

REPORT NUMBER: NCAP-CAL-26-001

**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

**Hyundai Motor Company
2026 Hyundai Palisade
5 Door SUV**

NHTSA No: O20264200

**PREPARED BY:
CALSPAN CORPORATION
P.O. BOX 400
BUFFALO, NEW YORK 14225**



July 1, 2026

FINAL REPORT

**PREPARED FOR:
U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
1200 NEW JERSEY AVE SE
WASHINGTON, D.C. 20590**

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Division Chief, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

COTR, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

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16. Abstract A 56.30 km/h (35 mph), NCAP frontal rigid barrier impact test was conducted on a 2026 Hyundai Palisade 5 Door SUV in accordance with the specifications of the Office of Crashworthiness Standards Laboratory Procedure for NCAP Full Frontal Rigid Barrier Impact Testing. The test was conducted at Calspan Corporation's Transportation Test Operations facility in Buffalo, New York on December 17, 2025. The impact velocity of the vehicle was 56.31 km/h, and the ambient temperature at the barrier face at the time of impact was 21°C. The target vehicle post-test maximum crush was 506 mm at the vehicle centerline. The test vehicle's occupant performance data is as follows: <table border="1"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th rowspan="2">Units</th> <th colspan="2">Driver ATD (Serial No. 065)</th> <th colspan="2">Passenger ATD (Serial No. 137)</th> </tr> <tr> <th>Threshold</th> <th>Result</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC15)</td> <td></td> <td>700</td> <td>193.107</td> <td>700</td> <td>337.891</td> </tr> <tr> <td>Maximum Chest Compression</td> <td>mm</td> <td>63</td> <td>-22.459</td> <td>52</td> <td>-17.995</td> </tr> <tr> <td>Nij</td> <td></td> <td>1</td> <td>0.223</td> <td>1</td> <td>0.356</td> </tr> <tr> <td>Neck Tension</td> <td>N</td> <td>4170</td> <td>677.266</td> <td>2620</td> <td>582.979</td> </tr> <tr> <td>Neck Compression</td> <td>N</td> <td>4000</td> <td>-200.477</td> <td>2520</td> <td>-305.984</td> </tr> <tr> <td>Left Femur Force</td> <td>N</td> <td>10008</td> <td>-1108.984</td> <td>6805</td> <td>-1874.500</td> </tr> <tr> <td>Right Femur Force</td> <td>N</td> <td>10008</td> <td>-1619.716</td> <td>6805</td> <td>-2161.244</td> </tr> </tbody> </table>					Measurement Description	Units	Driver ATD (Serial No. 065)		Passenger ATD (Serial No. 137)		Threshold	Result	Threshold	Result	Head Injury Criteria (HIC15)		700	193.107	700	337.891	Maximum Chest Compression	mm	63	-22.459	52	-17.995	Nij		1	0.223	1	0.356	Neck Tension	N	4170	677.266	2620	582.979	Neck Compression	N	4000	-200.477	2520	-305.984	Left Femur Force	N	10008	-1108.984	6805	-1874.500	Right Femur Force	N	10008	-1619.716	6805	-2161.244
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SECTION 1

PURPOSE AND SUMMARY OF THE TEST

PURPOSE

This 56.3 km/h frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. 693JJ919D000005. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for consumer information purposes.

The 56.3 km/h frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Procedure for NCAP Full Frontal Rigid Barrier Impact Test Procedure dated May 2018.

SUMMARY

A load cell barrier consisting of 128 load cells was impacted by a 2026 Hyundai Palisade 5 Door SUV at a velocity of 56.31 km/h. The test was performed at Calspan Corporation's Transportation Test Operations facility in Buffalo, New York on December 17, 2025. Pre- and post-test photographs of the vehicle and dummies to document the test can be found in Appendix A. One real-time camera and 16 high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in Data Sheet 6 of this report.

One Part 572E, 50th percentile male anthropomorphic test device (ATD), was placed in the driver seating position and one Part 572O 5th percentile female ATD was placed in the right-front passenger seating position according to dummy placement instructions specified in the Laboratory Procedure for NCAP Full Frontal Rigid Barrier Impact Testing. Both ATDs were fully instrumented with head, chest and pelvis tri-axial accelerometers, chest displacement potentiometers, upper neck transducers, femur load cells, and lower leg instrumentation. Seat belt load cells were installed on the driver's lap and shoulder belts and Passenger's Shoulder belt to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 065) and the right-front passenger (position 2) ATD (Serial No. 137) were qualified prior to this test. Certification details, along with instrumentation calibration data, can be found in Appendix C of this report.

