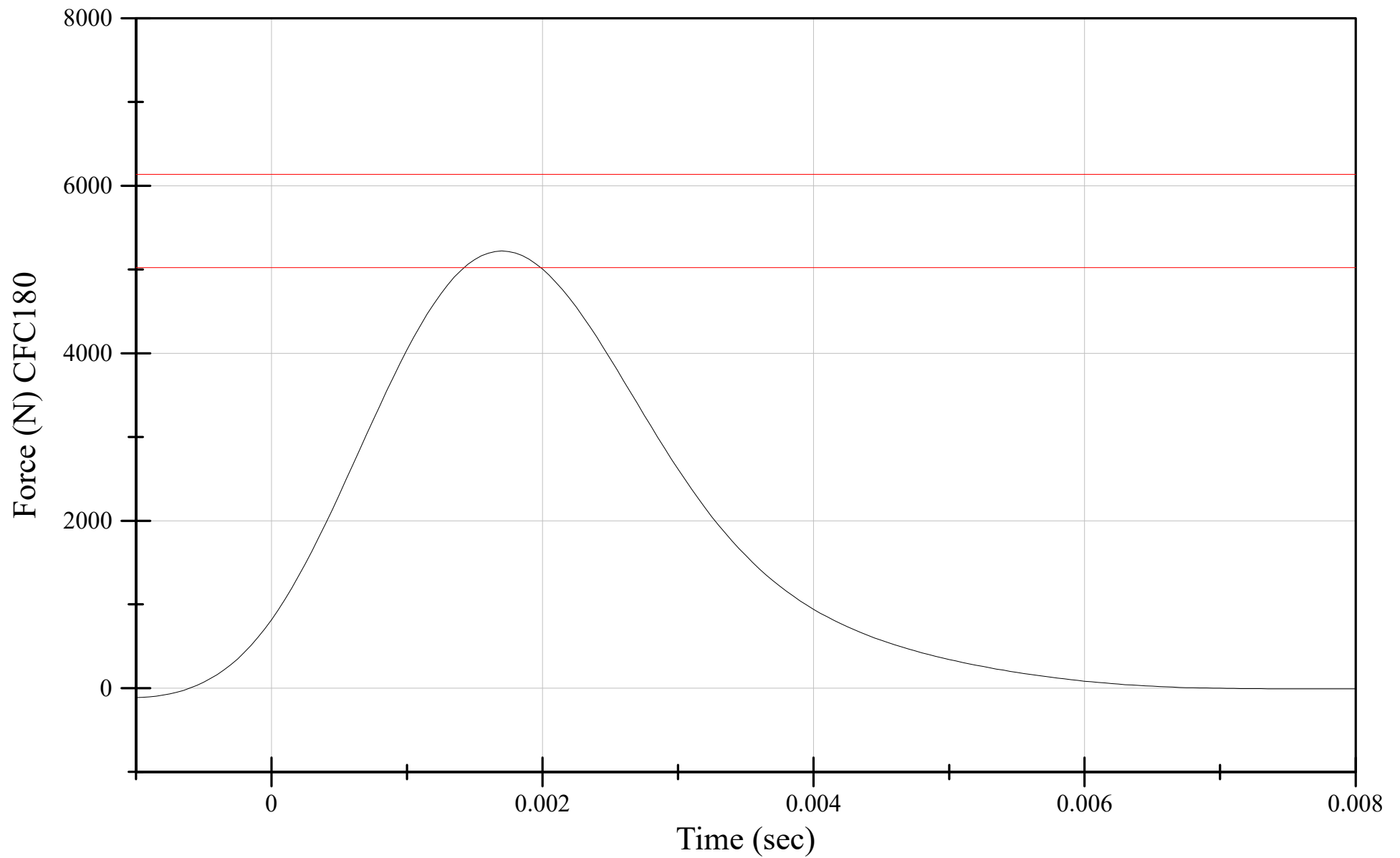
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.2	Pass
Test Humidity (%)	10 - 70	36	Pass
Test Velocity (m/s)	1.95 - 2.05	2.013	Pass
Peak Probe Force (N)	5022 - 6138	5222.0	Pass
Peak Head CG Resultant Acceleration (g)	105.3 - 128.7	116.98	Pass

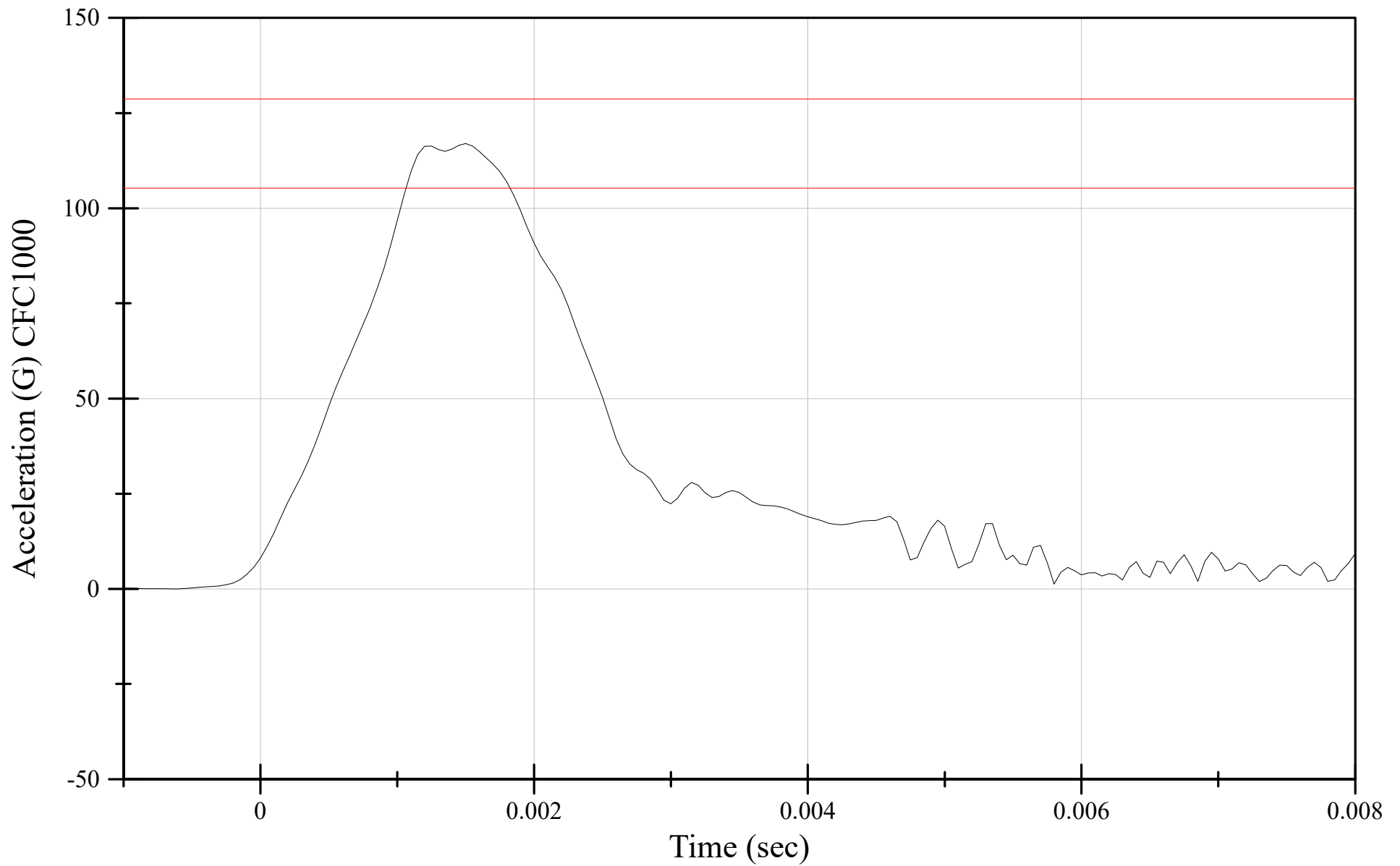
THOR-50M Head Impact Qualification

Probe Force

Serial Number: 016



THOR-50M Head Impact Qualification
Head CG Resultant Acceleration
Serial Number: 016



THOR-50M Neck Extension Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Neck Serial Number: EX1547
O.C. Stop Assembly: EX6798
O.C. Cam:

Test ID: 231211-3

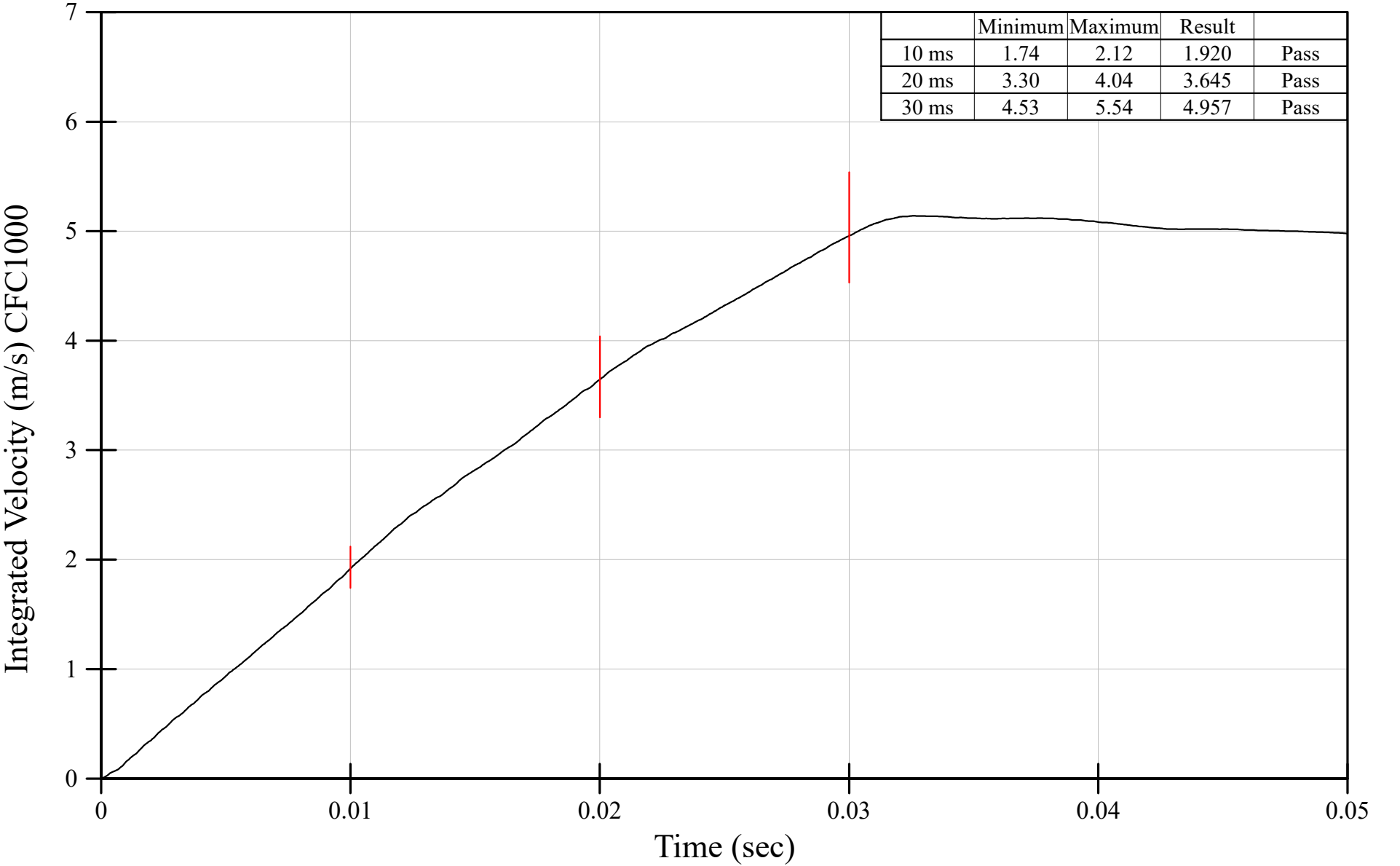
Test Date: 12/11/2023

Test Time: 10:07 AM

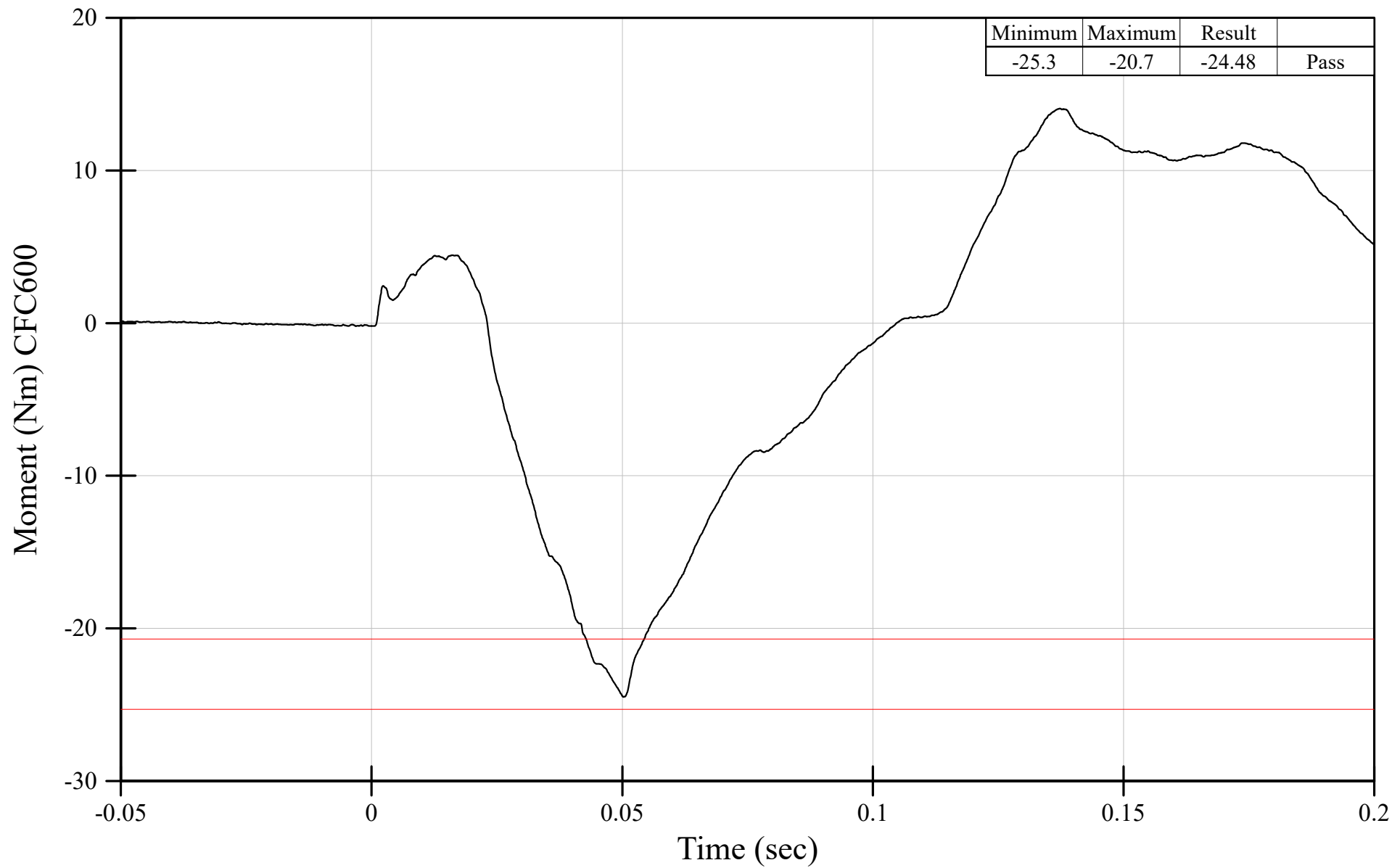
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.1	Pass
Test Humidity (%)	10 - 70	34	Pass
Test Velocity (m/s)	4.95 - 5.05	4.959	Pass
Pendulum Velocity at 10 ms (m/s)	1.74 - 2.12	1.920	Pass
Pendulum Velocity at 20 ms (m/s)	3.30 - 4.04	3.645	Pass
Pendulum Velocity at 30 ms (m/s)	4.53 - 5.54	4.957	Pass
Peak Upper Neck My (Nm)	-25.3 - (-20.7)	-24.48	Pass
Peak Upper Neck Fz (N)	-3210 - (-2626)	-2743.6	Pass
Peak Head Angular Velocity Y (deg/sec)	1855 - 2261	1936.8	Pass
Peak Head Rotation (deg)	58.5 - 71.5	61.45	Pass

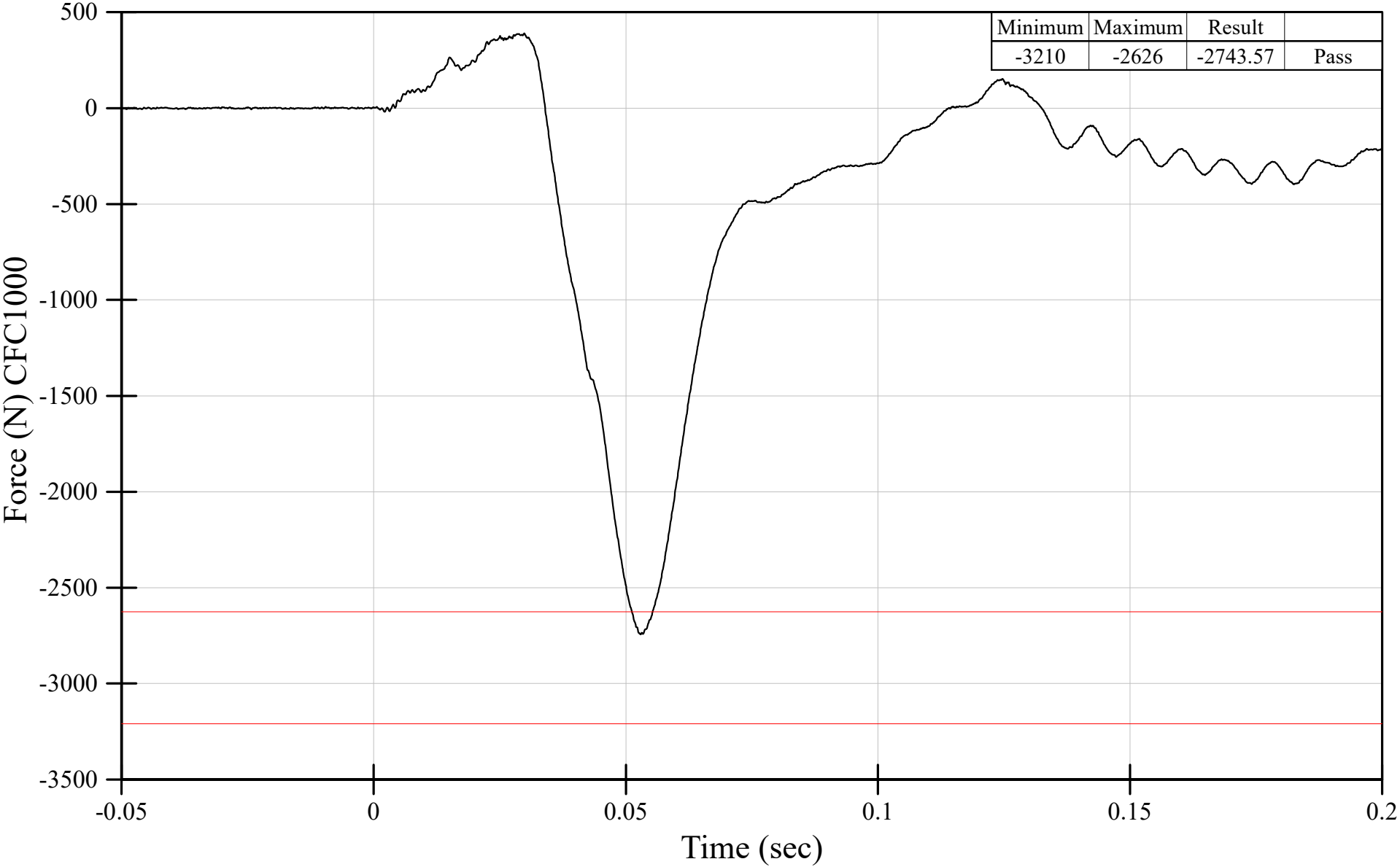
THOR-50M Neck Extension Qualification
Pendulum Velocity
Neck Serial Number: EX1547



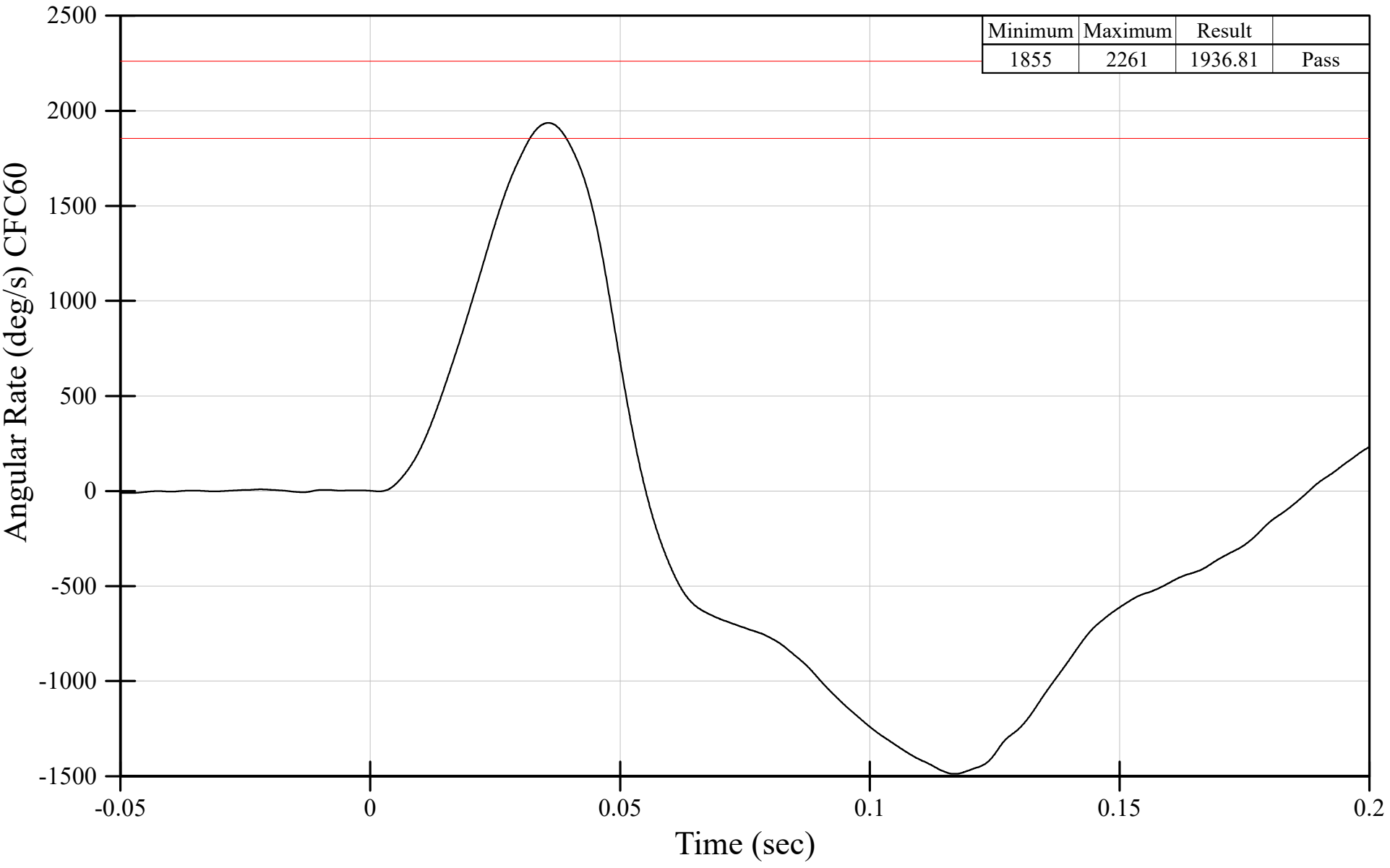
THOR-50M Neck Extension Qualification
Upper Neck My
Neck Serial Number: EX1547



THOR-50M Neck Extension Qualification
Upper Neck Fz
Neck Serial Number: EX1547



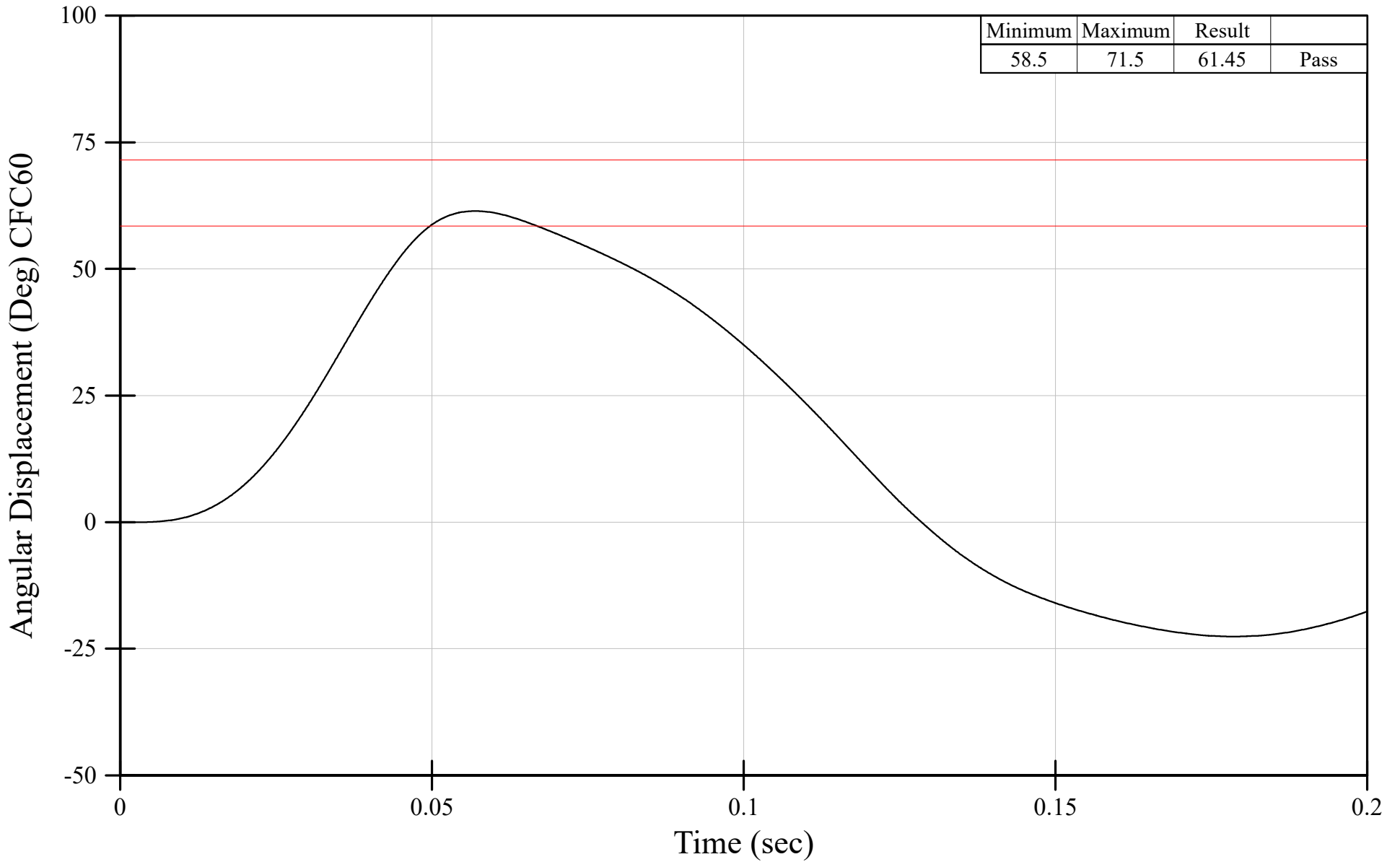
THOR-50M Neck Extension Qualification
Peak Head Angular Rate
Neck Serial Number: EX1547



THOR-50M Neck Extension Qualification

Neck Rotation

Neck Serial Number: EX1547



THOR-50M Neck Left Torsion Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Neck Serial Number: EX1547

O.C. Stop Assembly Serial Number: EX6798

O.C. Cam Serial Number:

Test ID: 231211-2

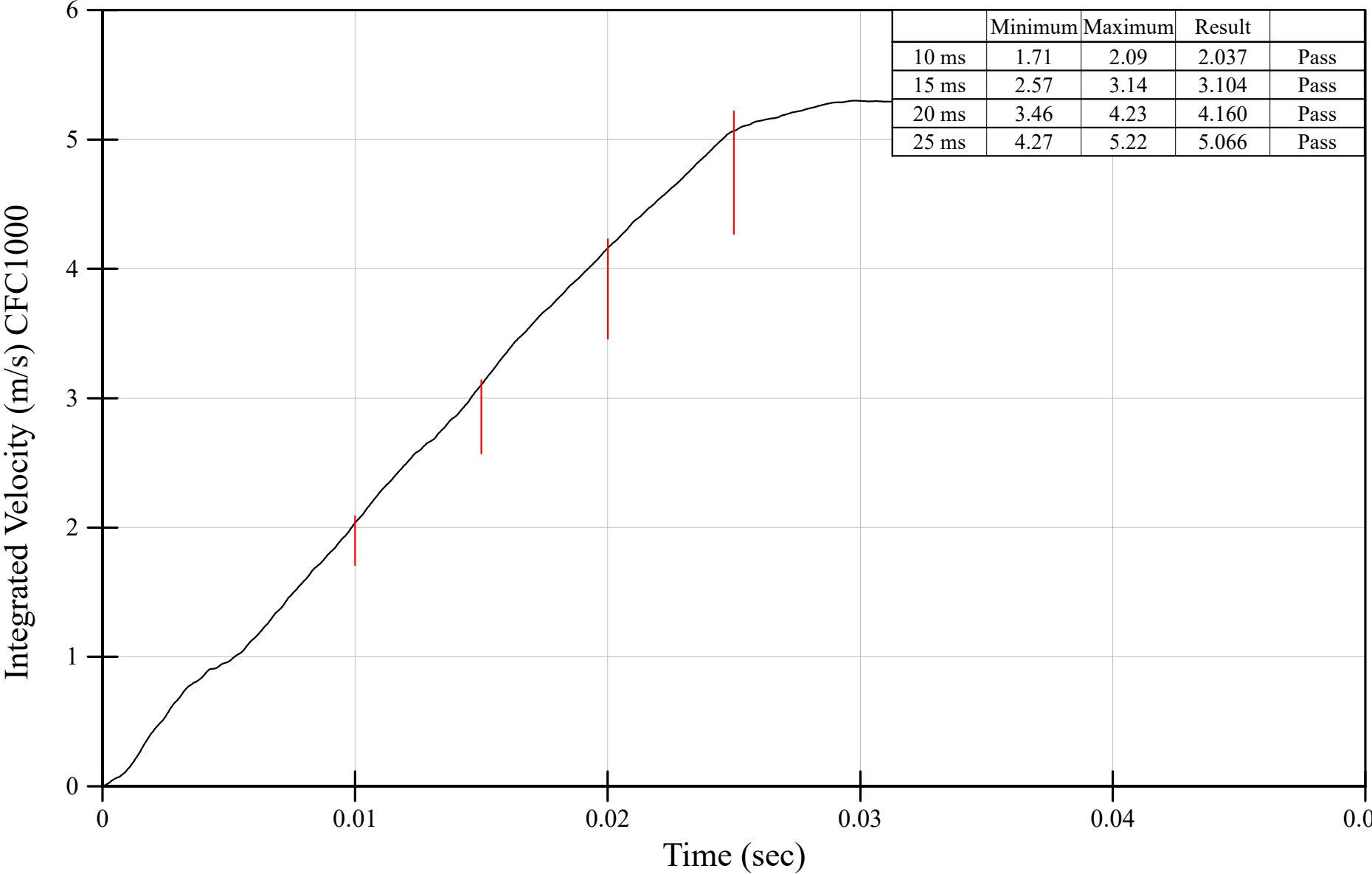
Test Date: 12/11/2023

Test Time: 8:46 AM

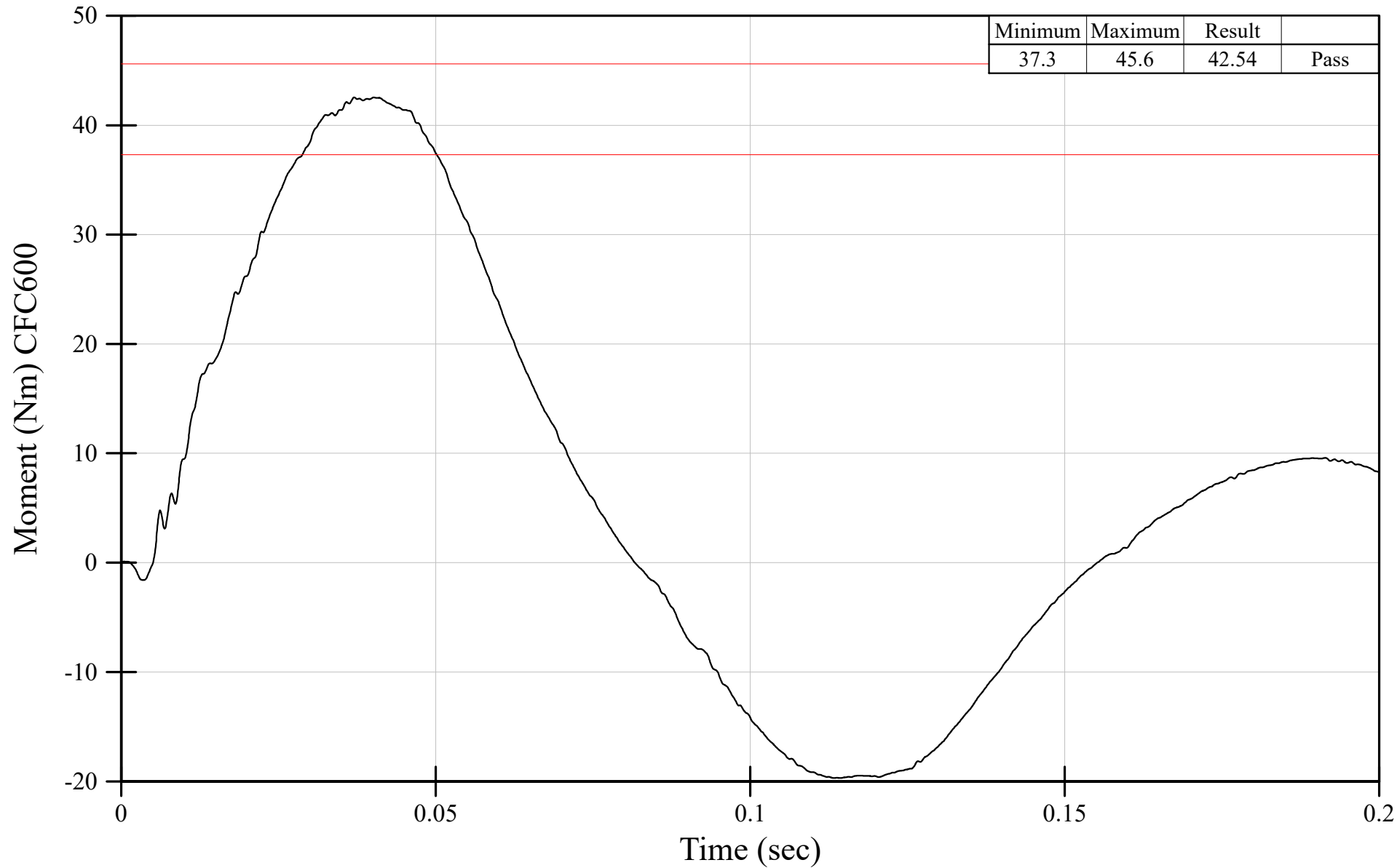
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.0	Pass
Test Humidity (%)	10 - 70	34	Pass
Test Velocity (m/s)	4.95 - 5.05	5.006	Pass
Pendulum Velocity at 10 ms (m/s)	1.71 - 2.09	2.037	Pass
Pendulum Velocity at 15 ms (m/s)	2.57 - 3.14	3.104	Pass
Pendulum Velocity at 20 ms (m/s)	3.46 - 4.23	4.160	Pass
Pendulum Velocity at 25 ms (m/s)	4.27 - 5.22	5.066	Pass
Peak Upper Neck Mz (Nm)	37.3 - 45.6	42.54	Pass
Peak Neck Fixture Rotation (deg)	-52.7 - (-43.1)	-46.71	Pass
Peak Upper Neck Angular Velocity Z (deg/sec)	-1529 - (-1251)	-1486.9	Pass

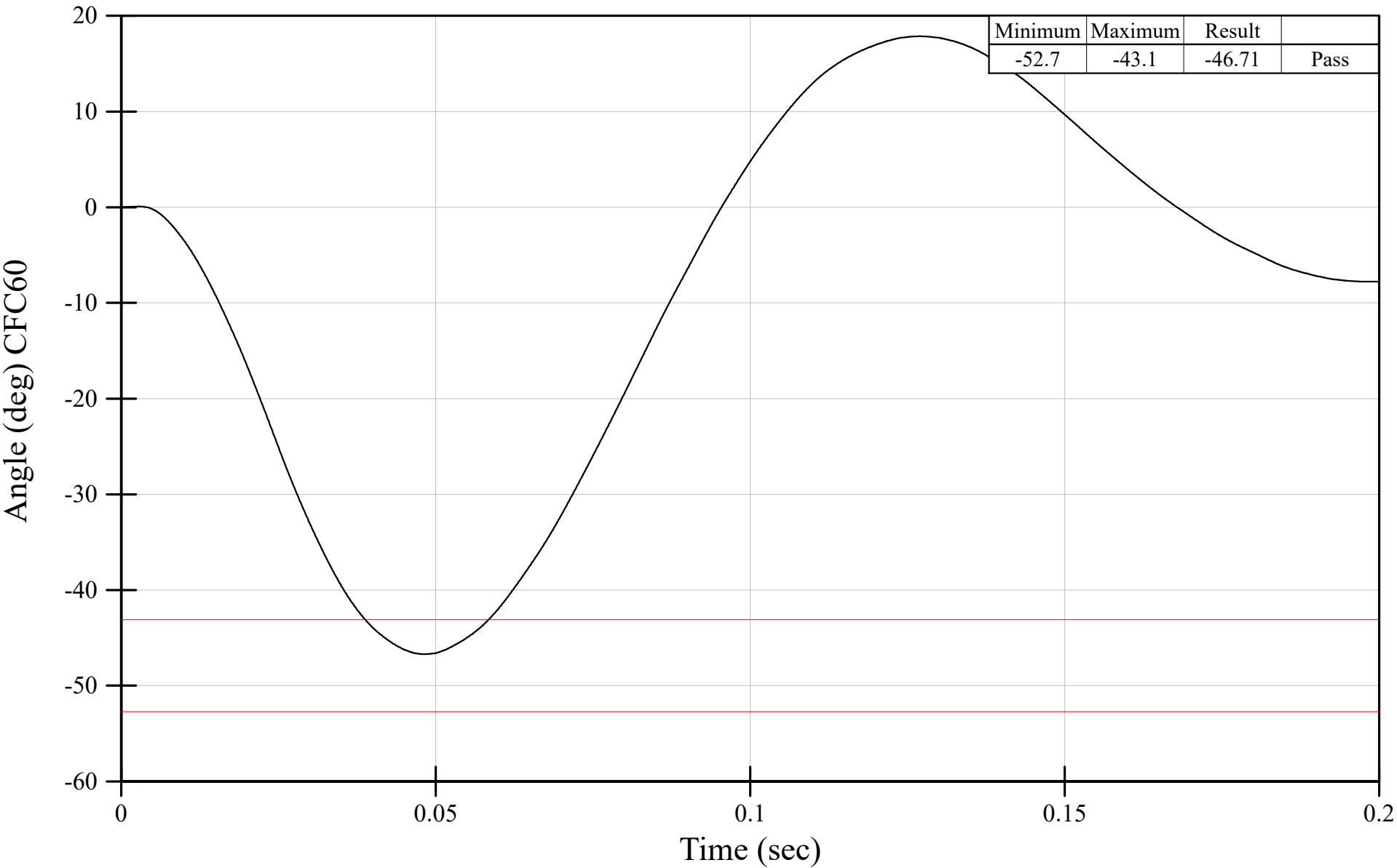
THOR-50M Neck Left Torsion Qualification
Pendulum Velocity
Neck Serial Number: EX1547



THOR-50M Neck Left Torsion Qualification
Peak Upper Neck Moment Z
Neck Serial Number: EX1547



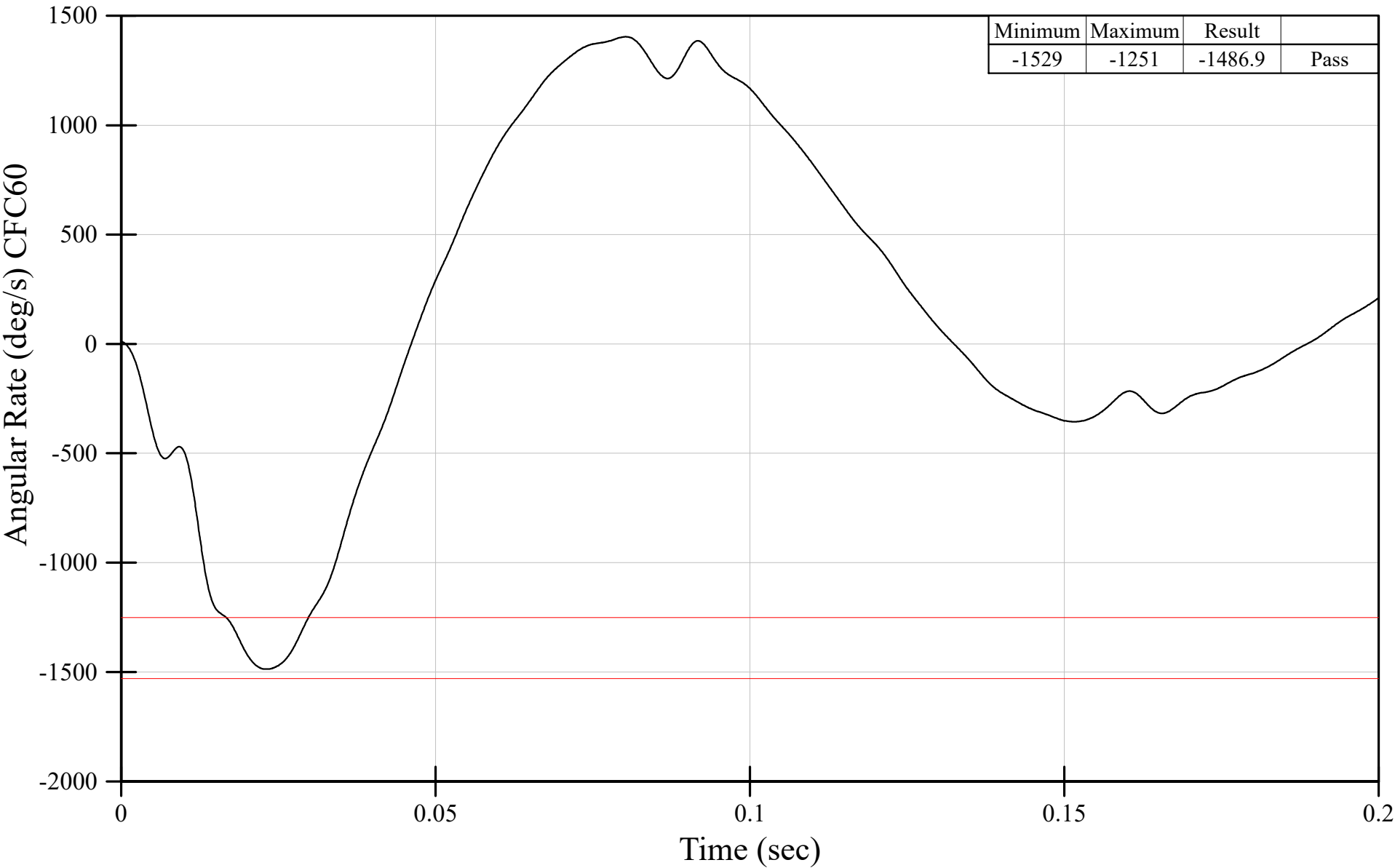
THOR-50M Neck Left Torsion Qualification
Neck Fixture Rotation
Neck Serial Number: EX1547



THOR-50M Neck Left Torsion Qualification

Peak Angular Rate

Neck Serial Number: EX1547



THOR-50M Neck Right Lateral Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Neck Serial Number: EX1547
O.C. Stop Assembly: EX6798
O.C. Cam:

Test ID: 231212-12
Test Date: 12/12/2023
Test Time: 1:56 PM

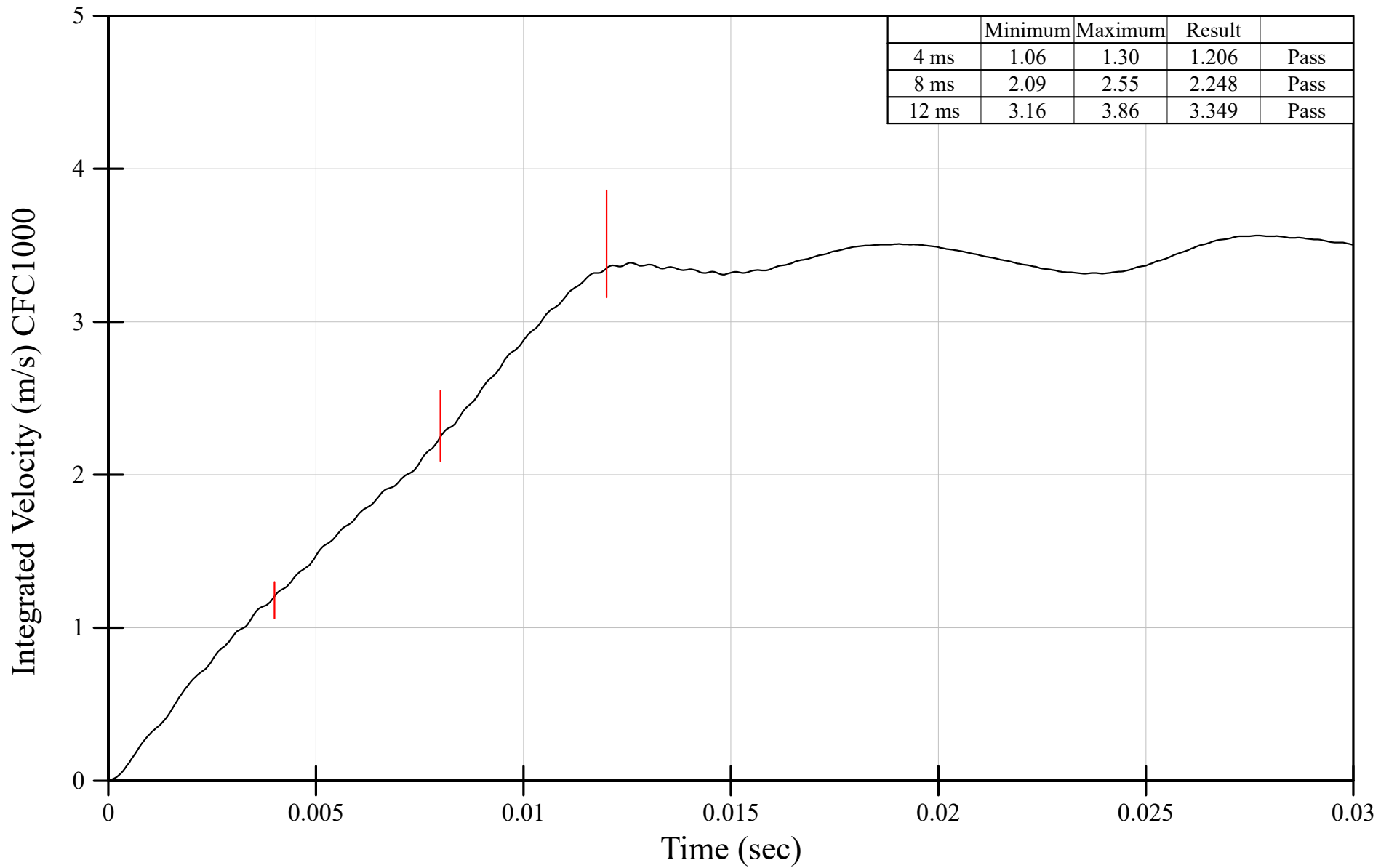
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.2	Pass
Test Humidity (%)	10 - 70	34	Pass
Test Velocity (m/s)	3.35 - 3.45	3.373	Pass
Pendulum Velocity at 4 ms (m/s)	1.06 - 1.30	1.206	Pass
Pendulum Velocity at 8 ms (m/s)	2.09 - 2.55	2.248	Pass
Pendulum Velocity at 12 ms (m/s)	3.16 - 3.86	3.349	Pass
Peak Upper Neck Mx after 40 ms (N)	-54.7 - (-44.8)	-52.77	Pass
Peak Head Angular Velocity X (deg/sec)	1226 - 1498	1356.1	Pass
Peak Head Rotation (deg)	37.6 - 45.9	38.96	Pass