The 230 channels of data were recorded on an on-board data acquisition system. Appendix B contains the vehicle, load cell barrier and dummy response data traces.

There was 100 percent windshield retention and no intrusion into the protected zone of the windshield during the event. There was a total of 0.0 grams of Stoddard solvent leakage after the event or during any phase of the static rollover. The maximum static crush of the vehicle was 506 mm and both driver and passenger side doors remained closed during the impact event and were operable after the impact.

The driver's visible contact points were as follows: The driver's head contacted the frontal airbag and the head restraint. The upper torso contacted the frontal airbag. Both knees contacted the knee air bag.

The passenger's visible contact points were as follows: The passenger's head contacted the frontal airbag and the head restraint. The upper torso contacted the frontal airbag. Both knees contacted the glove box.

The occupant data is summarized below.

ATD Position	HIC ₁₅	Nij	Neck Tension (N)	Neck Comp. (N)	3ms Chest Clip (Gs)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)
Driver (50th)	193.107	0.223	677.266	-200.477	38.513	-22.459	-1108.984	-1619.716
Passenger (5th)	337.891	0.356	582.979	-305.984	49.212	-17.995	-1874.500	-2161.244

GENERAL COMMENTS:

1. P1 (Driver) serial number - 065
2. P2 (Passenger) serial number - 137

Data Anomalies:

- No Questionable Channels

SECTION 2

OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

This section contains information reporting for the following Data Sheets:

Data Sheet No. 1 – General Test and Vehicle Parameter Data

Data Sheet No. 2 – Seat Adjustment, Fuel System, and Steering Wheel Data

Data Sheet No. 3 – Dummy Longitudinal Clearance Dimensions

Data Sheet No. 4 – Dummy Lateral Clearance Dimensions

Data Sheet No. 5 – Seat Belt Positioning Data

Data Sheet No. 6 – High-Speed Camera Locations and Data

Data Sheet No. 7 – Vehicle Accelerometer Locations

Data Sheet No. 8 – Photographic Reference Target Locations

Data Sheet No. 9 – Load Cell Locations on Fixed Barrier

Data Sheet No. 10 – Test Vehicle Summary of Results

Data Sheet No. 11 – Post-Test Observations

Data Sheet No. 12 – Vehicle Profile Measurements

Data Sheet No. 13 – Accident Investigation Division Data

Data Sheet No. 14 – Vehicle Intrusion Measurements

Data Sheet No. 15 – Summary of Indicant FMVSS No. 212 and FMVSS No. 219 (Partial)

Data Sheet No. 16 – FMVSS 301 Static Rollover Results

Data Sheet No. 17 – Dummy/Vehicle Temperature Stabilization Chart

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	O20264200	Traction Control System (TCS)	Yes
Model Year	2026	Power Steering	Yes
Make	Hyundai	Power Window Auto-Reverse	Yes
Model	Palisade	Driver Frontal Airbag	Yes
Body Style	5 Door SUV	Driver Curtain Airbag	Yes
VIN	KM8RGES26TU020437	Driver Head/Torso Airbag	No
Body Color	Creamy White	Driver Torso Airbag	No
Odometer Reading (km /mi)	32 mi	Driver Torso/Pelvis Airbag	Yes
Engine Displacement (L)	3.5	Driver Pelvis Airbag	No
Type / No. Cylinders	V6	Driver Knee Airbag	Yes
Engine Placement	Transverse	Front Pass. Frontal Airbag	Yes
Transmission Type	Automatic	Front Pass. Curtain Airbag	Yes
Transmission Speeds	8-Speed	Front Pass. Head/Torso Airbag	No
Overdrive	Yes	Front Pass. Torso Airbag	No
Final Drive	AWD	Front Pass. Torso/Pelvis Airbag	Yes
Roof Rack	No	Front Pass. Pelvis Airbag	No
Sunroof / T-Top	Yes	Front Pass. Knee Airbag	No
Running Boards	No	Driver Pretensioner	Yes
Tilt Steering Wheel	Yes	Driver Load Limiter	Yes
Power Seats	Yes	Front Pass. Pretensioner	Yes
Anti-Lock Brakes (ABS)	Yes	Front Pass. Load Limiter	Yes
Automatic Door Locks (ADLs)	Yes	Other – Driver Center Airbag	Yes

Does owner's manual provide instructions to turn off automatic door locks?