THOR-50M Neck Right Lateral Qualification

Pendulum Velocity

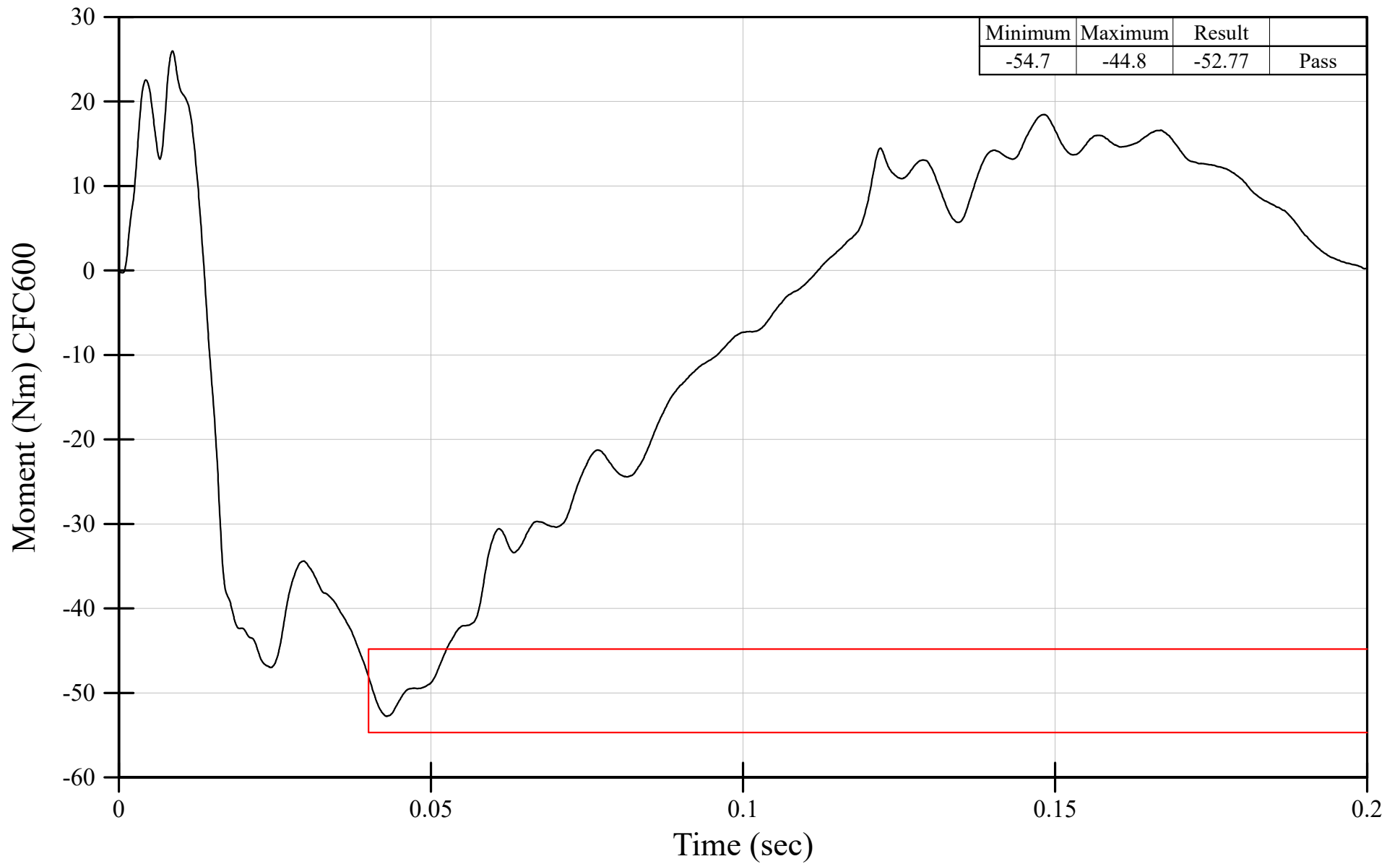
Serial Number: EX1547



THOR-50M Neck Right Lateral Qualification

Upper Neck Mx

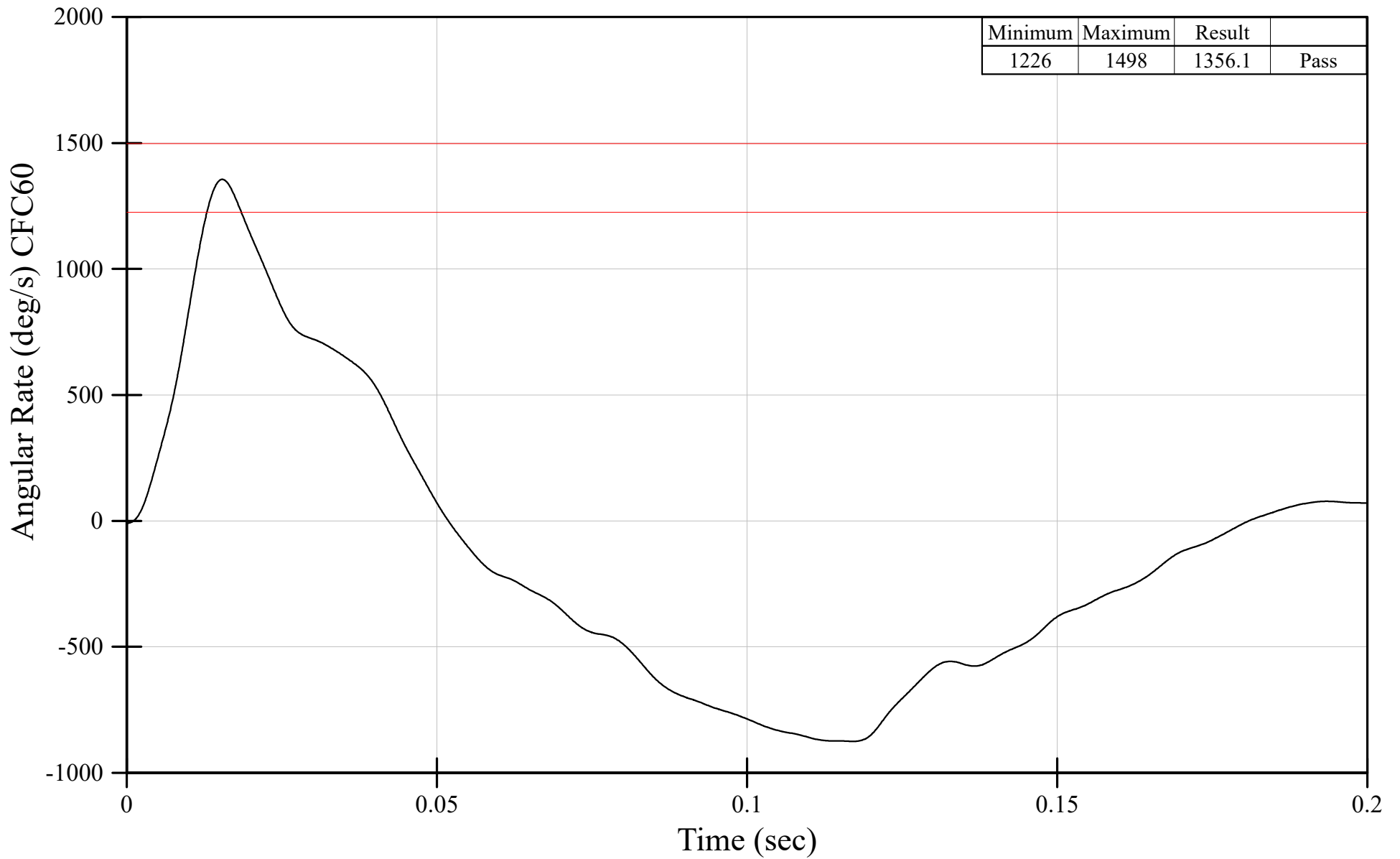
Serial Number: EX1547



THOR-50M Neck Right Lateral Qualification

Peak Angular Rate

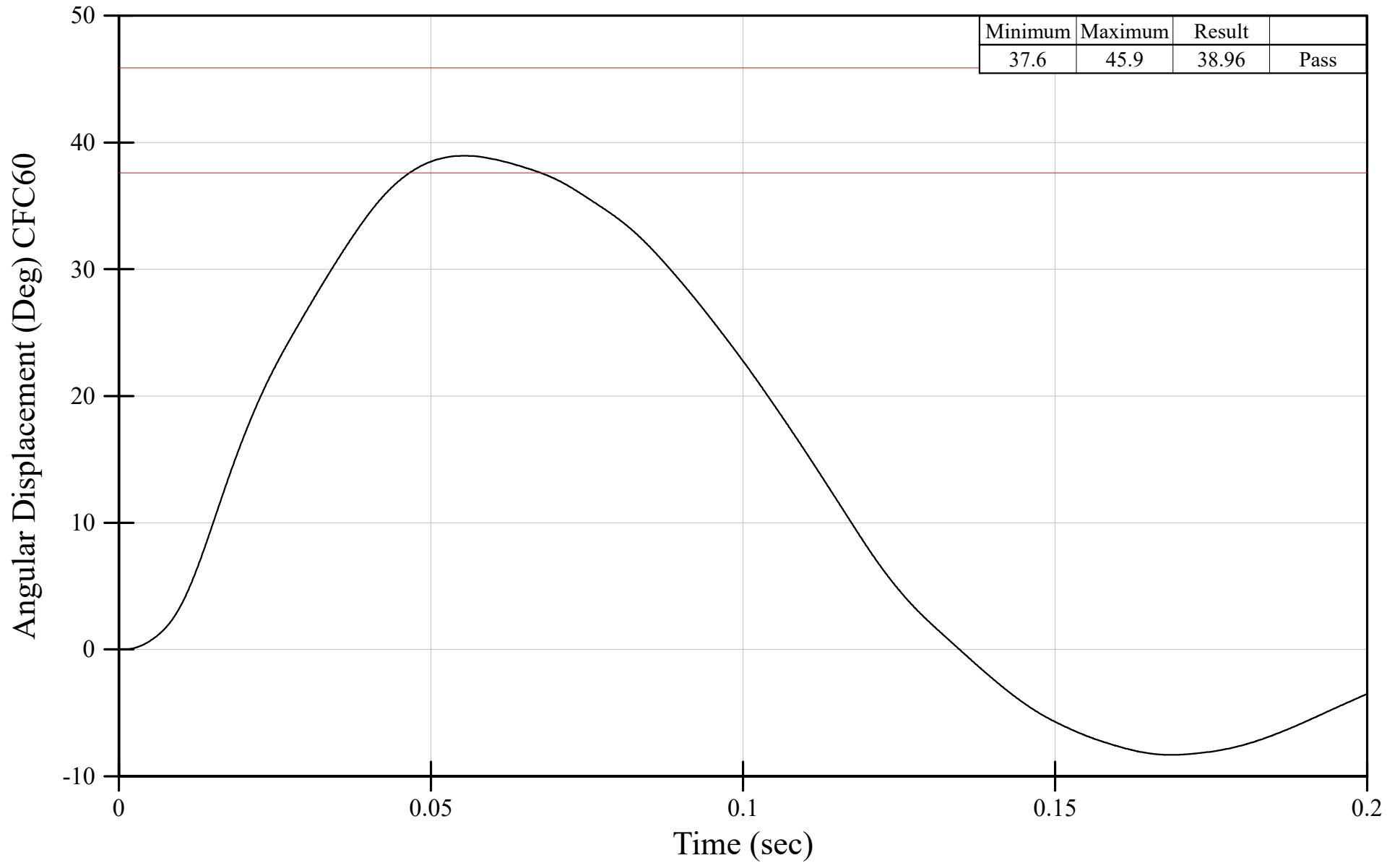
Serial Number: EX1547



THOR-50M Neck Right Lateral Qualification

Neck Rotation

Serial Number: EX1547



THOR-50M Neck Right Torsion Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Neck Serial Number: EX1547

O.C. Stop Assembly Serial Number: EX6798

O.C. Cam Serial Number:

Test ID: 231207-21

Test Date: 12/7/2023

Test Time: 3:44 PM

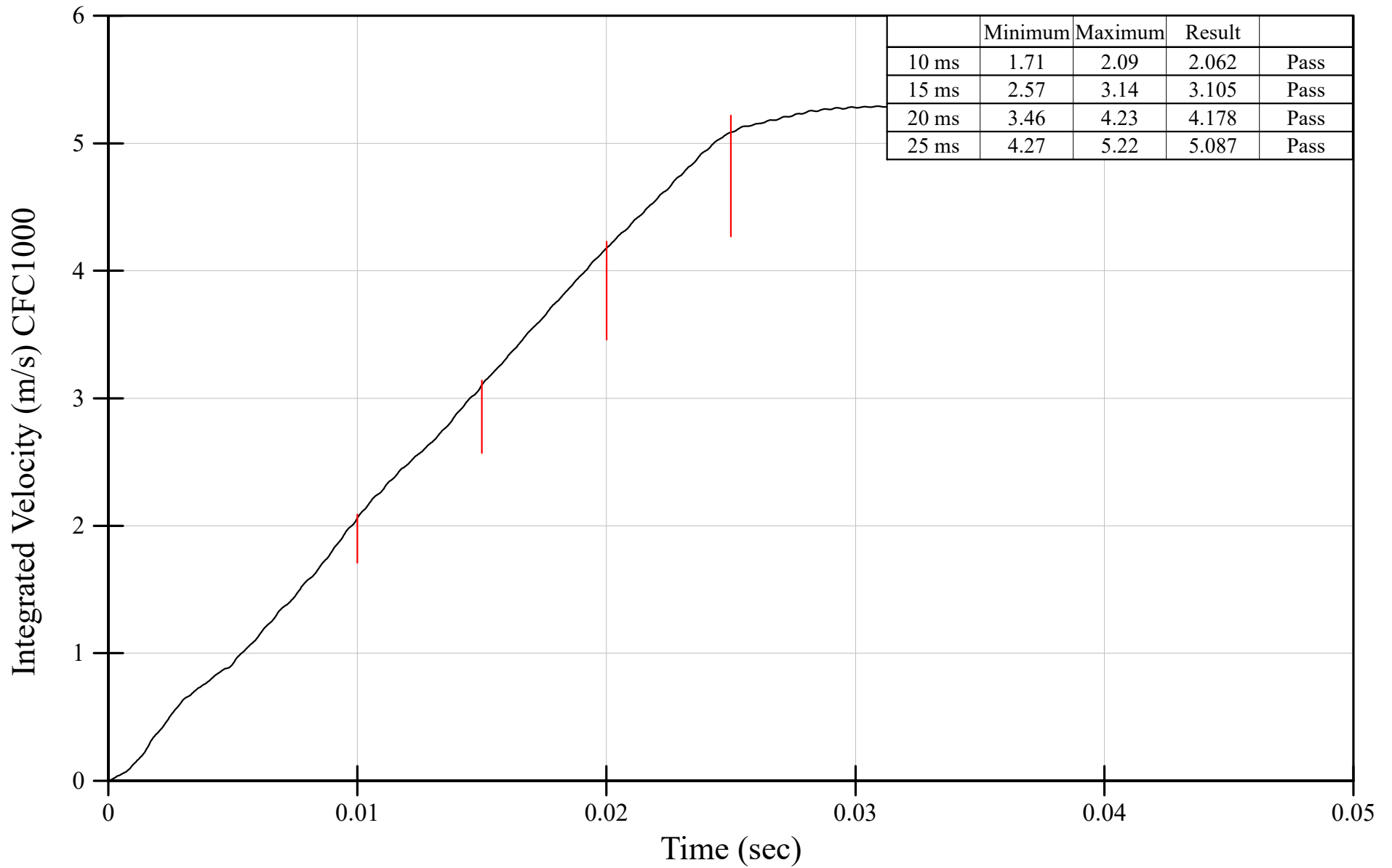
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.2	Pass
Test Humidity (%)	10 - 70	35	Pass
Test Velocity (m/s)	4.95 - 5.05	5.013	Pass
Pendulum Velocity at 10 ms (m/s)	1.71 - 2.09	2.062	Pass
Pendulum Velocity at 15 ms (m/s)	2.57 - 3.14	3.105	Pass
Pendulum Velocity at 20 ms (m/s)	3.46 - 4.23	4.178	Pass
Pendulum Velocity at 25 ms (m/s)	4.27 - 5.22	5.087	Pass
Peak Upper Neck Mz (Nm)	-45.6 - (-37.3)	20.61	Pass
Peak Neck Fixture Rotation (deg)	43.1 - 52.7	-18.06	Pass
Peak Upper Neck Angular Velocity Z (deg/sec)	1251 - 1529	-1425.0	Pass

THOR-50M Neck Right Torsion Qualification

Pendulum Velocity

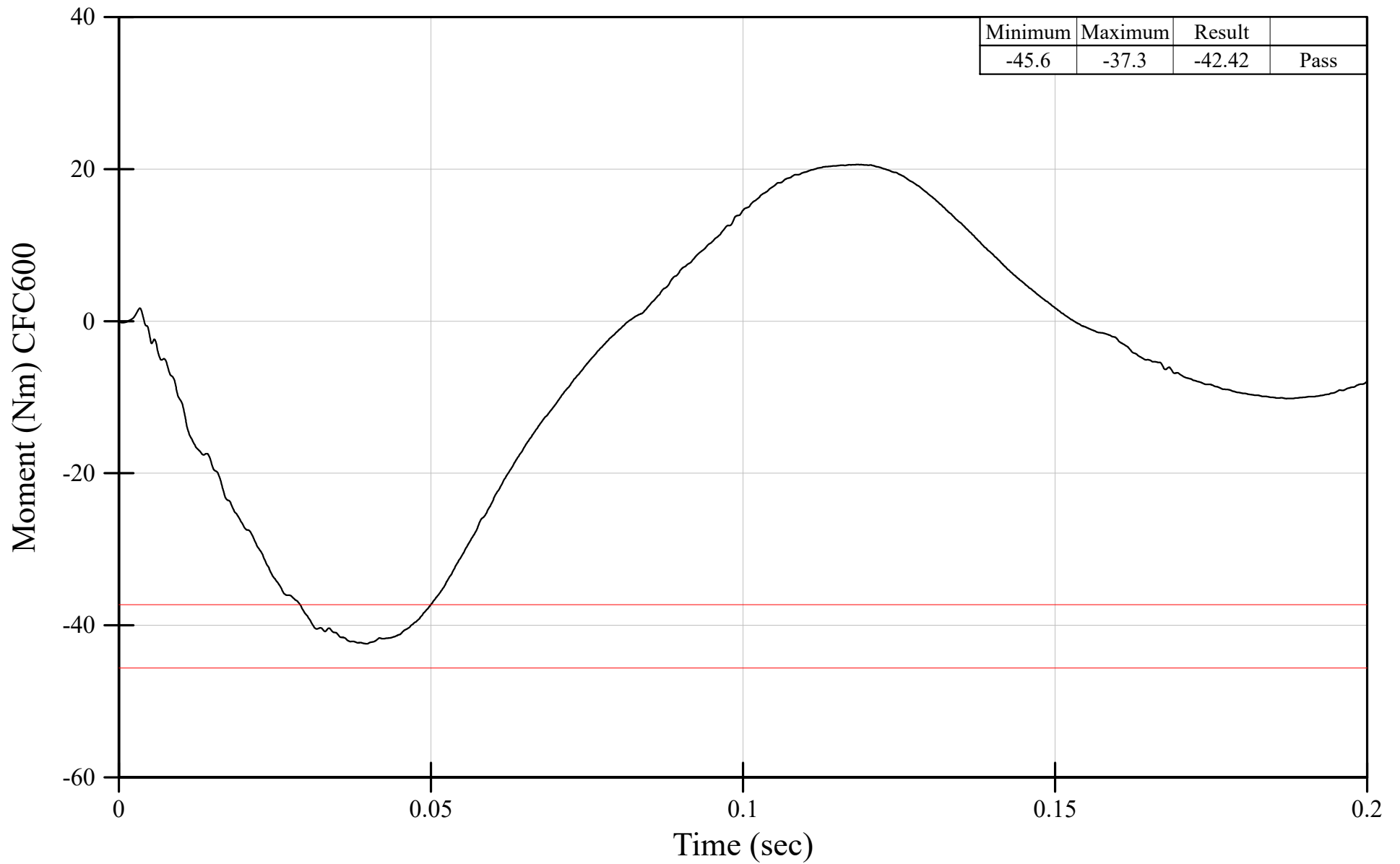
Neck Serial Number: EX1547



THOR-50M Neck Right Torsion Qualification

Peak Upper Neck Moment Z

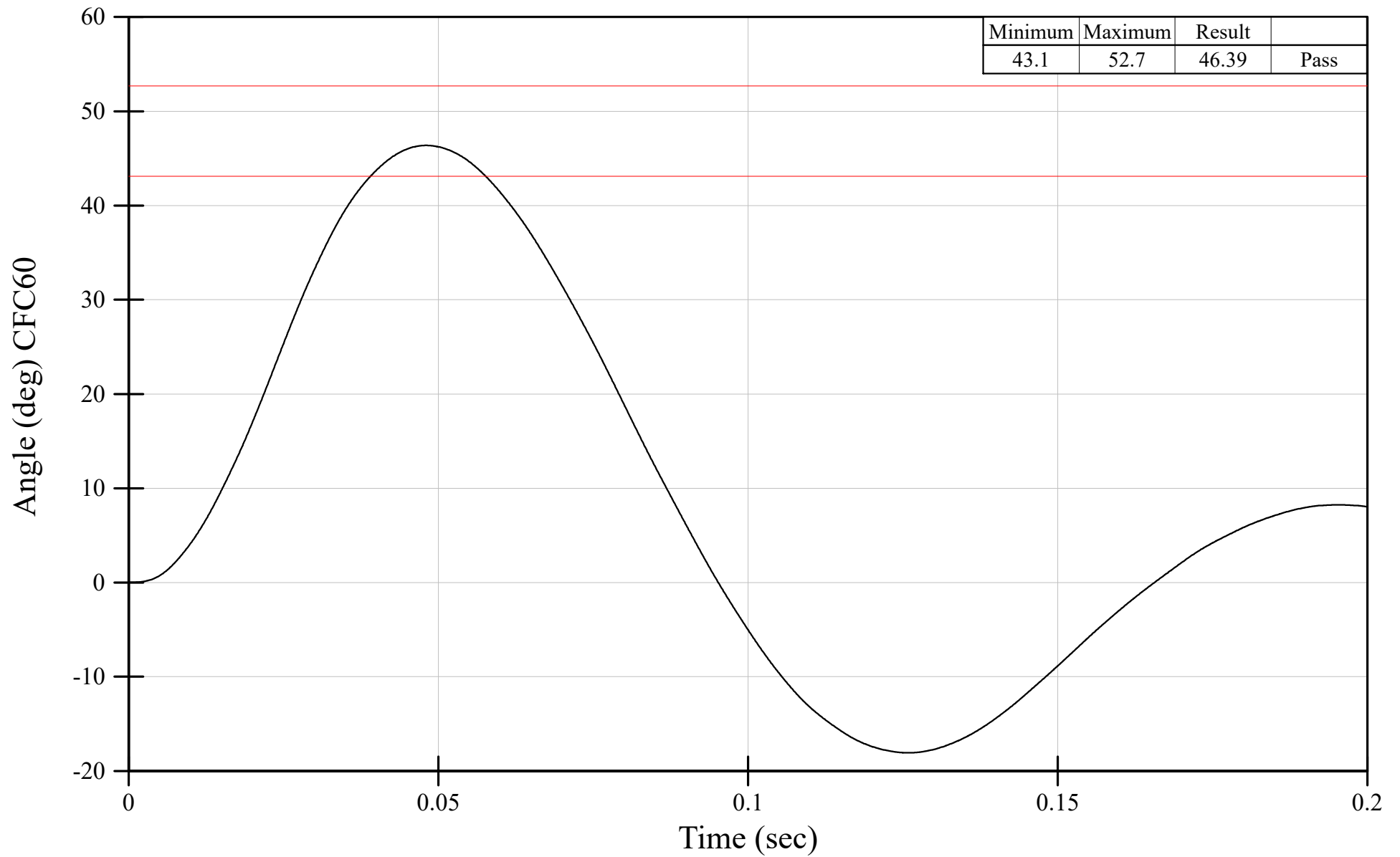
Neck Serial Number: EX1547



THOR-50M Neck Right Torsion Qualification

Neck Fixture Rotation

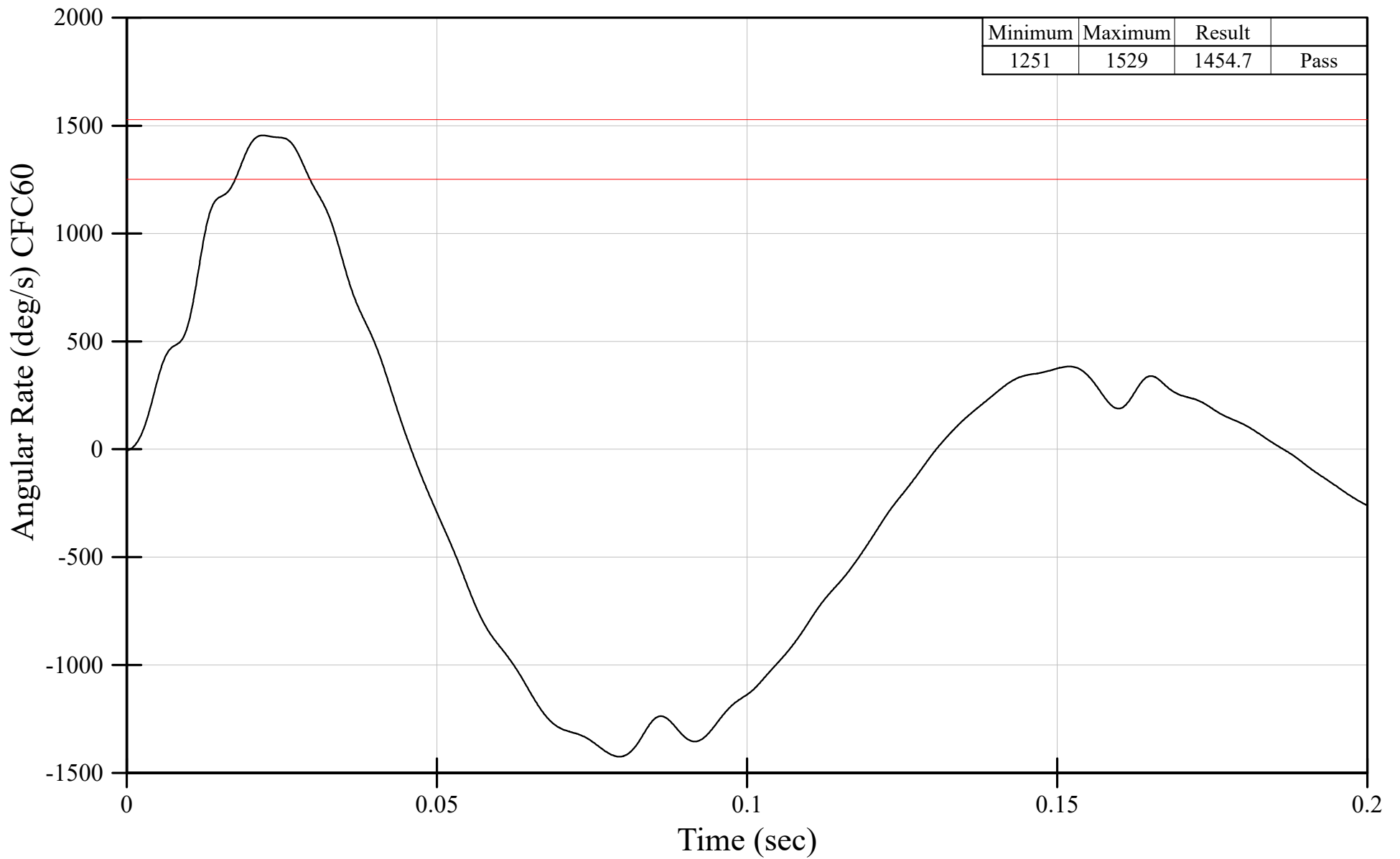
Neck Serial Number: EX1547



THOR-50M Neck Right Torsion Qualification

Peak Angular Rate

Neck Serial Number: EX1547



THOR-50M Left Lower Thorax Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Rib 1 Serial Number: 11979
Rib 2 Serial Number: 12109
Rib 3 Serial Number: 12239
Rib 4 Serial Number: 12096

Rib 5 Serial Number: 12182
Rib 6 Serial Number: 12122
Rib 7 Serial Number: 12158

Test ID: 231214-6
Test Date: 12/14/2023
Test Time: 1:27 PM

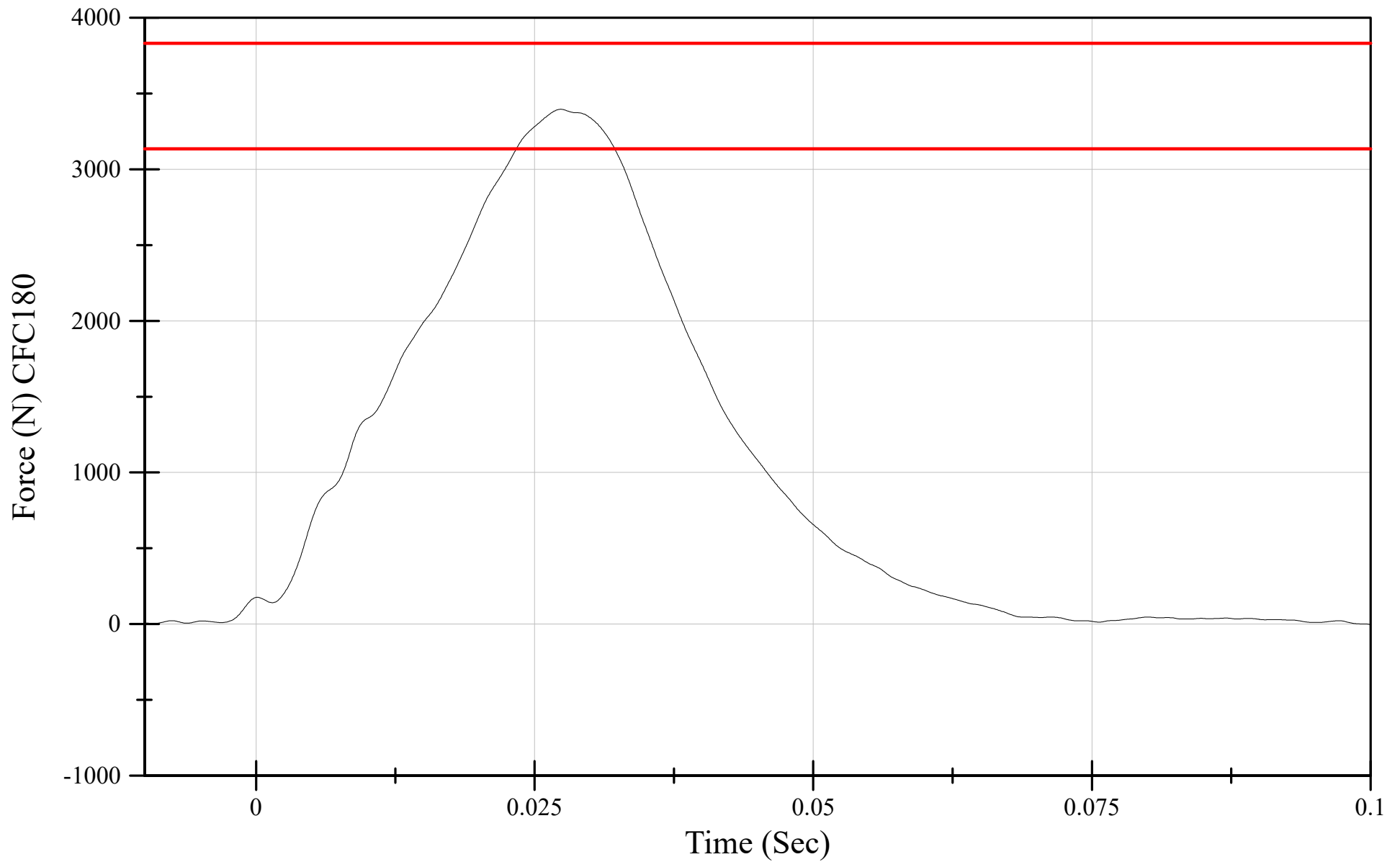
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.3	Pass
Test Humidity (%)	10 - 70	36	Pass
Test Velocity (m/s)	4.25 - 4.35	4.291	Pass
Peak Probe Force (N)	3136 - 3832	3397.0	Pass
Left Resultant Deflection at Peak Force (mm)	45.8 - 56.0	52.65	Pass

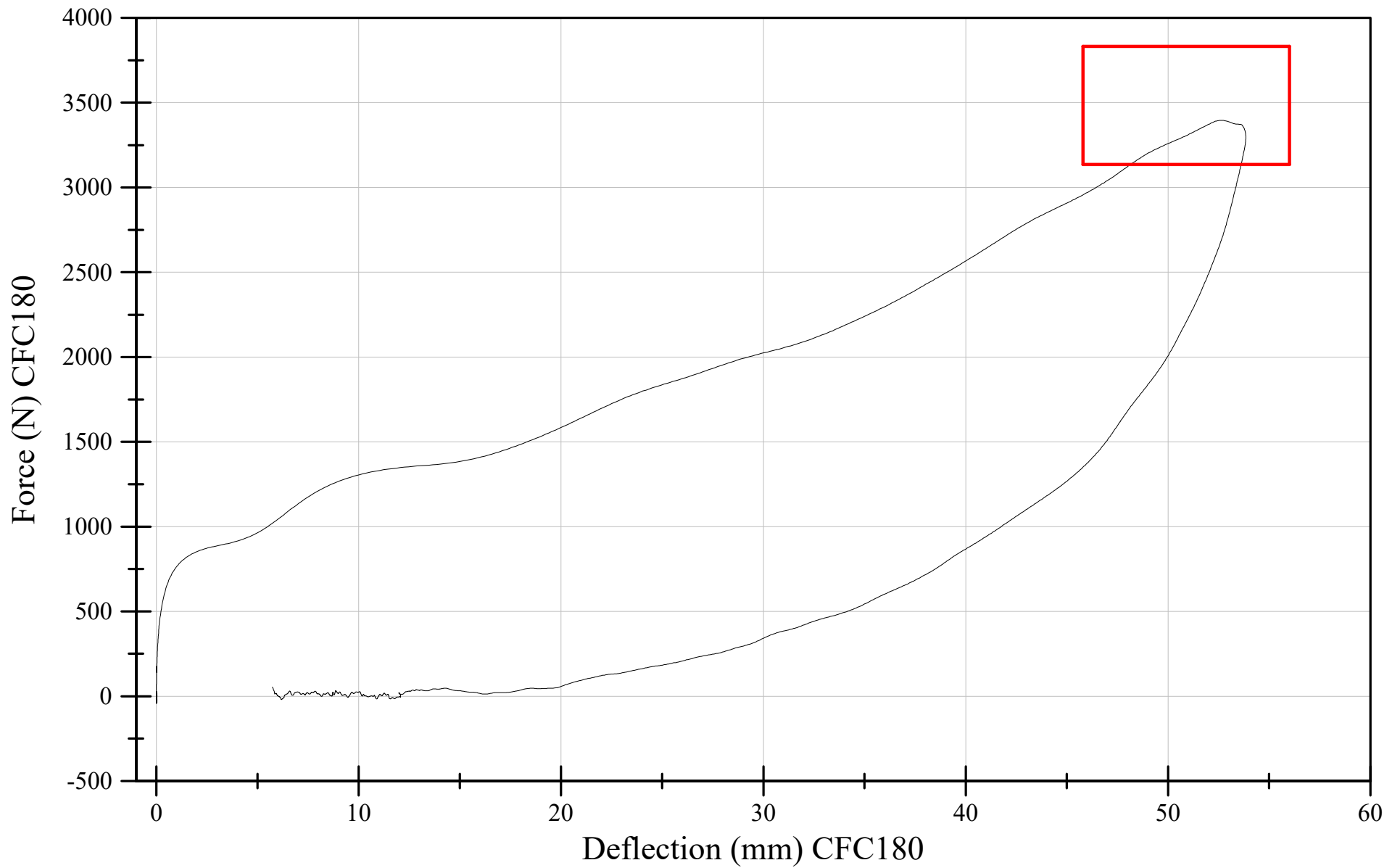
THOR-50M Left Lower Thorax Qualification

Probe Force

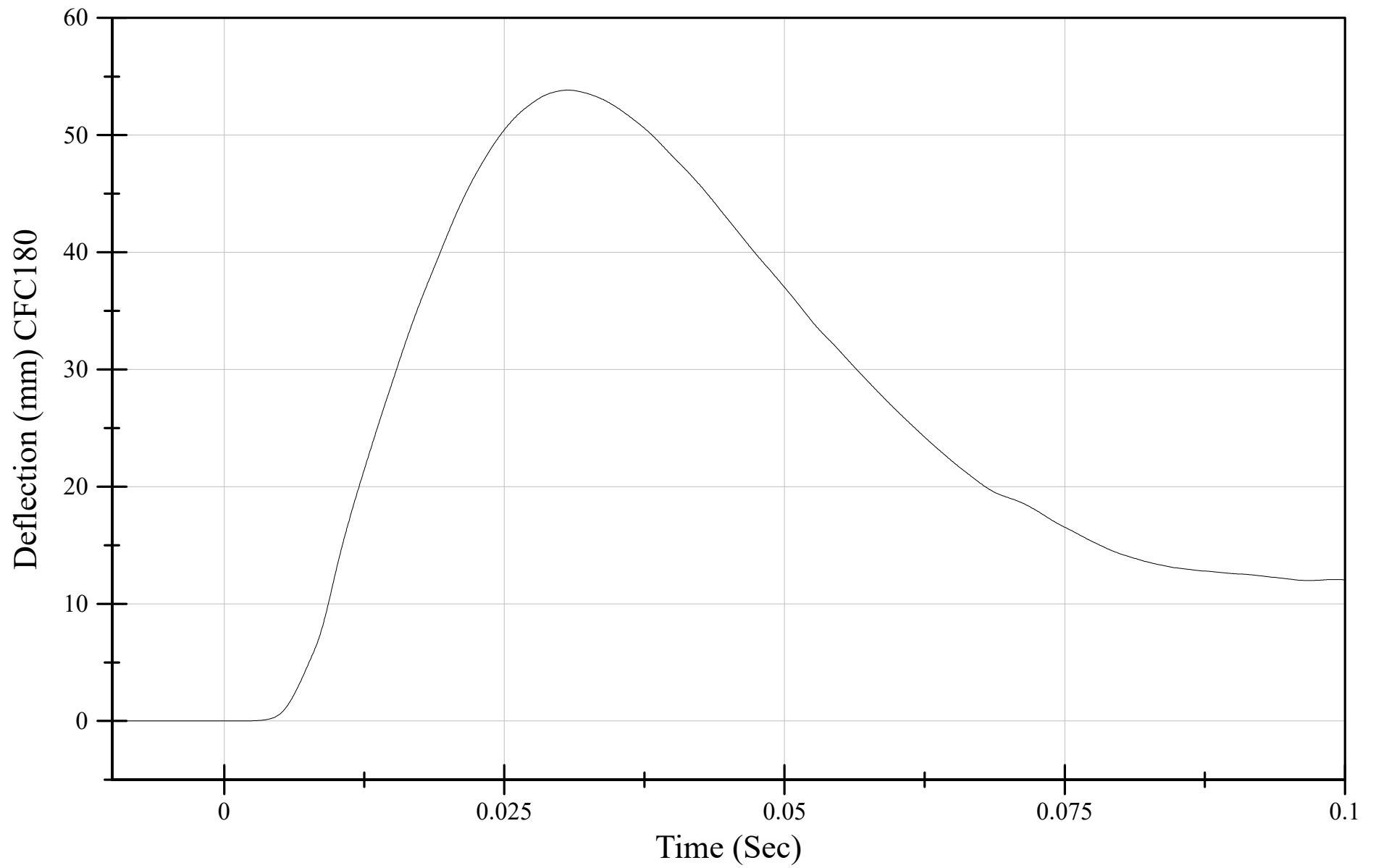
Serial Number: 016



THOR-50M Left Lower Thorax Qualification
Probe Force vs Left Resultant Deflection
Serial Number: 016



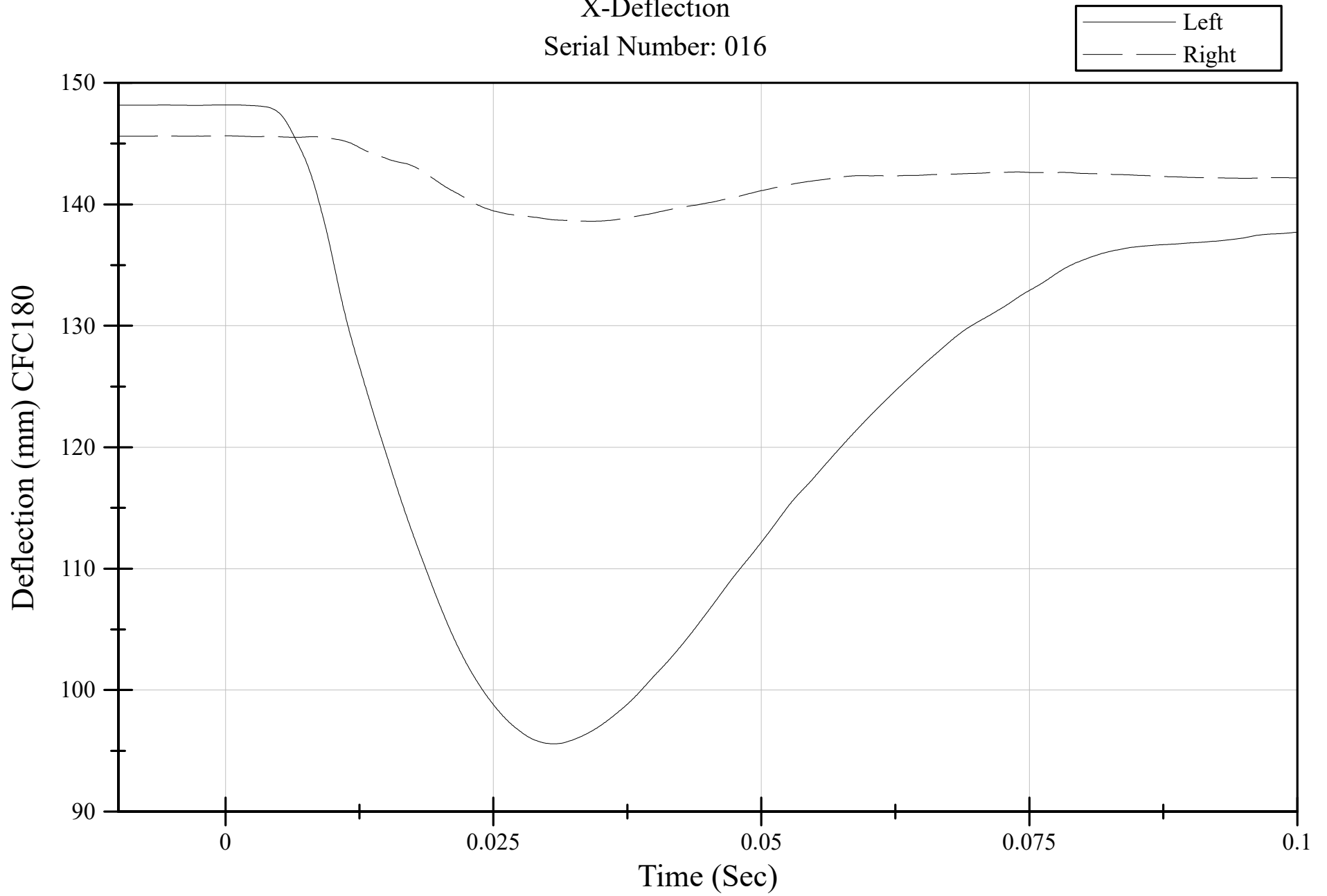
THOR-50M Left Lower Thorax Qualification
Left Resultant Deflection
Serial Number: 016



THOR-50M Left Lower Thorax Qualification

X-Deflection

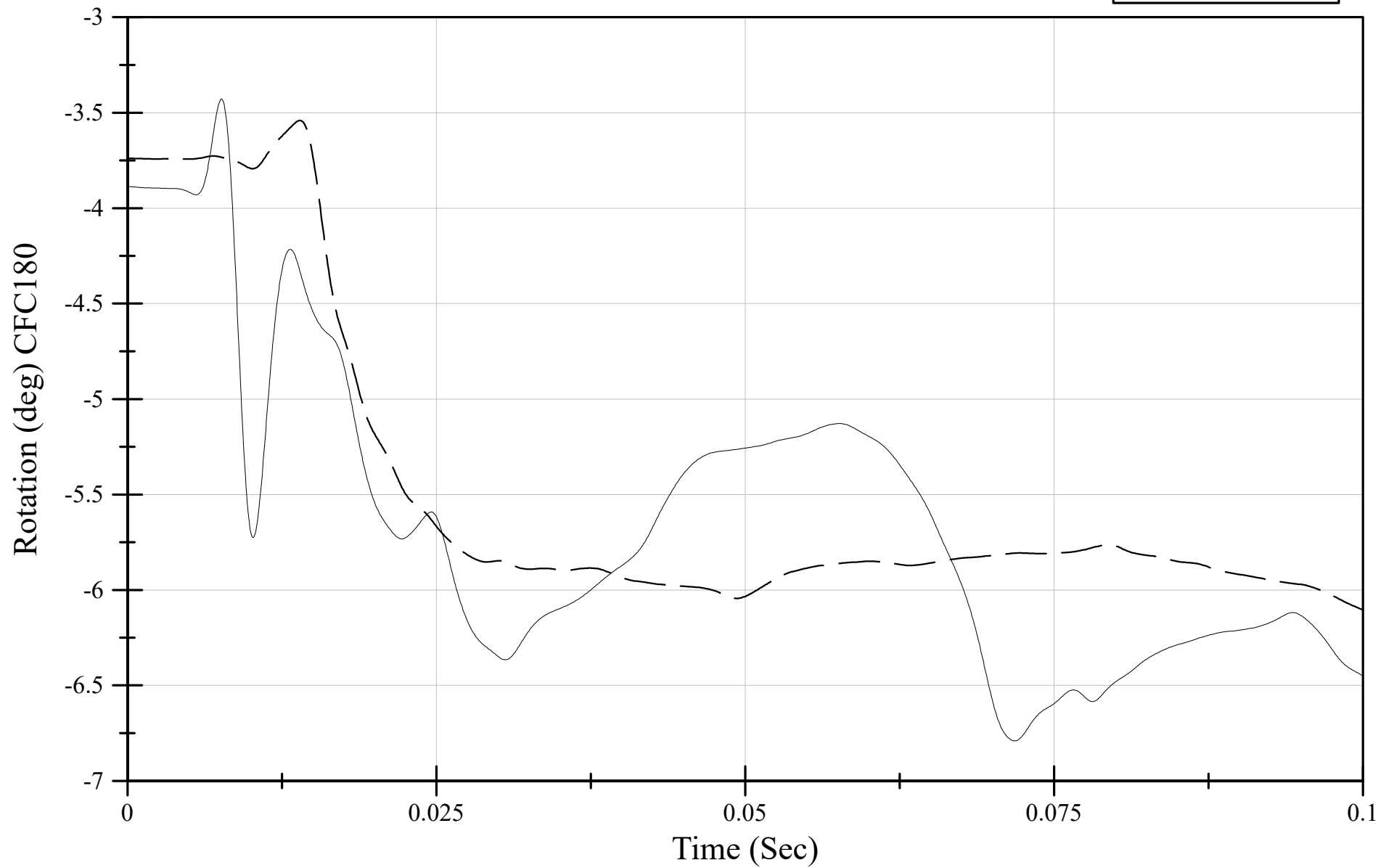
Serial Number: 016



THOR-50M Left Lower Thorax Qualification

Y-Rotation + Offset

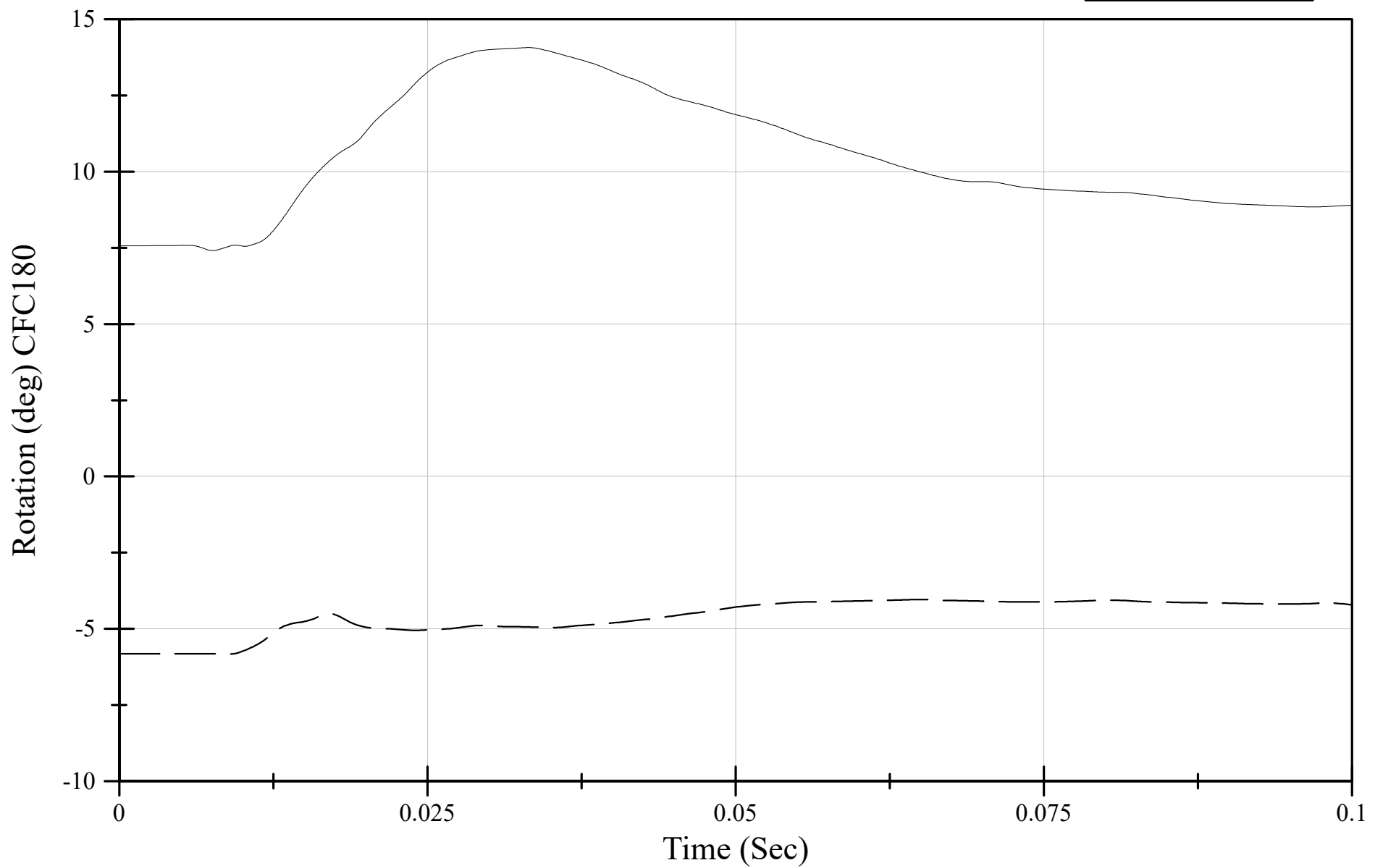
Serial Number: 016



THOR-50M Left Lower Thorax Qualification

Z-Rotation + Offset

Serial Number: 016



THOR-50M Right Lower Thorax Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Rib 1 Serial Number: 11979 Rib 5 Serial Number: 12182
Rib 2 Serial Number: 12109 Rib 6 Serial Number: 12122
Rib 3 Serial Number: 12239 Rib 7 Serial Number: 12158
Rib 4 Serial Number: 12096