No

DATA FROM CERTIFICATION LABEL

Manufactured By	Hyundai Motor Company	GVWR (KG)	2870
Date of Manufacture	May / 2025	GAWR Front (KG)	1450
		GAWR Rear (KG)	1600

VEHICLE SEATING AND WEIGHT CAPACITY DATA

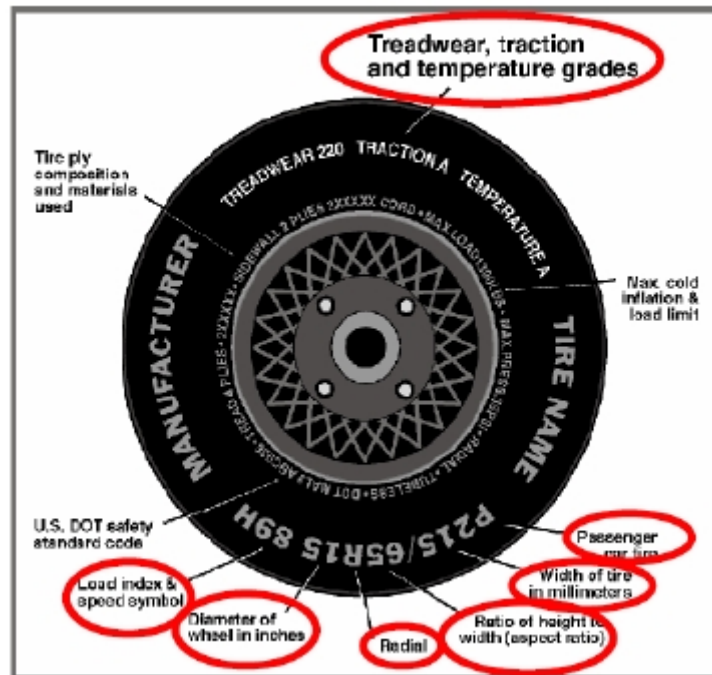
Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket	Split Bench	
Number of Occupants	2	2	3	7
Capacity Wt. (VCW) (kg)				550
Rated Cargo and Luggage Wt. (RCLW) (kg)				74

DATA SHEET NO. 1 ... (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

Collect items circled in red, tire manufacturer, and tire name.



VEHICLE TIRE INFORMATION

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	250	250
Recommended Tire Size	235/65R18	235/65R18
Tire Size on Vehicle	235/65R18	235/65R18
Tire Manufacturer	Nexen	Nexen
Tire Model	N'Fera	N'Fera
Treadwear	560	560
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	1 Polyester	1 Polyester
Tire Plies Body	1 Polyester, 2 Steel, 1 Polyamide	1 Polyester, 2 Steel, 1 Polyamide
Load Index / Speed Symbol	106H	106H
Tire Material	Rubber	Rubber
DOT Safety Code Left	1UAOHKBHB1425	1UAOHKBHB1625
DOT Safety Code Right	1UAOHKBHB1725	1UAOHKBHB1625

DATA SHEET NO. 1 ... (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	600	465		621	558	
Right	kg	569	480		612	532	
Ratio	%	55.3	44.7		53.1	46.9	
Total	kg	1169	945	2114	1233	1090	2323

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	2114	(A)
Weight of 1 P572E ATD & 1 P572O ATD	kg	142	(B)
Rated Cargo / Luggage Weight (RCLW)	kg	74	(C)
Calculated Vehicle Target Weight (TVTW)	kg	2330	(A+B+C)

TEST VEHICLE ATTITUDES AND CG

Condition	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	915	915	936	944	1328
As Tested	mm	904	904	912	922	1394
Post-Test	mm	935	960	943	925	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Total Vehicle Wheel Base	mm	2971
Total Vehicle Length at Left Side	mm	4968
Total Vehicle Length at Centerline	mm	5058
Total Vehicle Length at Right Side	mm	4968
Weight of Ballast in Cargo Area	kg	65.5
Weight of Vehicle Components Removed	kg	66
Amount of Stoddard Solvent in Fuel Tank	L	67

LIST OF COMPONENTS REMOVED TO MEET TEST WEIGHT:

Trunk carpeting, jack and third row seats.