Test ID: 231214-7
Test Date: 12/14/2023
Test Time: 2:36 PM

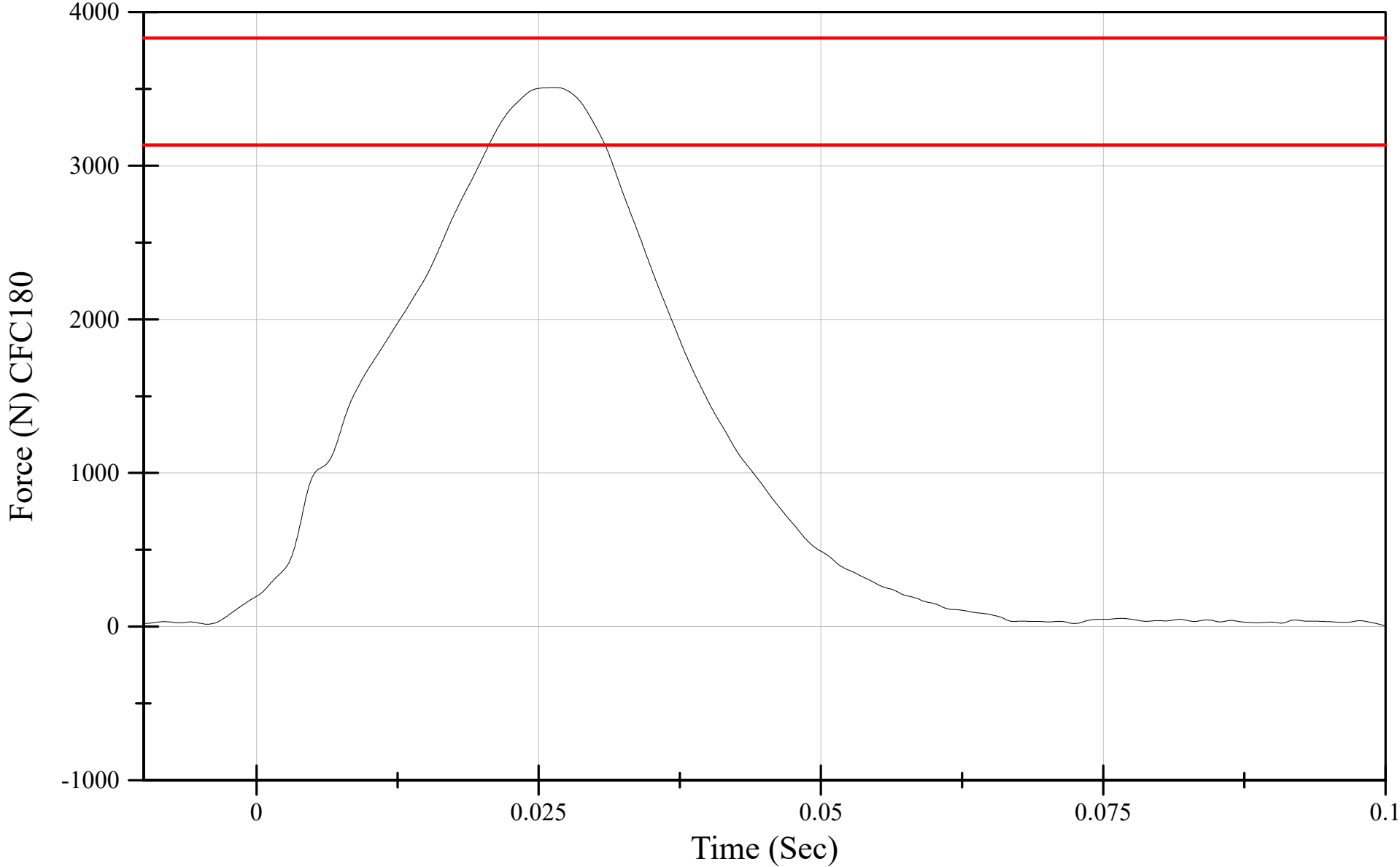
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.1	Pass
Test Humidity (%)	10 - 70	35	Pass
Test Velocity (m/s)	4.25 - 4.35	4.29	Pass
Peak Probe Force (N)	3136 - 3832	3511	Pass
Right Resultant Deflection at Peak Force (mm)	45.8 - 56.0	47.8	Pass

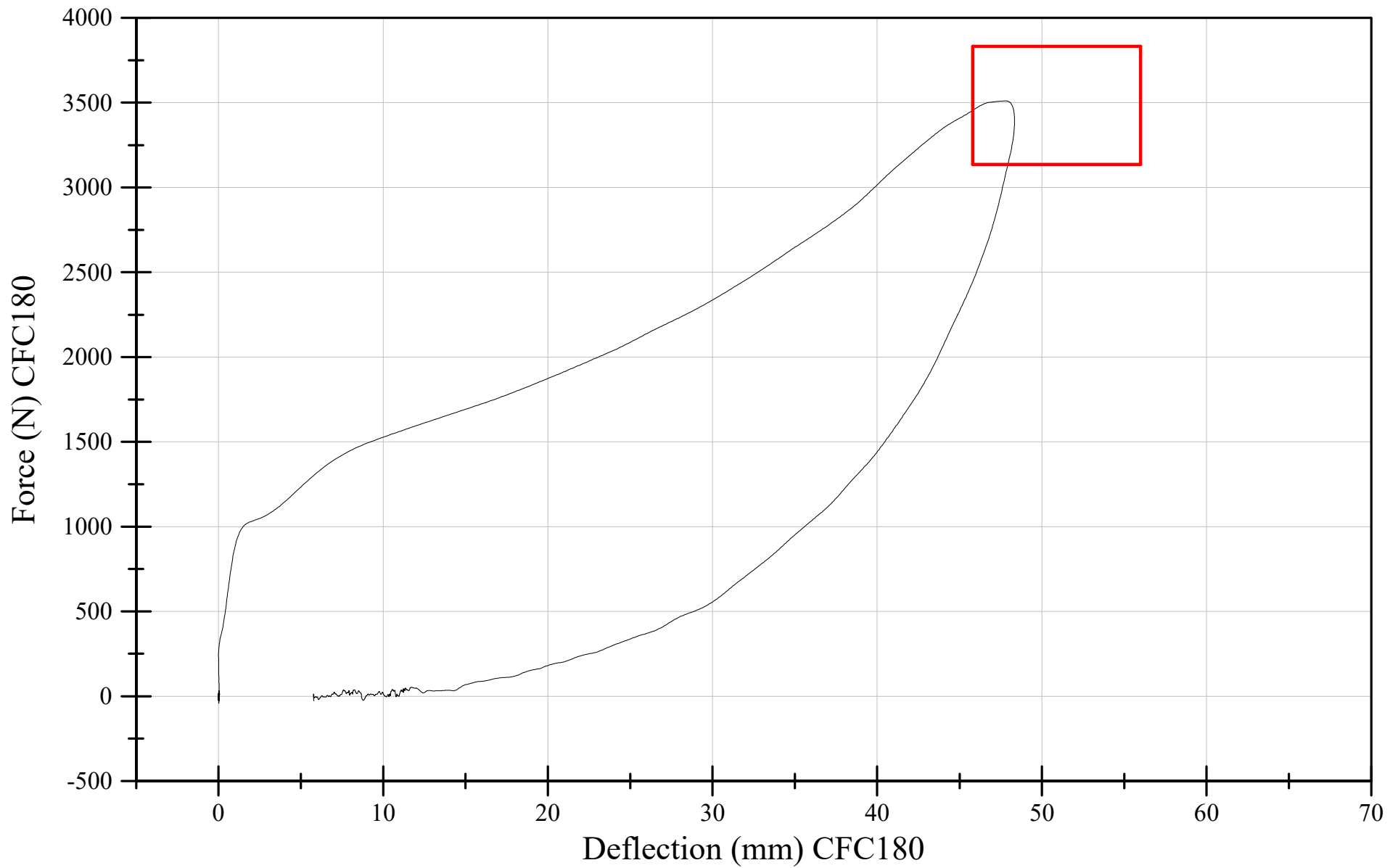
THOR-50M Right Lower Thorax Qualification

Probe Force

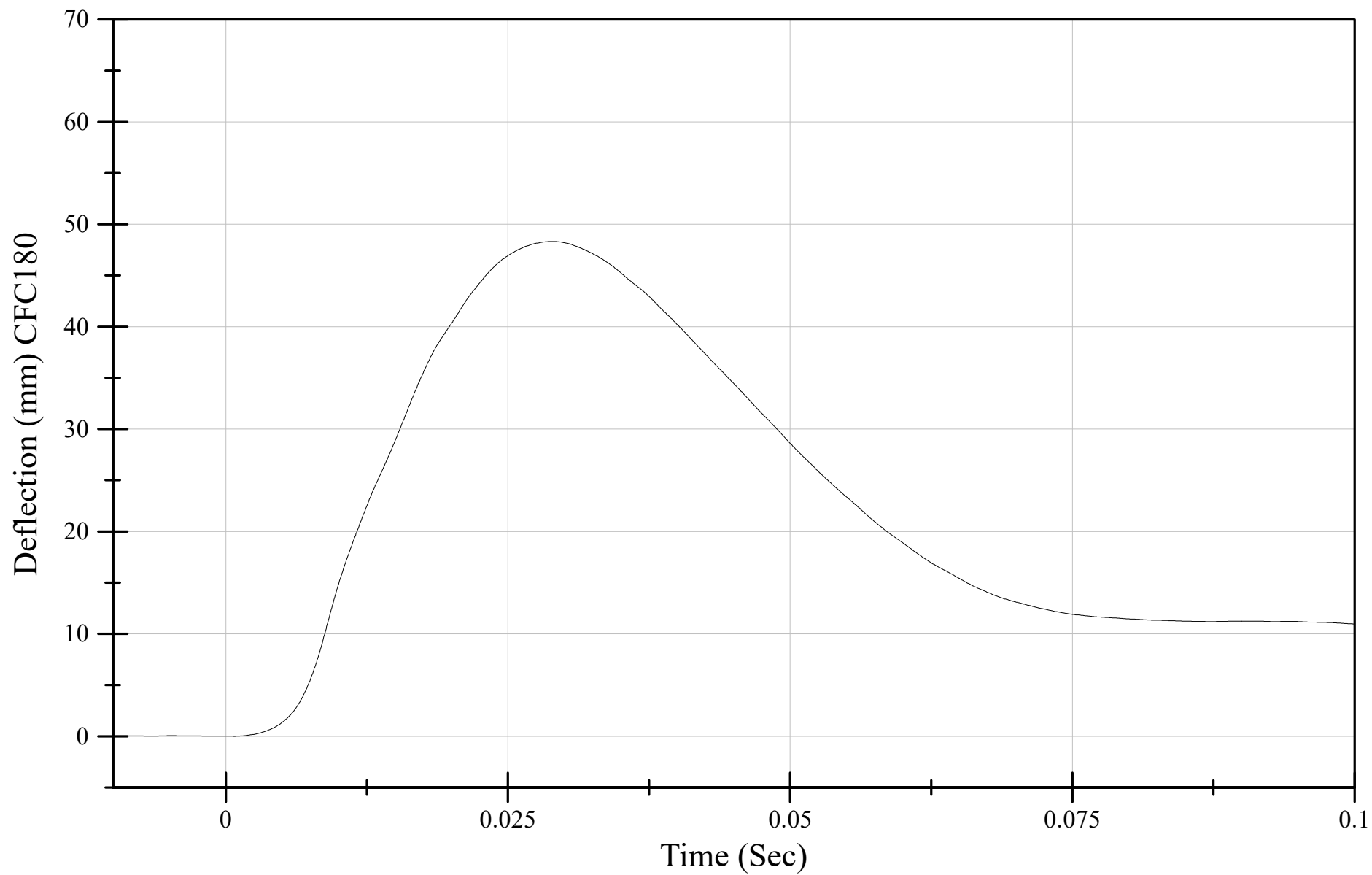
Serial Number: 016



THOR-50M Right Lower Thorax Qualification
Probe Force vs Right Resultant Deflection
Serial Number: 016



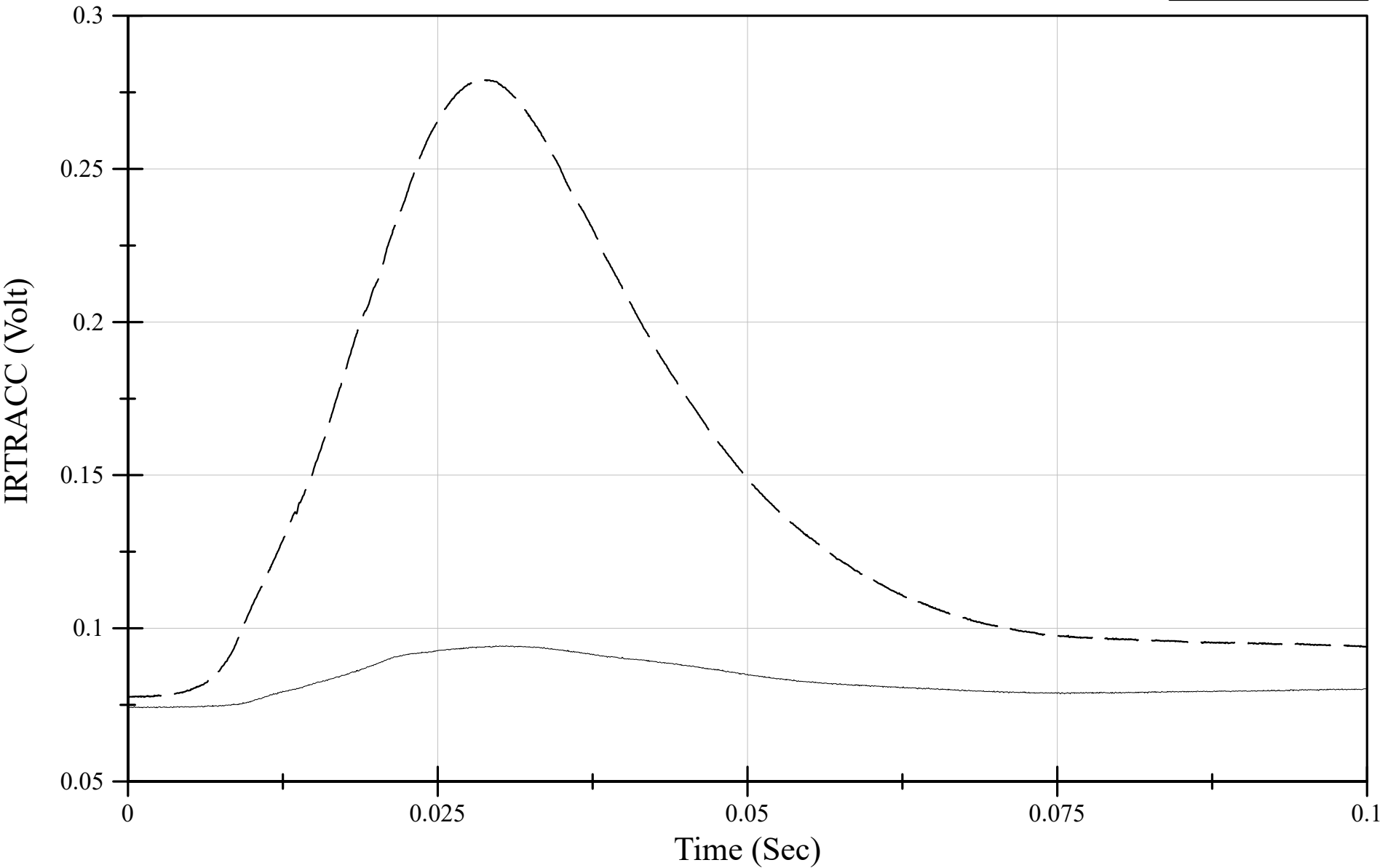
THOR-50M Right Lower Thorax Qualification
Right Resultant Deflection
Serial Number: 016



THOR-50M Right Lower Thorax Qualification

IR-TRACC Voltage

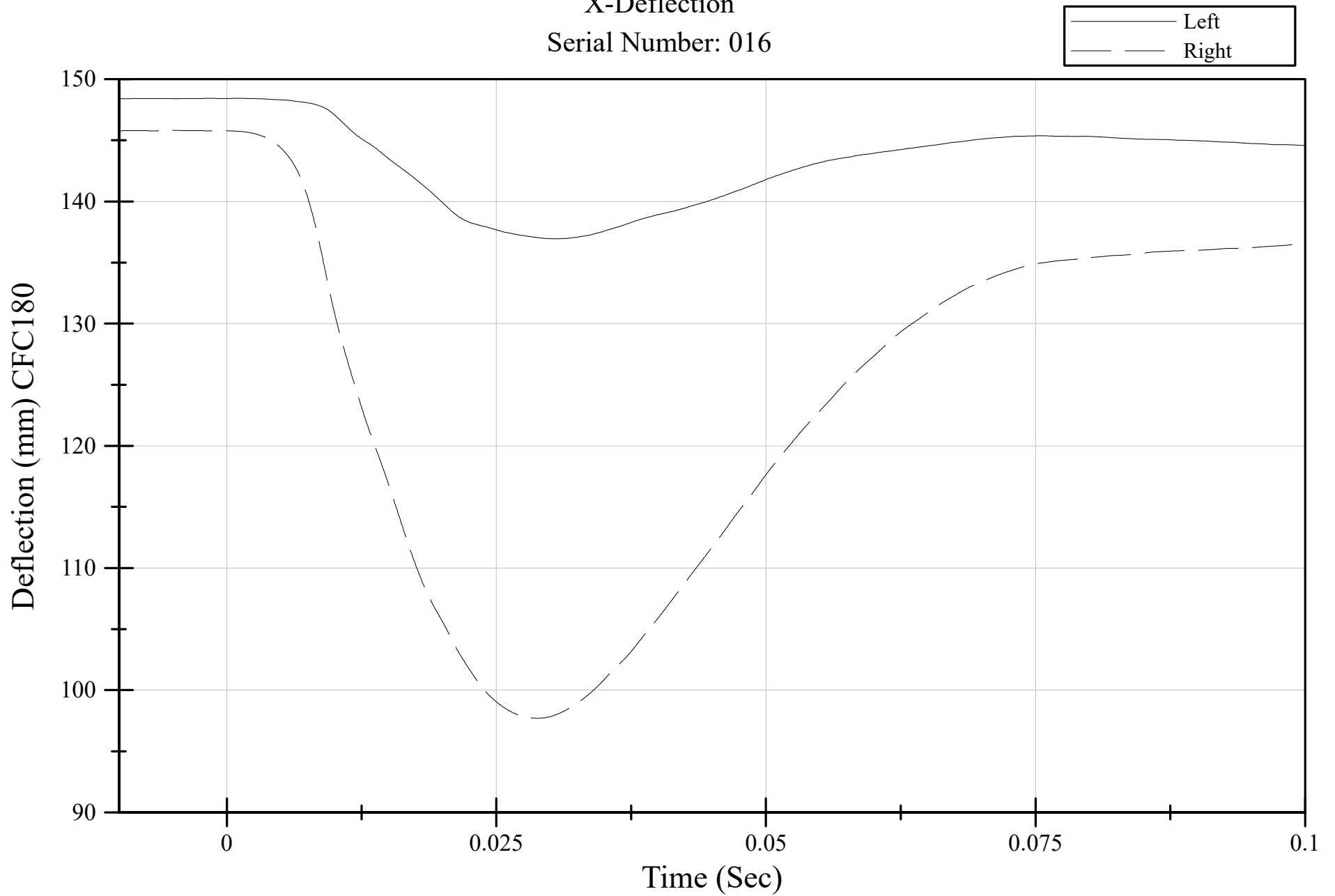
Serial Number: 016



THOR-50M Right Lower Thorax Qualification

X-Deflection

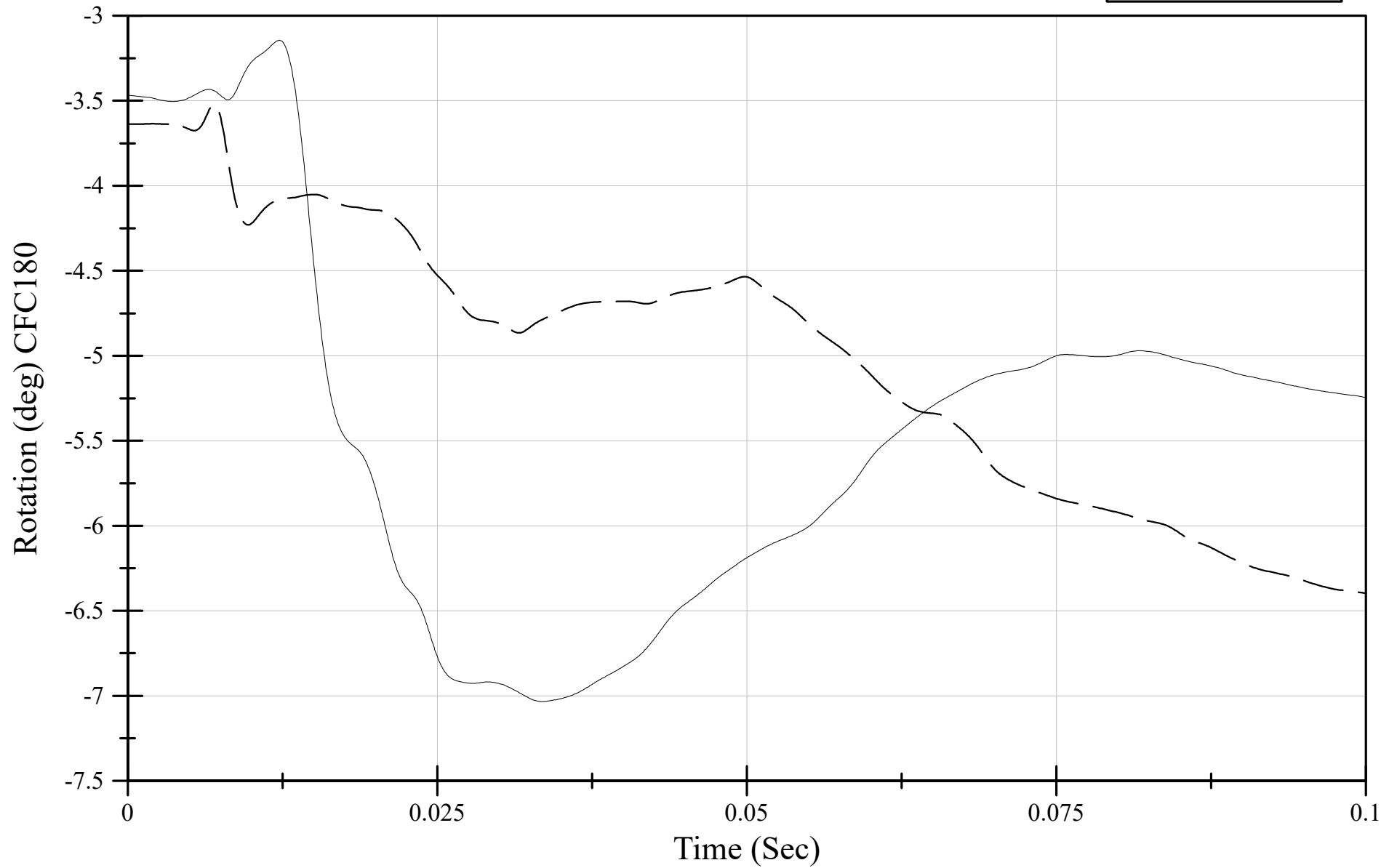
Serial Number: 016



THOR-50M Right Lower Thorax Qualification

Y-Rotation + Offset

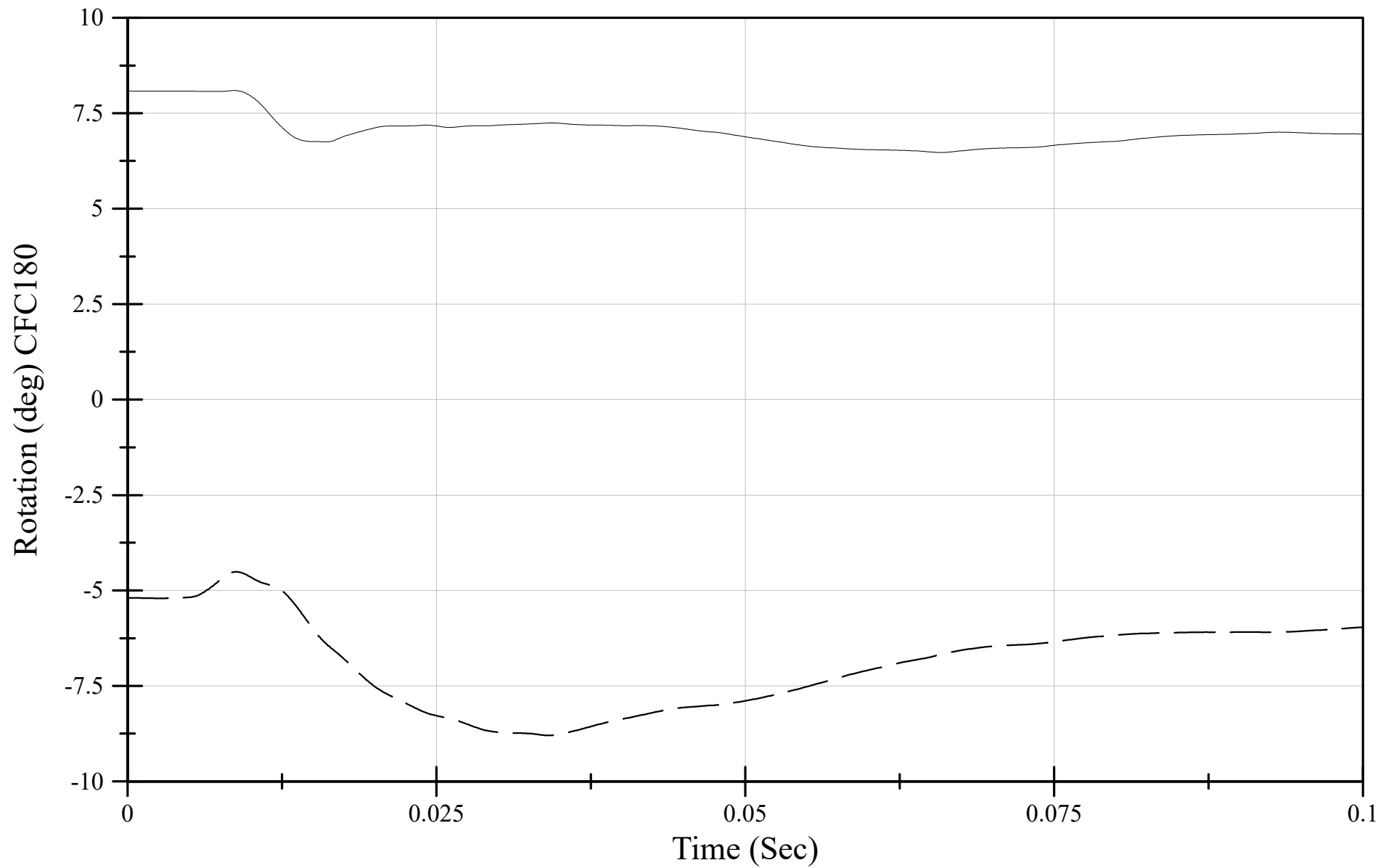
Serial Number: 016



THOR-50M Right Lower Thorax Qualification

Z-Rotation + Offset

Serial Number: 016



THOR-50M Upper Thorax Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Rib 1 Serial Number: 11979 Rib 5 Serial Number: 12182
Rib 2 Serial Number: 12109 Rib 6 Serial Number: 12122
Rib 3 Serial Number: 12239 Rib 7 Serial Number: 12158
Rib 4 Serial Number: 12096

Test ID: 231214-4
Test Date: 12/14/2023
Test Time: 10:56 AM

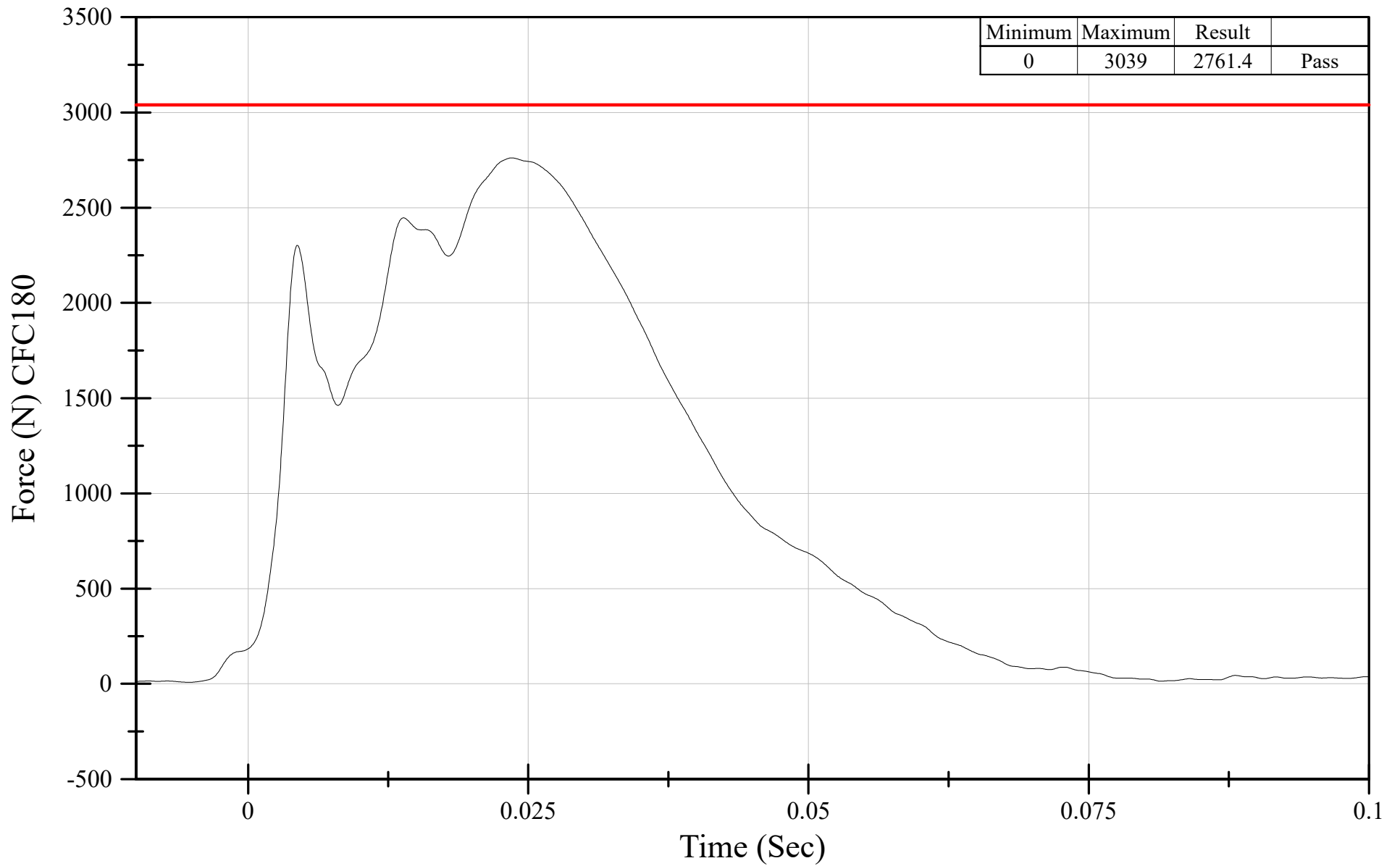
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.2	Pass
Test Humidity (%)	10 - 70	36	Pass
Test Velocity (m/s)	4.25 - 4.35	4.287	Pass
Peak Probe Force (N)	less than 3039	2761.4	Pass
Peak Upper Left Resultant Deflection (mm)	48.3 - 59.0	56.02	Pass
Peak Upper Right Resultant Deflection (mm)	48.3 - 59.0	54.27	Pass
Difference Between Peak Left & Right Resultant Deflections (mm)	less than 5.0	1.75	Pass
Force at Left Peak Resultant Deflection (N)	2409 - 2944	2700.2	Pass
Force at Right Peak Resultant Deflection (N)	2409 - 2944	2639.3	Pass

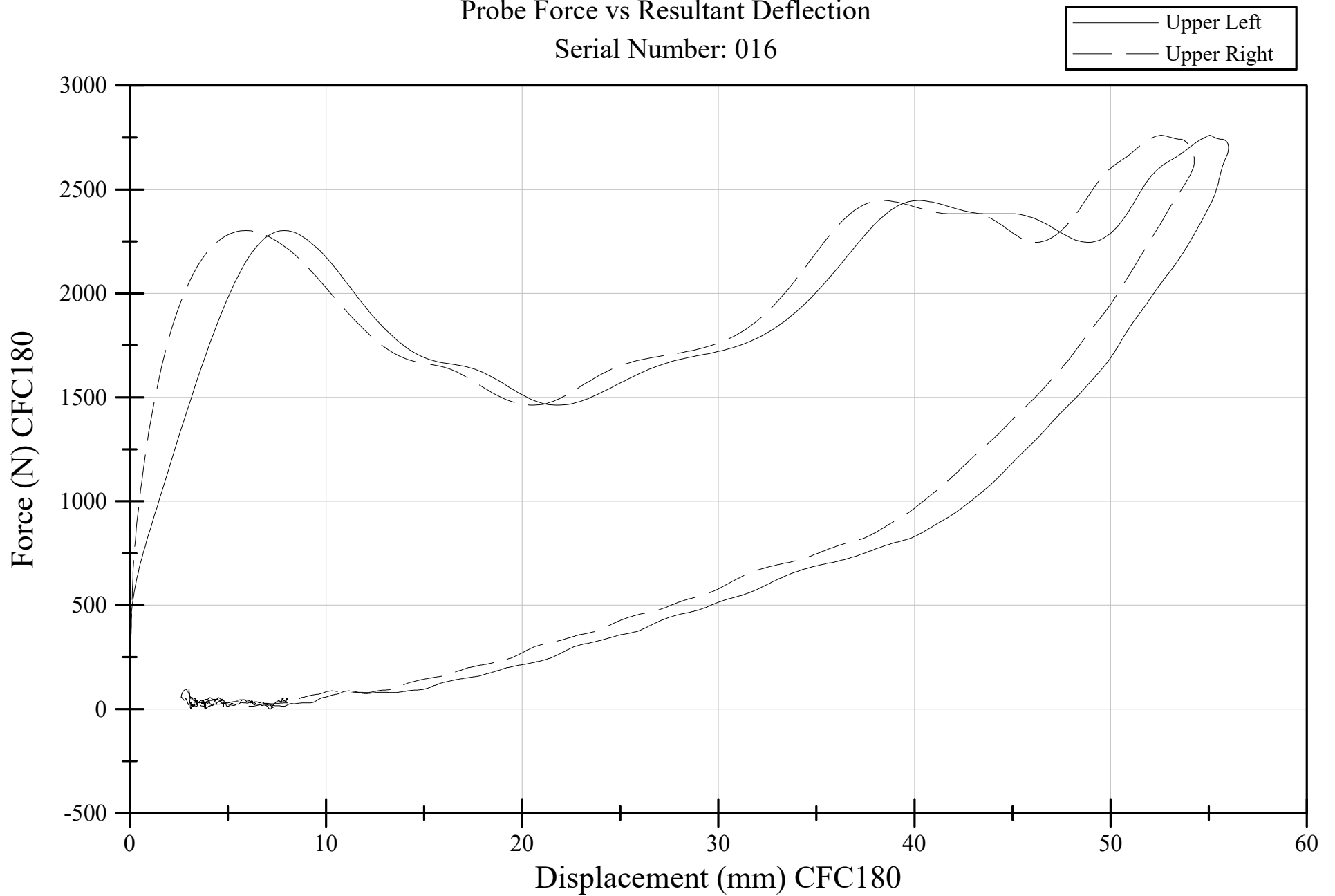
THOR-50M Upper Thorax Qualification

Probe Force

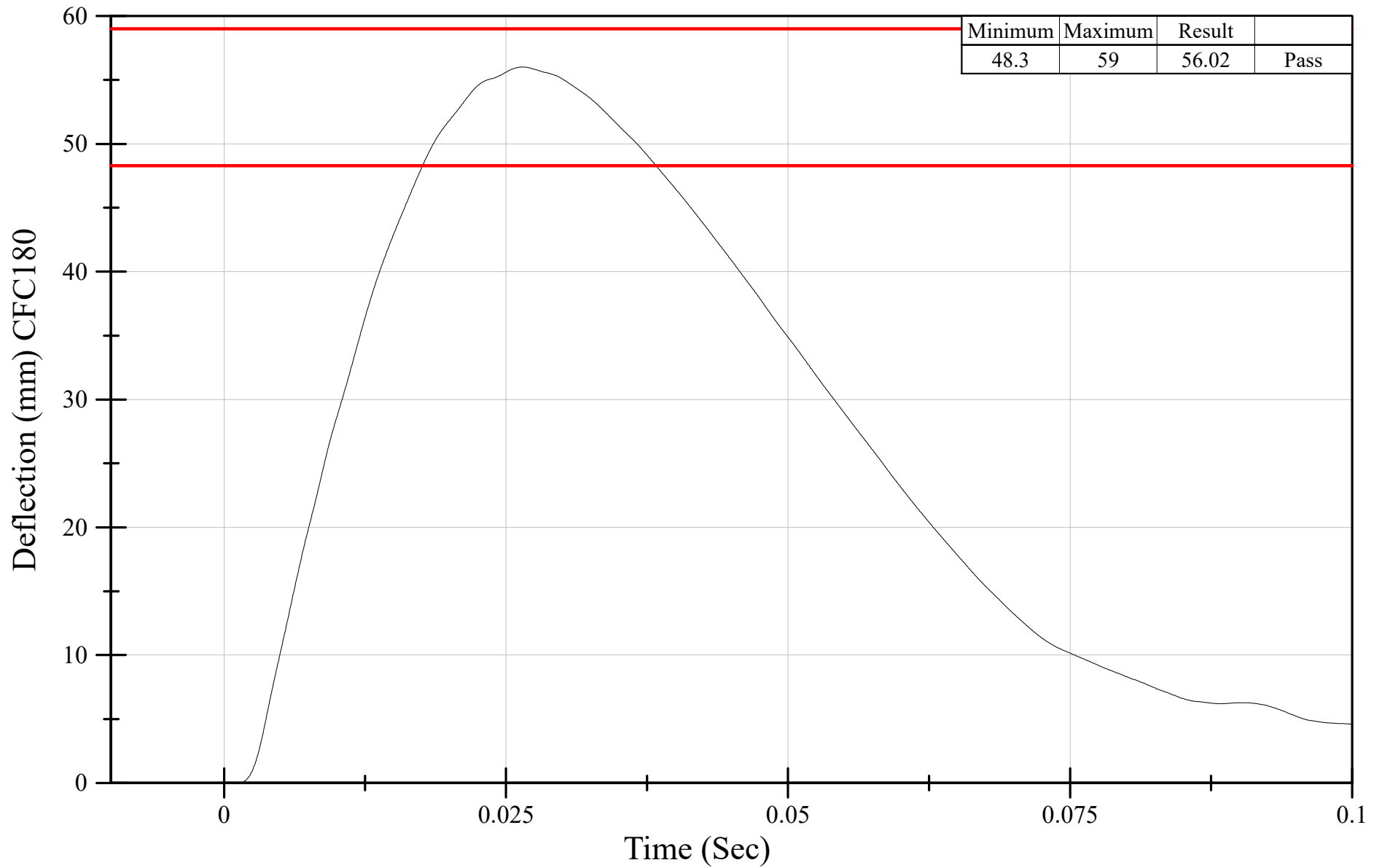
Serial Number: 016



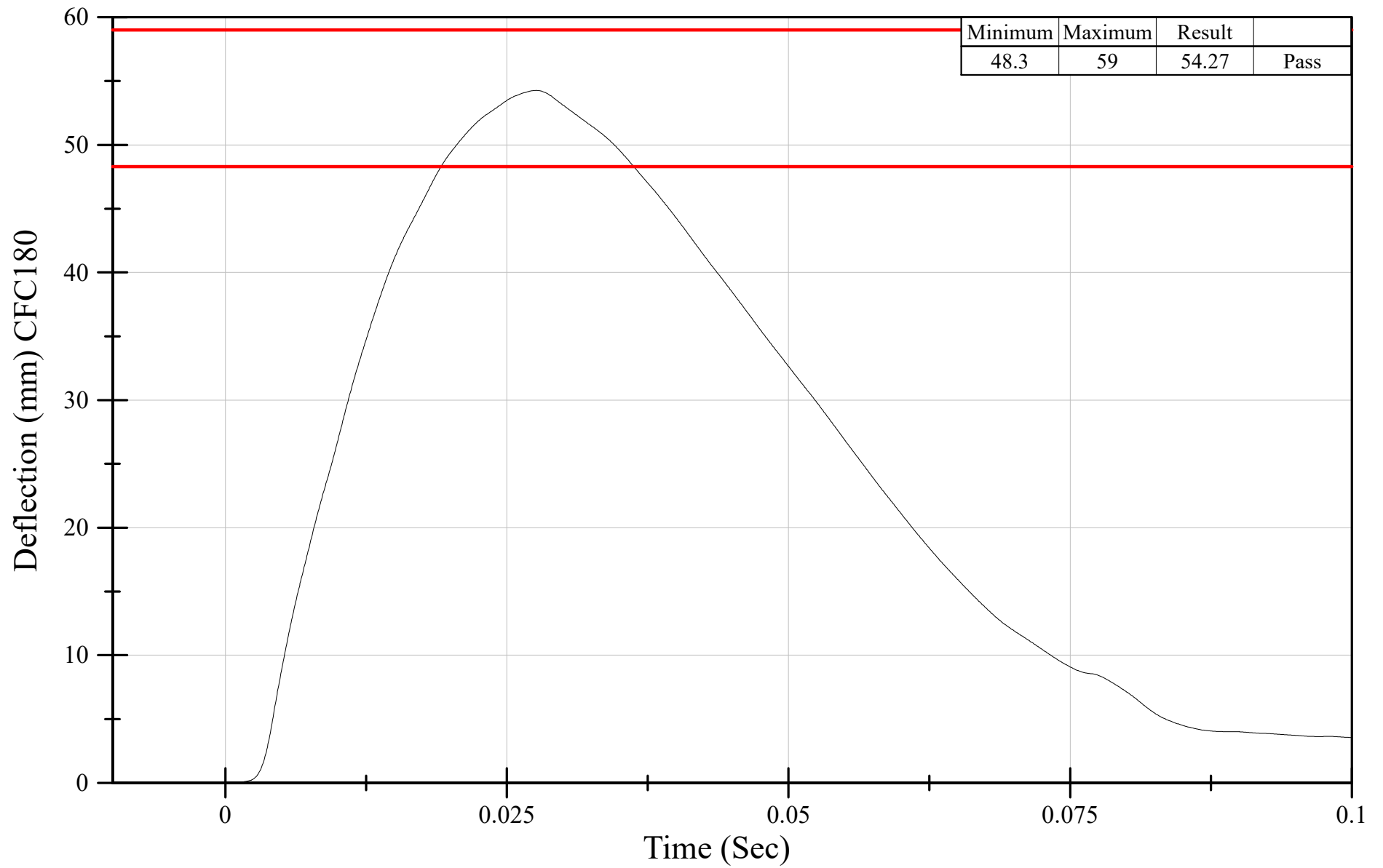
THOR-50M Upper Thorax Qualification
Probe Force vs Resultant Deflection
Serial Number: 016



THOR-50M Upper Thorax Qualification
Left Resultant Deflection
Serial Number: 016



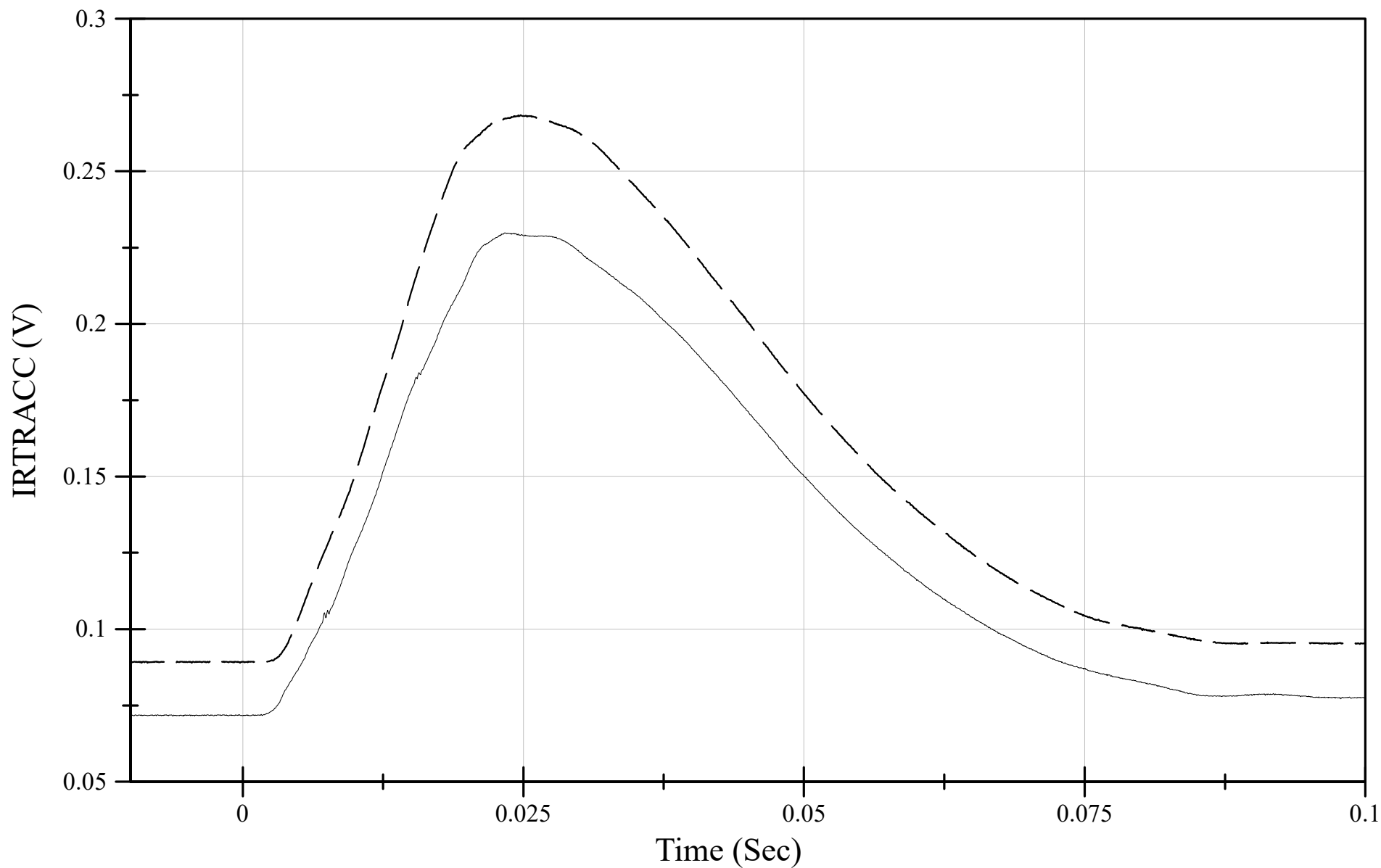
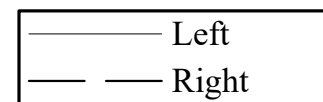
THOR-50M Upper Thorax Qualification
Right Resultant Deflection
Serial Number: 016



THOR-50M Upper Thorax Qualification

IR-TRACC Raw Voltage

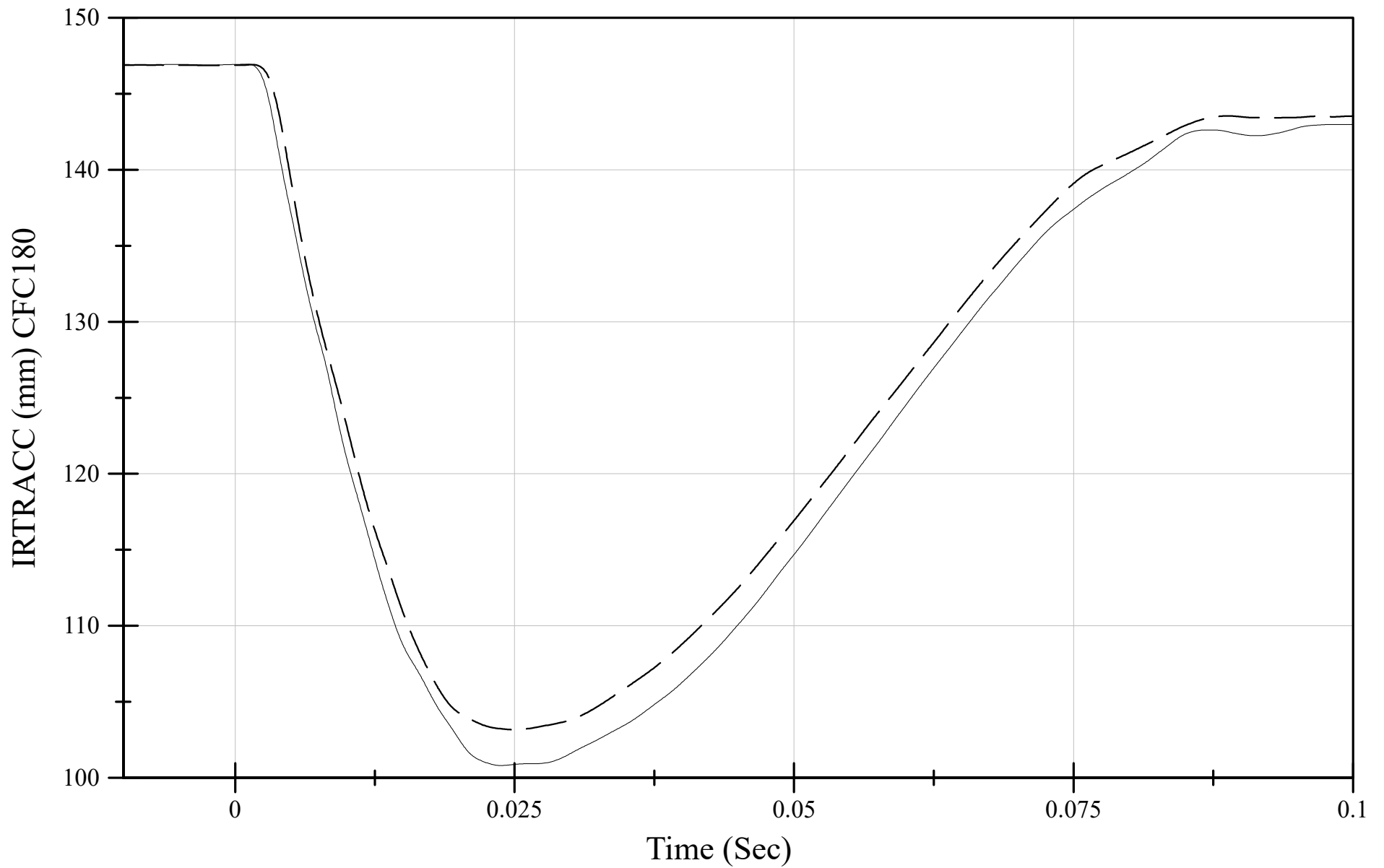
Serial Number: 016



THOR-50M Upper Thorax Qualification

INTRACC X-Deflection

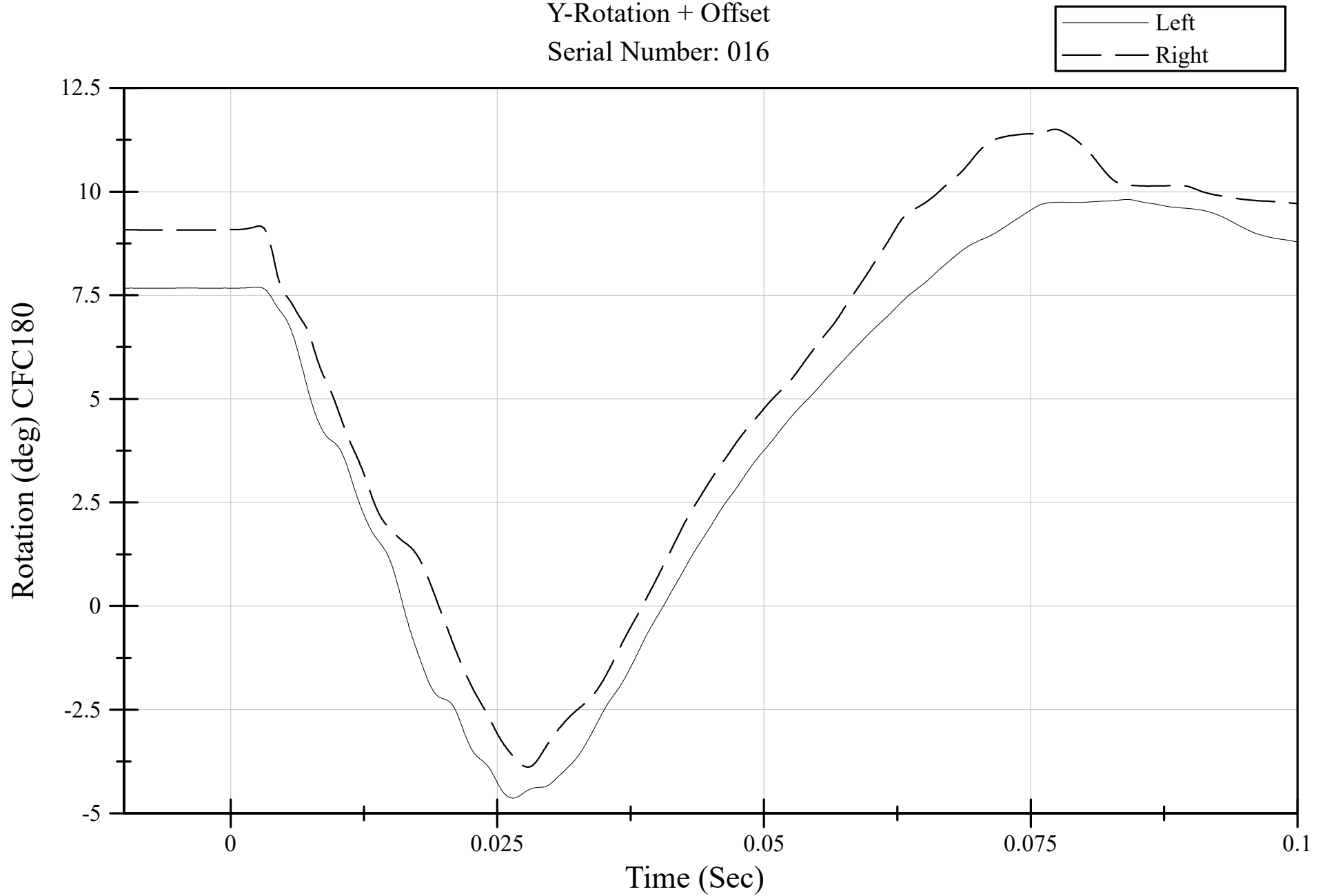
Serial Number: 016



THOR-50M Upper Thorax Qualification

Y-Rotation + Offset

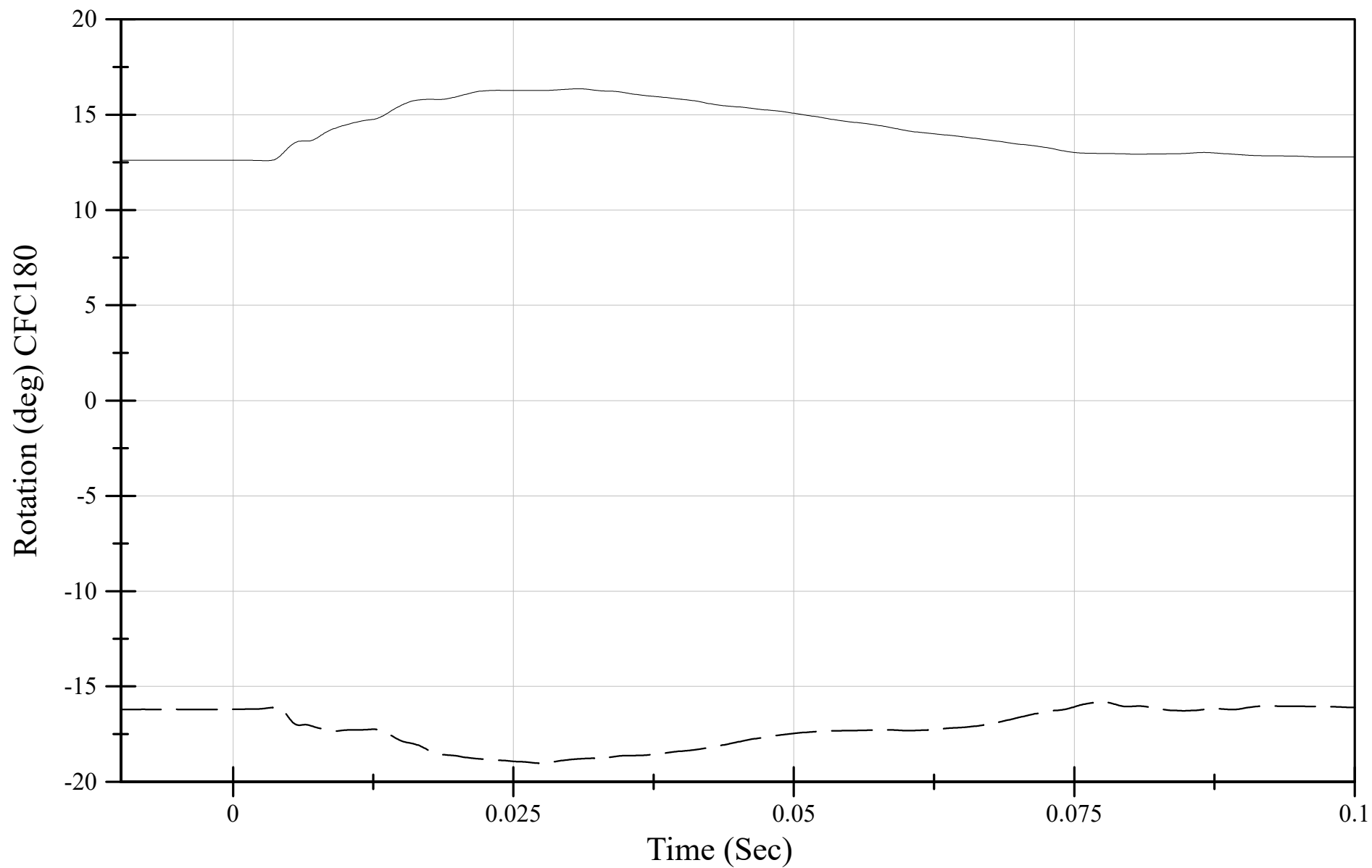
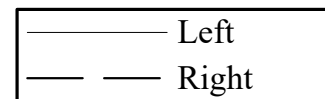
Serial Number: 016



THOR-50M Upper Thorax Qualification

Z-Rotation + Offset

Serial Number: 016



THOR-50M Lower Abdomen Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Front Lower Abdomen Foam: 20
Rear Lower Abdomen Foam: DP3448
Lower Abdomen Bag: Red 2

Test ID: 240125-9
Test Date: 1/25/2024
Test Time: 3:03 PM

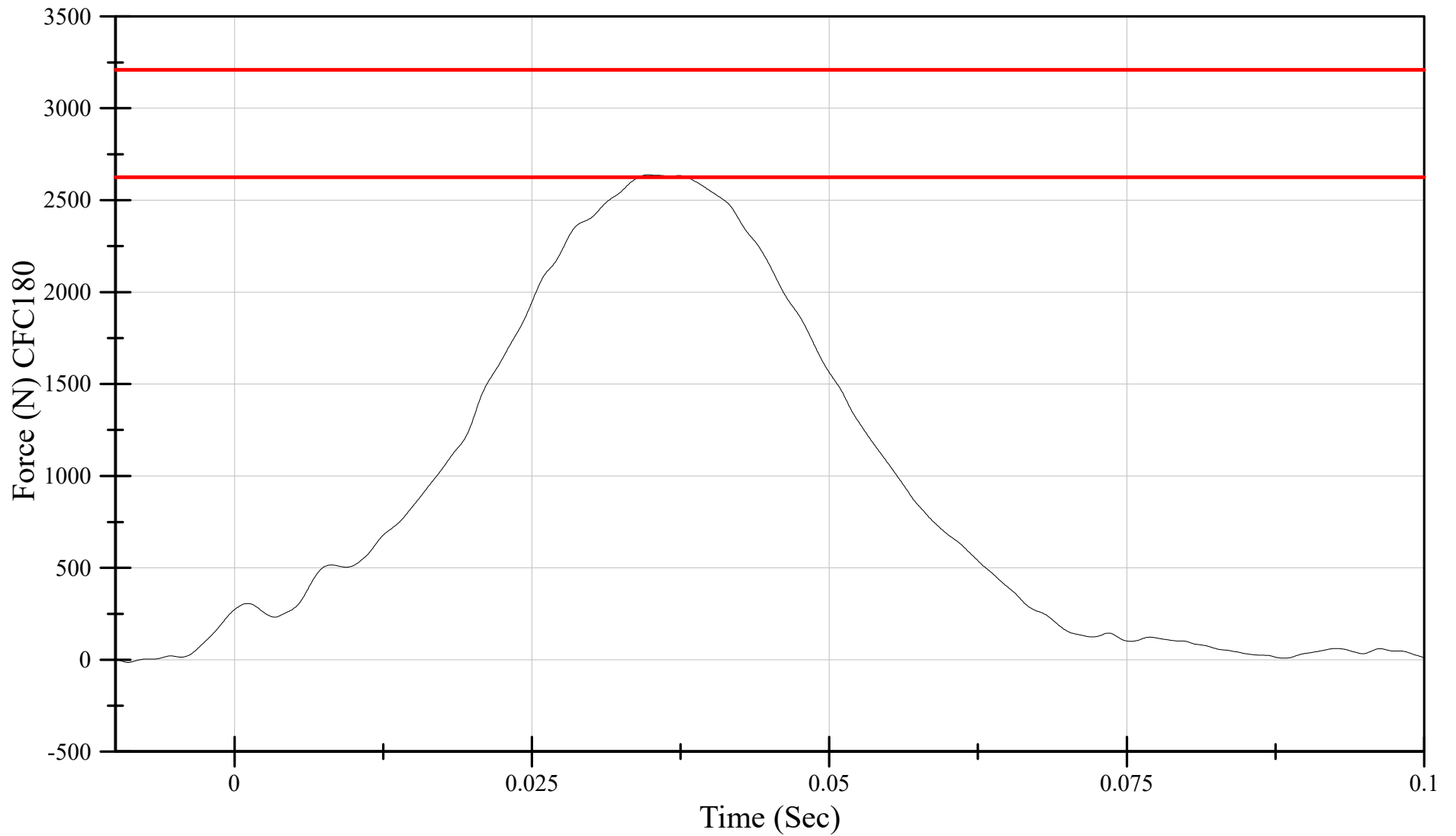
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.2	Pass
Test Humidity (%)	10 - 70	45	Pass
Test Velocity (m/s)	3.25 - 3.35	3.272	Pass
Peak Probe Force (N)	2626 - 3210	2638.2	Pass
Lower Left Abdomen X-axis Deflection at Time of Peak Force (mm)	-91.3 - (-74.7)	-79.45	Pass
Lower Right Abdomen X-axis Deflection at Time of Peak Force (mm)	-91.3 - (-74.7)	-80.95	Pass
Difference Between Peak Left & Right X-axis Deflections (mm)	less than 8.0	1.60	Pass

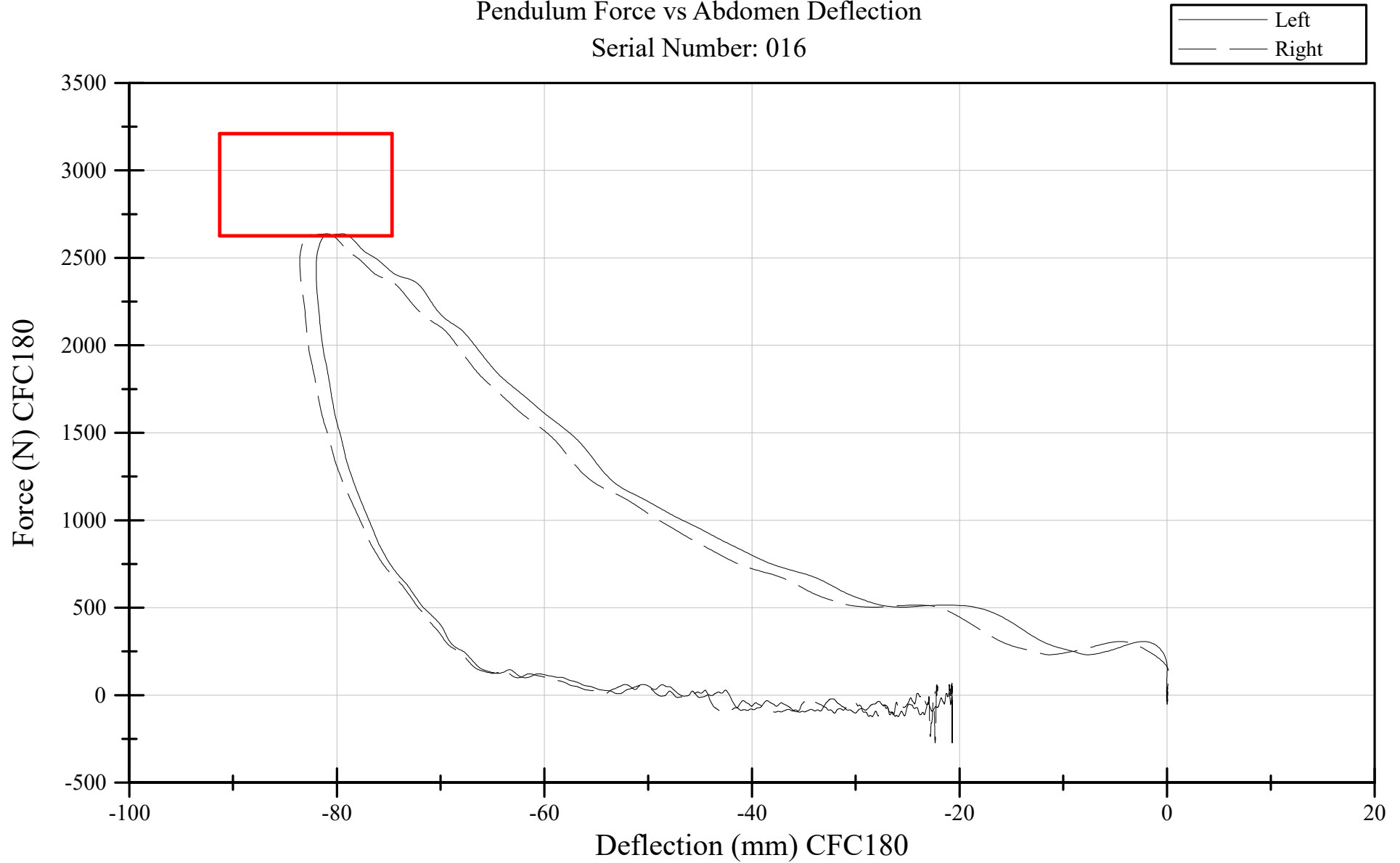
THOR-50M Lower Abdomen Qualification

Probe Force

Serial Number: 016



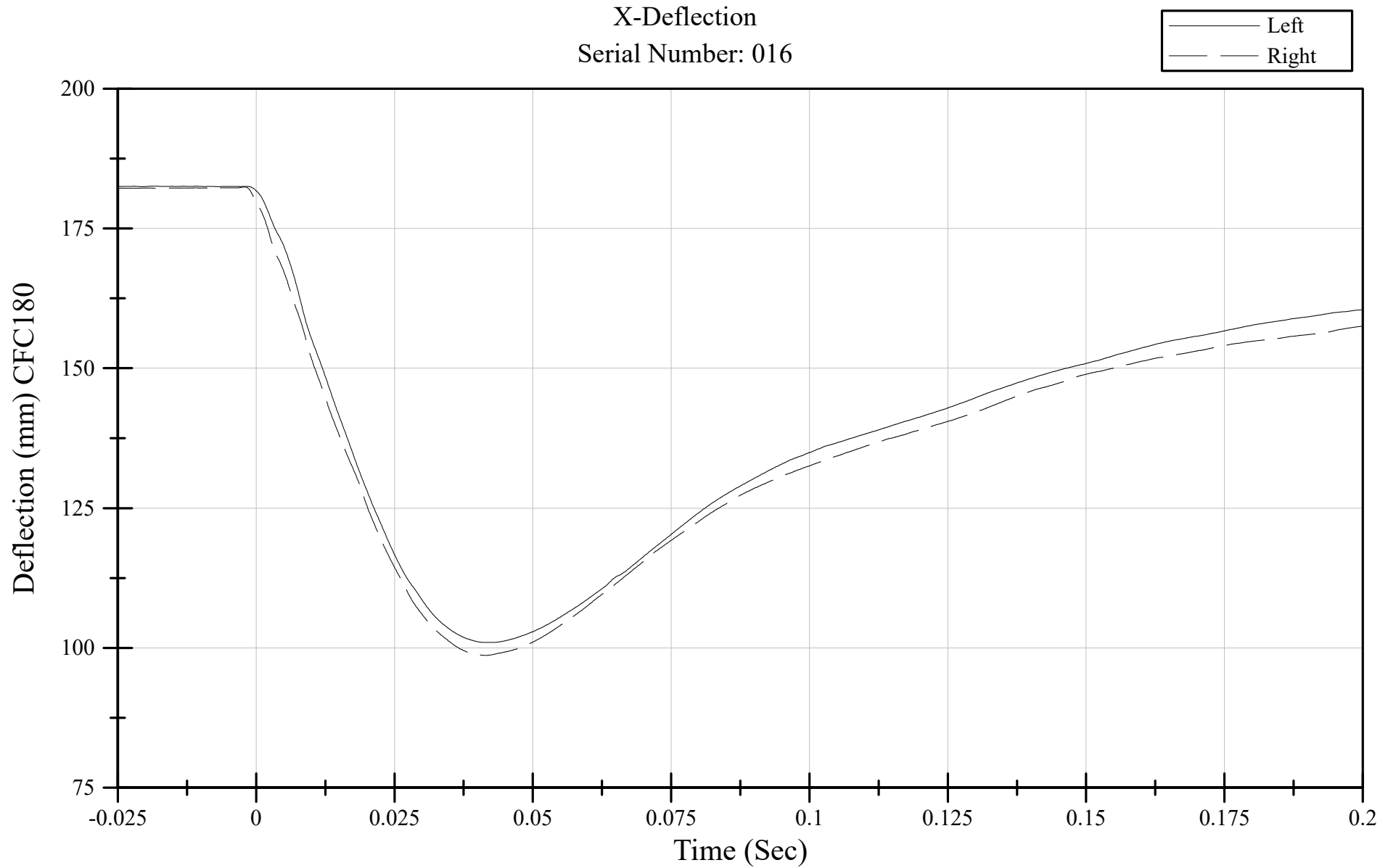
THOR-50M Lower Abdomen Qualification
Pendulum Force vs Abdomen Deflection
Serial Number: 016



THOR-50M Lower Abdomen Qualification

X-Deflection

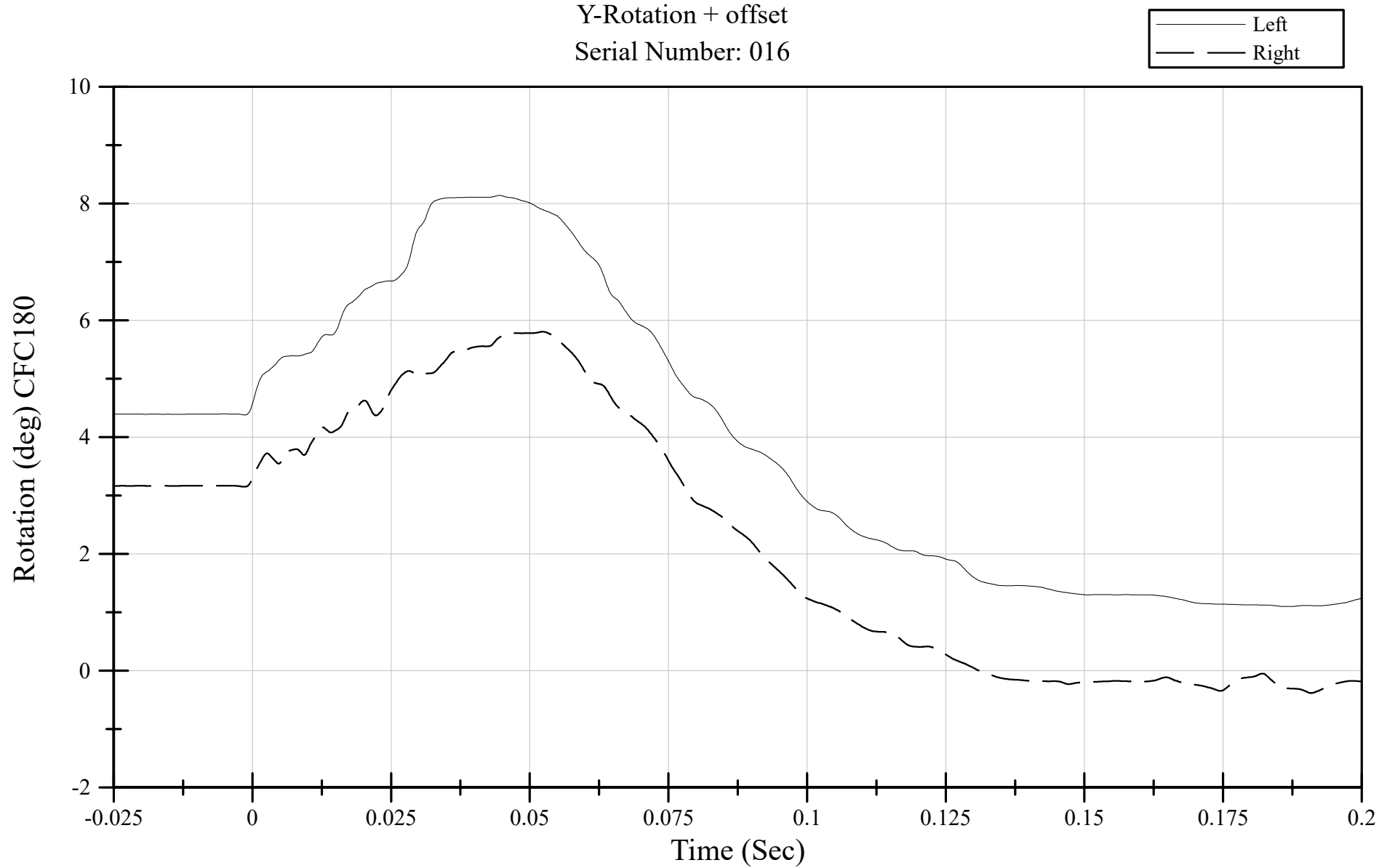
Serial Number: 016



THOR-50M Lower Abdomen Qualification

Y-Rotation + offset

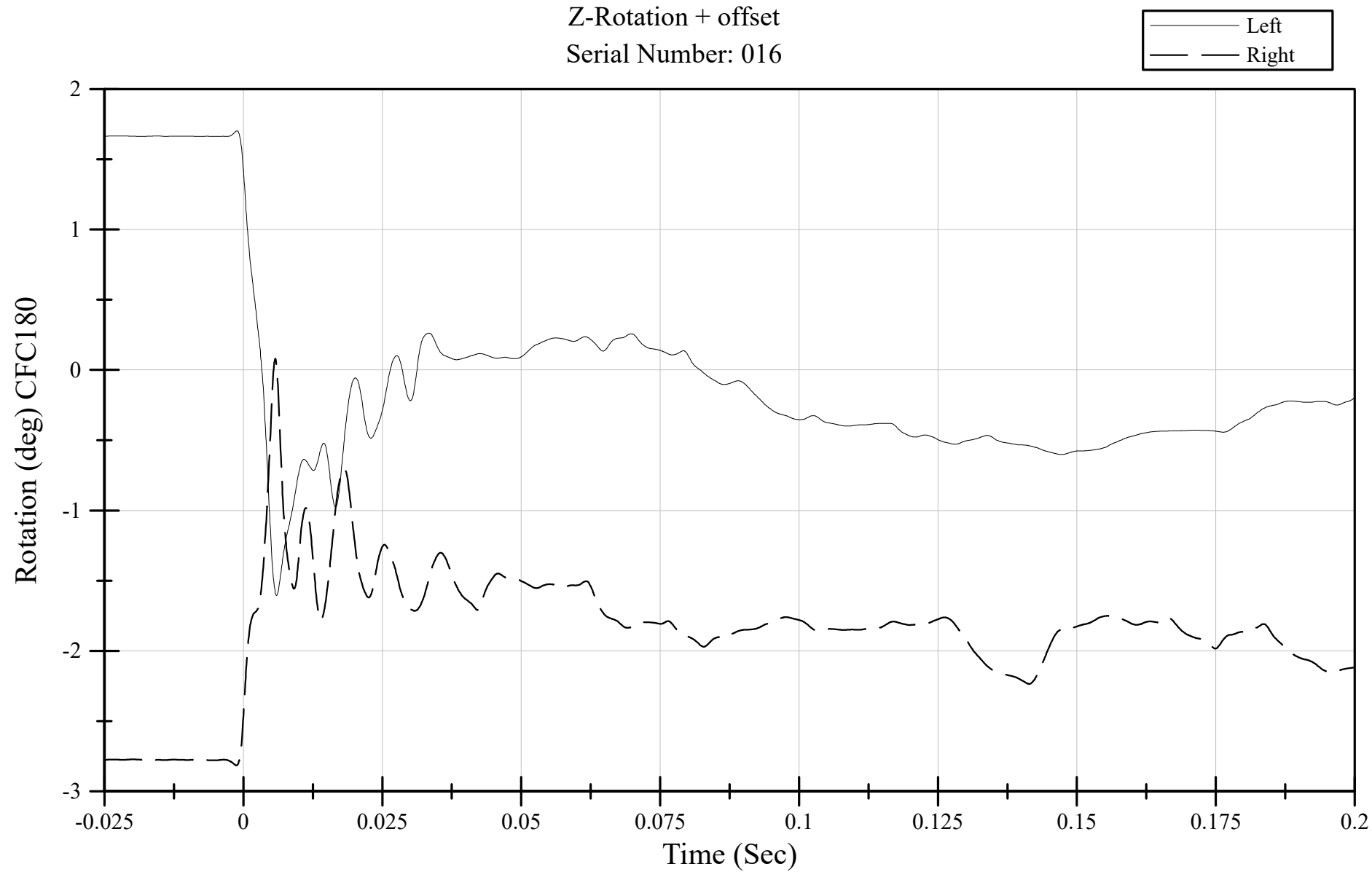
Serial Number: 016



THOR-50M Lower Abdomen Qualification

Z-Rotation + offset

Serial Number: 016



THOR-50M Left Upper Leg Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Compression Element: JASTI 002

Left Thigh Flesh: EJ4866

Test ID: 240104-1

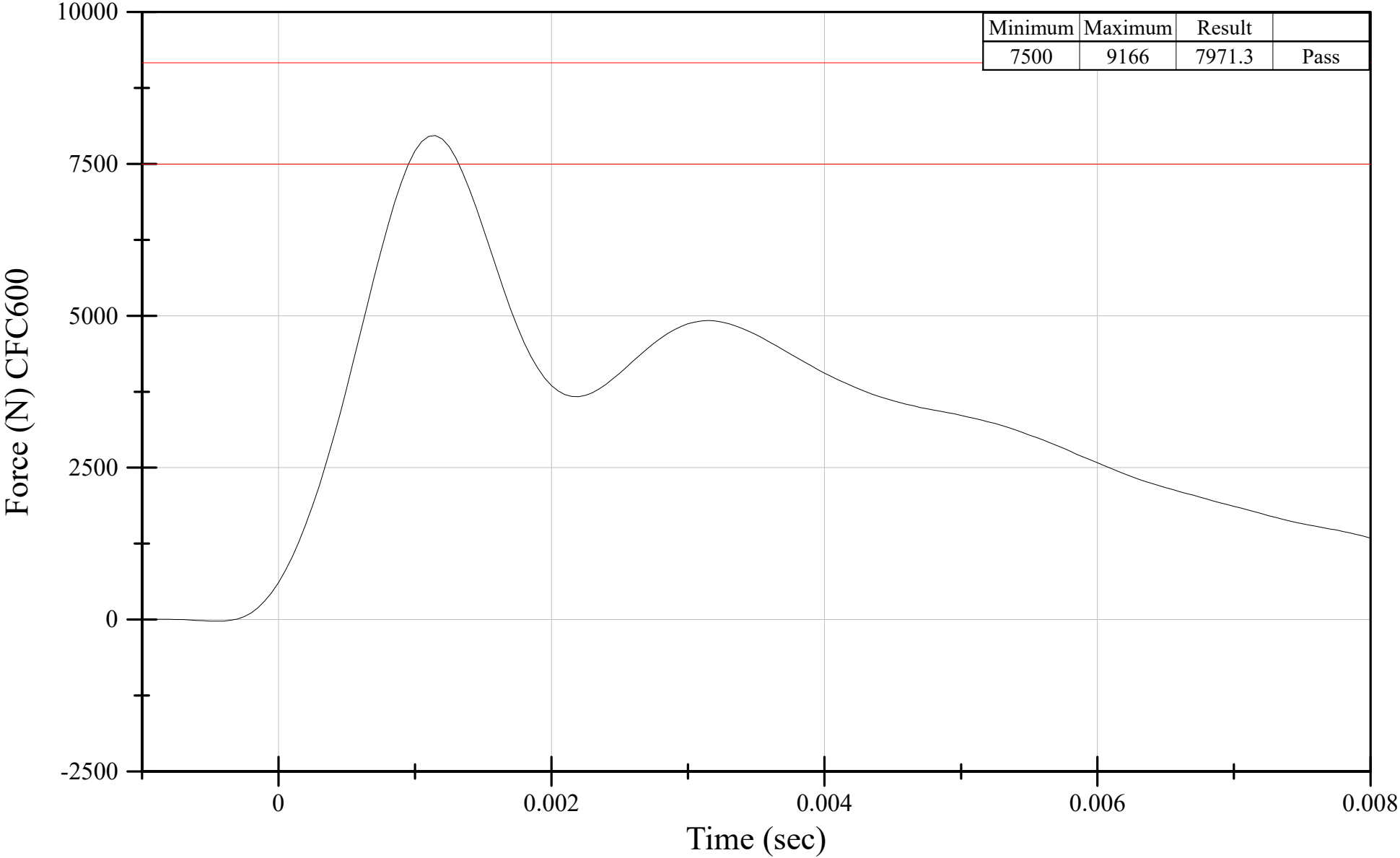
Test Date: 1/4/2024

Test Time: 7:06 AM

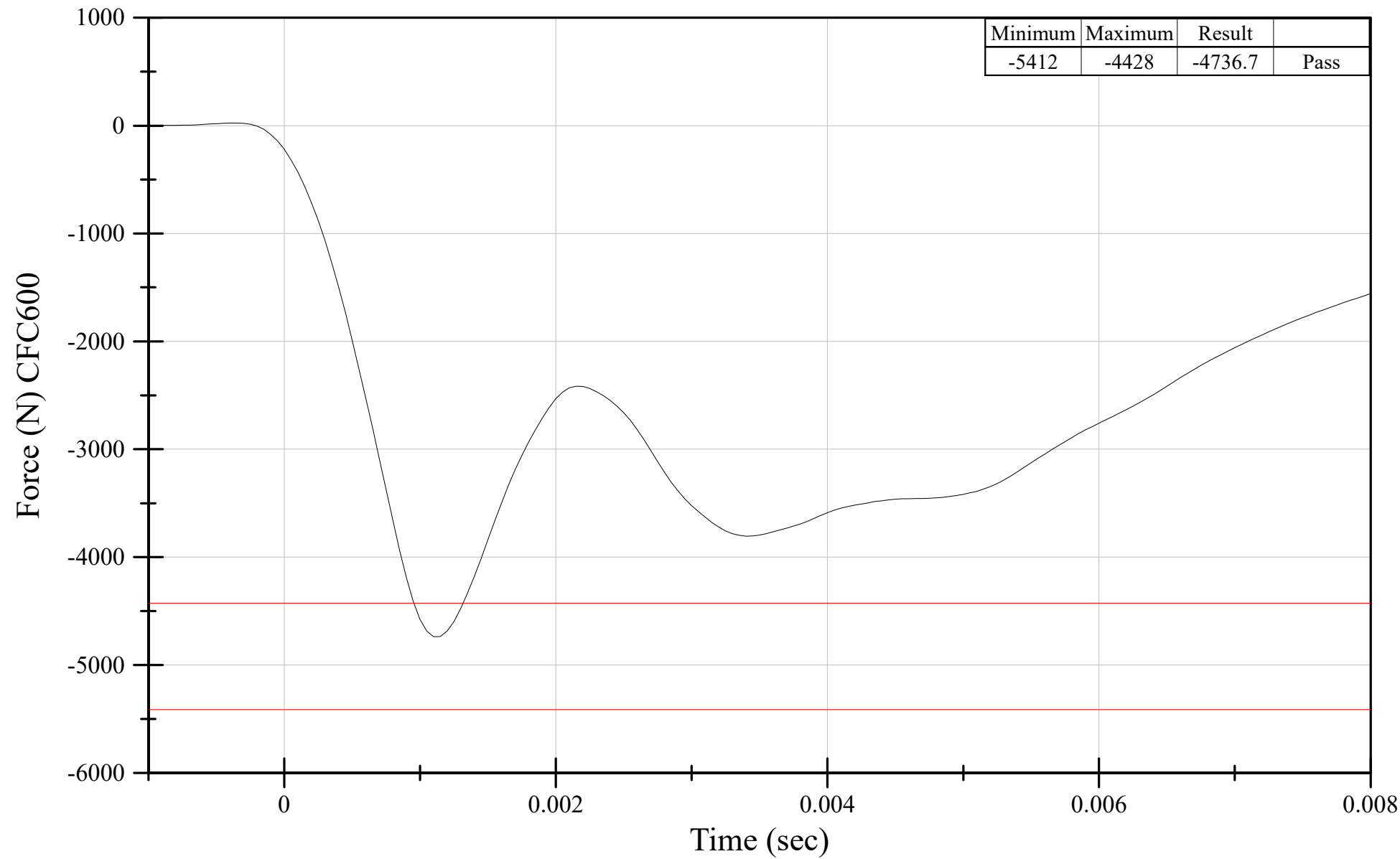
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.1	Pass
Test Humidity (%)	10 - 70	34	Pass
Test Velocity (m/s)	3.25 - 3.35	3.302	Pass
Peak Probe Force (N)	7500 - 9166	7971.3	Pass
Peak Femur Force (N)	-5412 - (-4428)	-4736.7	Pass
Peak Resultant Acetabulum Force (N)	2464 - 3012	2694.2	Pass

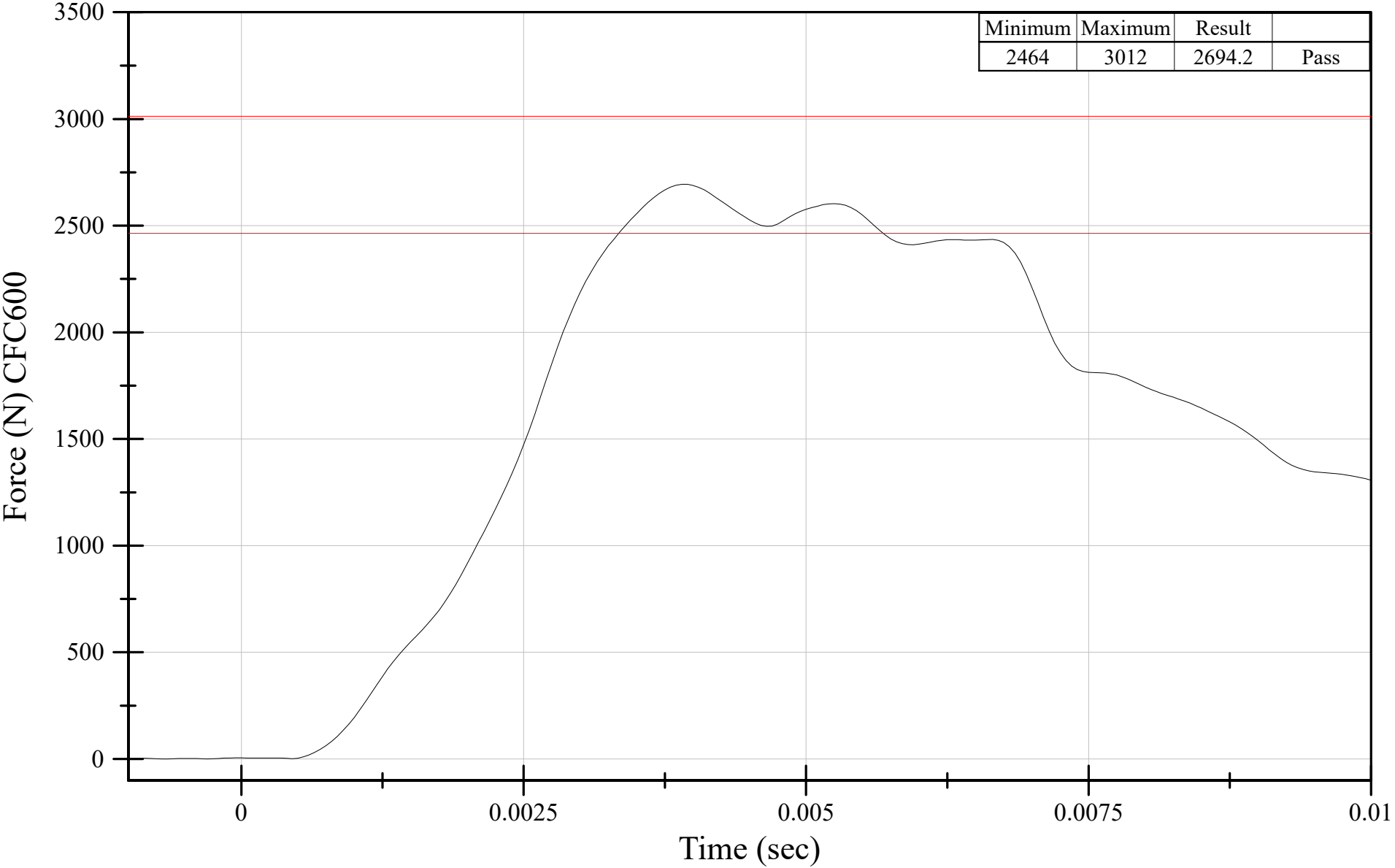
THOR-50M Left Upper Leg Qualification
Probe Force
Serial Number: 016



THOR-50M Left Upper Leg Qualification
Femur Z-Force
Serial Number: 016



THOR-50M Left Upper Leg Qualification
Peak Acetabulum Resultant Force
Serial Number: 016



THOR-50M Right Upper Leg Qualification

Test Results Summary

Dummy Serial Number: 016

Tested Components

Compression Element: JASTI 001

Left Thigh Flesh: EI7219

Test ID: 240103-9

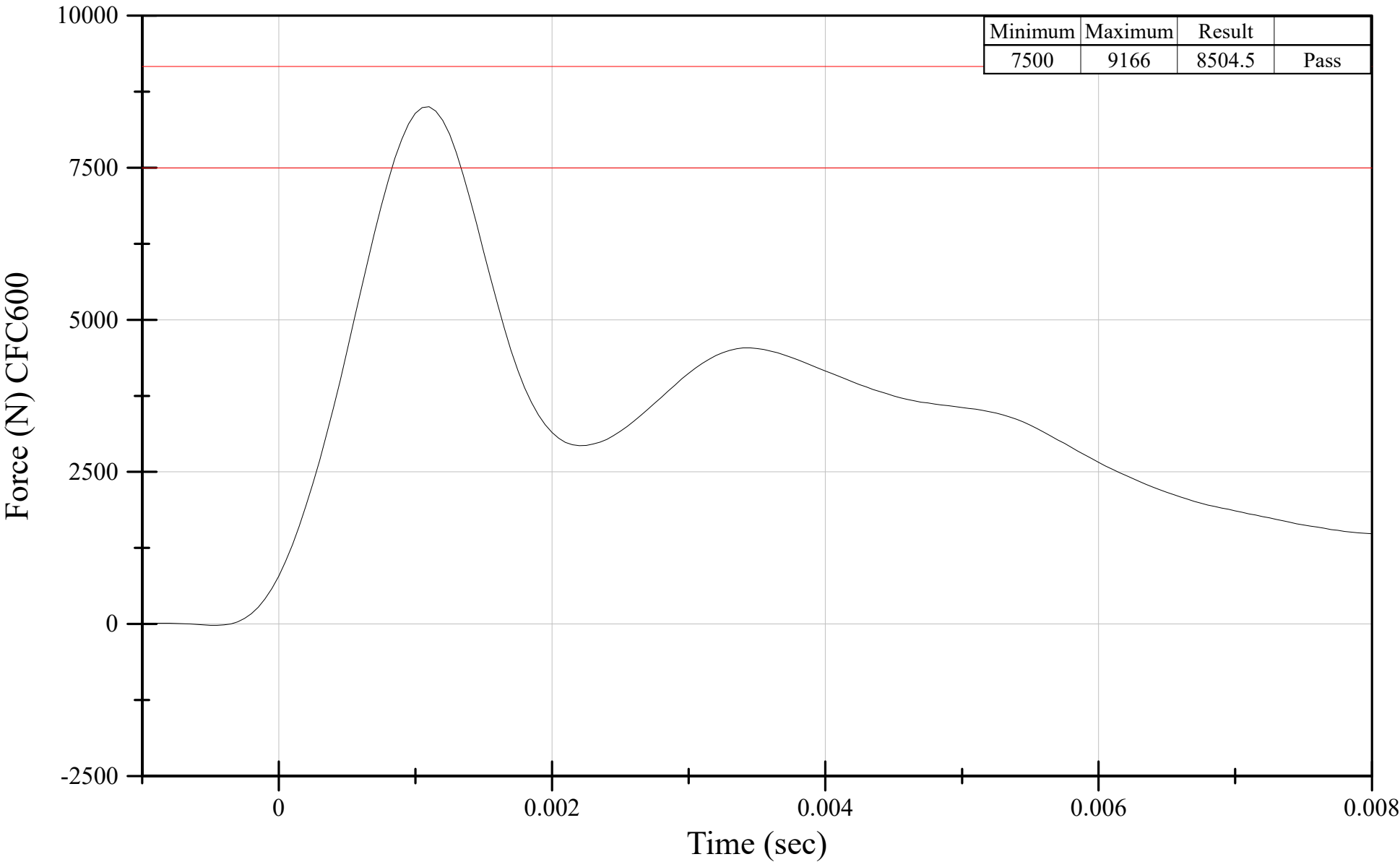
Test Date: 1/3/2024

Test Time: 11:23 AM

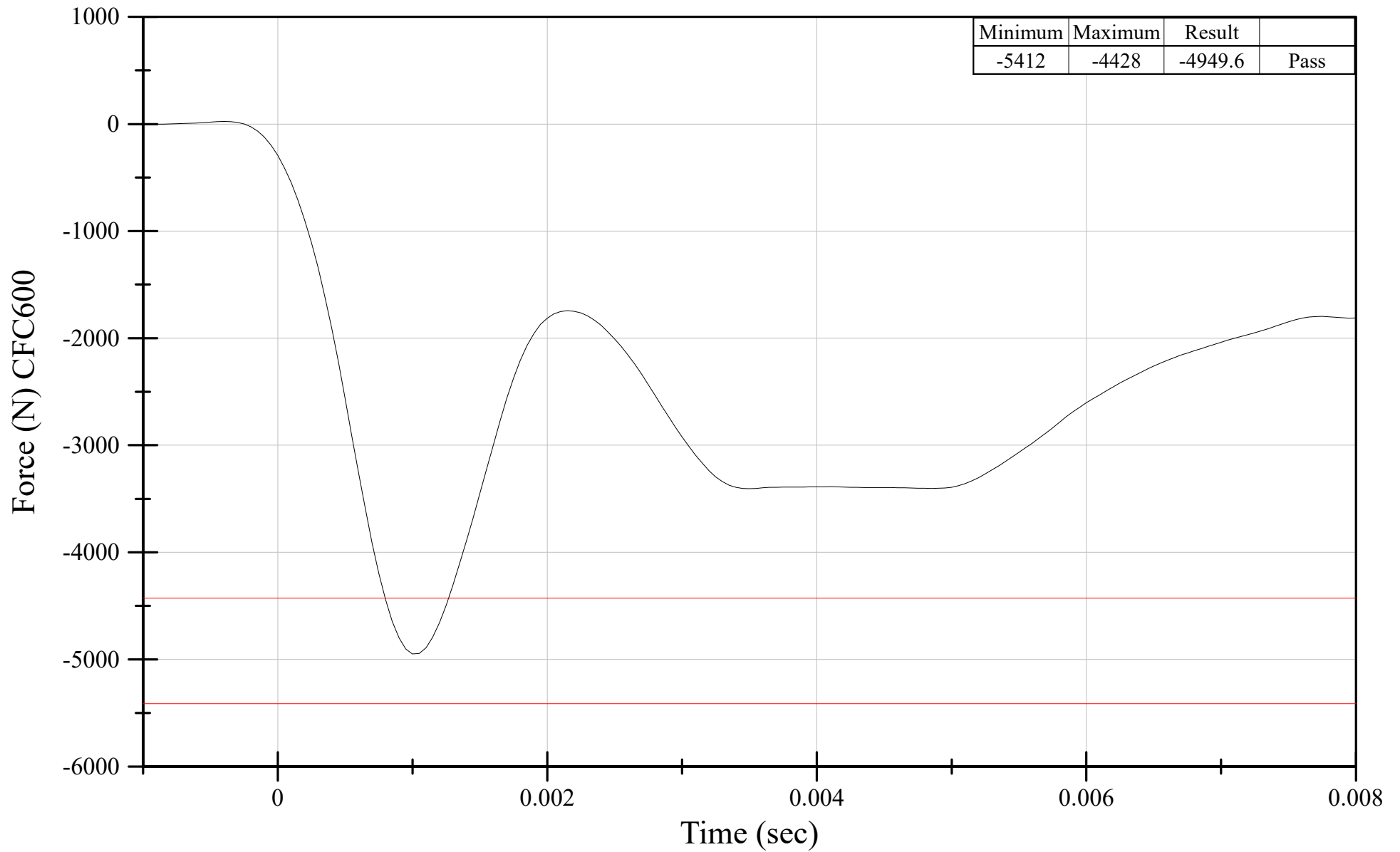
Test Results

<u>Test Parameter</u>	<u>Specification Range*</u>	<u>Result</u>	<u>Pass/Fail</u>
Test Temperature (°C)	20.6 - 22.2	21.0	Pass
Test Humidity (%)	10 - 70	34	Pass
Test Velocity (m/s)	3.25 - 3.35	3.302	Pass
Peak Probe Force (N)	7500 - 9166	8504.5	Pass
Peak Femur Force (N)	-5412 - (-4428)	-4949.6	Pass
Peak Resultant Acetabulum Force (N)	2464 - 3012	2745.3	Pass

THOR-50M Right Upper Leg Qualification
Probe Force
Serial Number: 016



THOR-50M Right Upper Leg Qualification
Femur Z-Force
Serial Number: 016



THOR-50M Right Upper Leg Qualification
Peak Acetabulum Resultant Force
Serial Number: 016