DATA SHEET NO.1 ... (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle:	2026 Hyundai Palisade 5 Door SUV	NHTSA No.:	O20264200
Test Program:	NCAP Frontal Barrier Impact Test	Test Date:	12/17/2025

TARGET VEHICLE STRUCTURAL MEASUREMENT

No.	Description	Pre-Test
1	Total Length	5058
2	Total Width	1978
3*	Bumper Top Height	576
4*	Bumper Bottom Height	504
5*	Longitudinal Member Top Height	592
6	Distance Between Longitudinal Members	1052
7	Longitudinal Member Width	57
8*	Engine Top Height	947
9*	Engine Bottom Height	250
10	Engine and Gearbox Width	618
11	Front Bumper-Engine Distance	498
12*	Front Shock Absorber Fixing Height	1006
13*	Bonnet Leading Edge Height	1082
14	Front Shock Absorber Fixing Width	1269
15	Front Bumper – Front Axle Distance	930
16	Front Axle – A Pillar Distance	579
17	A-Pillar – B-Pillar Distance	1100
18	B-Pillar – Rear Axle Distance	1288
19	B-Pillar – C-Pillar Distance	1109
20*	Roof Sill Bottom Height	1669
21*	Roof Sill Top Height	1718
22*	Floor Sill Bottom Height	433
23*	Floor Sill Top Height	469

*Height Measurements are taken from the ground

Note: All measurements are in millimeters

DATA SHEET NO. 2

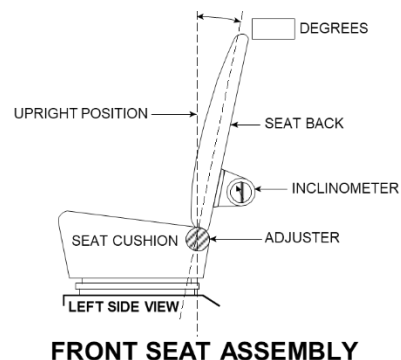
SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

NOMINAL DESIGN RIDING POSITION

The driver's seat back was set to the manufacturer's designated angle. The passenger's seat back was positioned in a similar manner as the driver's seat back. Seat back angles are measured at the headrest post bezel using a digital inclinometer.



Seating Position	Degrees
Driver Seat Back Angle	0.5
Passenger Seat Back Angle	1.2

SEAT FORE / AFT POSITIONS

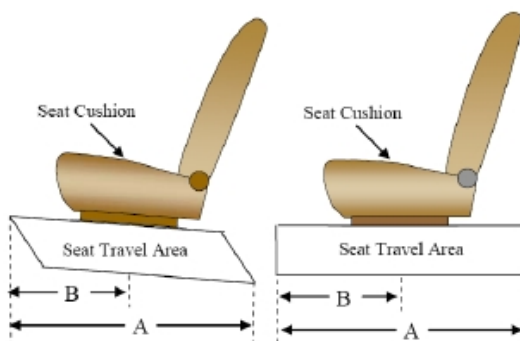
The driver's seat was positioned at the mid-point of fore/aft travel at its lowest position. The passenger's seat was positioned at the most forward position of fore/aft travel. Zero is defined as the forward most position.

Seating Position	Total Fore / Aft Travel	Placed in Position #
Driver Seat	298	149
Passenger Seat	234	0

SEAT BELT UPPER ANCHORAGE

The driver's seat belt anchorage was positioned according to the manufacturer's designated positioning for a 50th percentile adult male ATD. The passenger's seat belt anchorage was positioned according to the manufacturer's designated positioning for a 5th percentile adult female ATD. For this test zero is defined as the uppermost position.

Seating Position	Total # of Positions	Placed in Position #
Driver Seat	4 (0-3)	0
Passenger Seat	4 (0-3)	0



DATA SHEET NO. 2 ... (CONTINUED)
SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

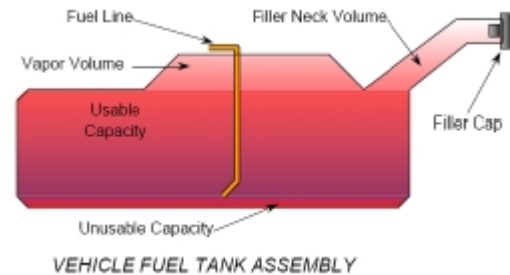
NHTSA No.: O20264200
 Test Date: 12/17/2025

FUEL TANK CAPACITY

Description	Liters
Usable Capacity of "Standard Tank"	72
Usable Capacity of "Optional Tank"	N/A
92%-94% of Usable Capacity	66.2 - 67.7
Actual Amount of Solvent Used	67
1/3 of Usable Capacity	24

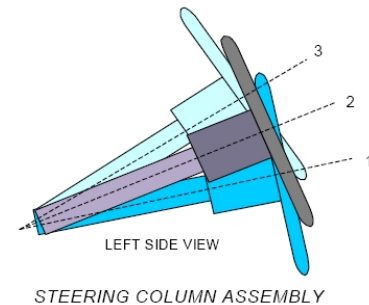
FUEL PUMP

The vehicle is equipped with an electric fuel pump. The fuel filler neck is on the left side of the vehicle. The pump creates positive pressure in the fuel lines, pushing the gasoline to the engine. See form 1 for more information.



STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. For angular measurements, a digital inclinometer was used to measure a plate which was placed across the steering wheel rim. A tape measure was used to measure the telescoping steering wheel travel.



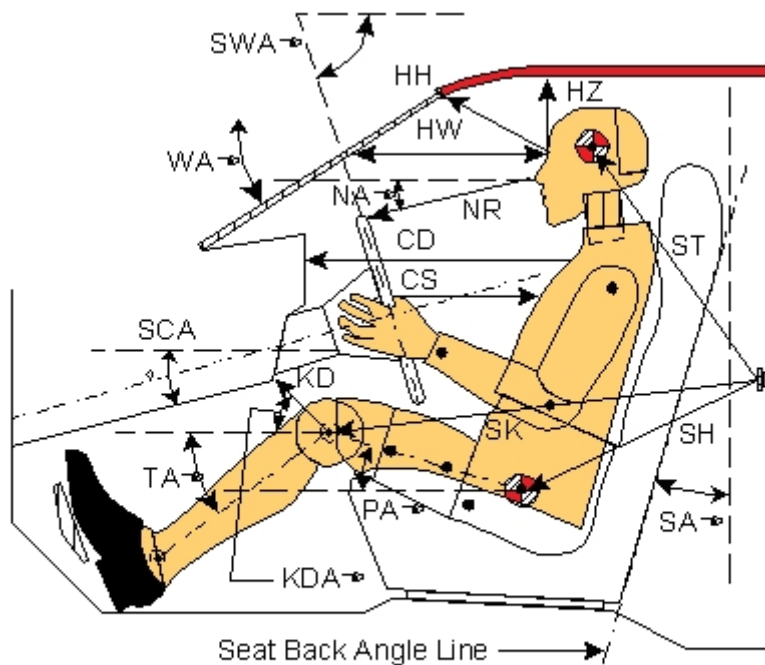
STEERING COLUMN POSITIONS

Description	Degrees	Fore / Aft Position (mm)
Lowermost position No. 1	24.5	
Geometric center position No. 2	27.0	
Uppermost position No. 3	29.5	
Telescoping Steering Wheel Travel		54
Test Position	27.0	27

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025



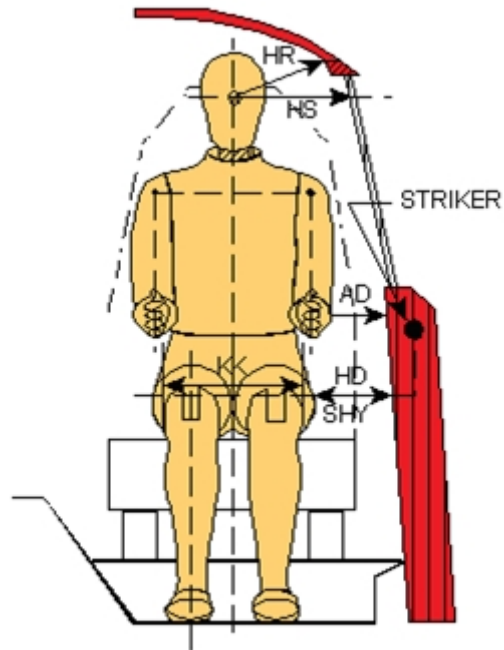
Left Side View

Code	Measurement Description	Driver (SN: 065)		Passenger (SN: 137)	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		33.5		
SWA°	Steering Wheel Angle		27.0		
SCA°	Steering Column Angle		63.0		
SA°	Seat Back Angle (on headrest post)		0.5		1.2
HZ	Head to Roof (Z)	240	90.0	257	90.0
HH	Head to Header	379	35.3	352	48.7
HW	Head to Windshield	630	0.0	615	0.0
NR	Nose to Rim / Dash	411	10.8	463	7.4
CD	Chest to Dash	544		474	
CS	Chest to Steering Hub	323	4.1		
RA	Rim to Abdomen	185	0.0		
KDL	Left Knee to Dash	158	19.1	115	32.2
KDR	Right Knee to Dash	154	25.7	118	29.3
PA°	Pelvic Angle		24.0		20.1
TA°	Tibia Angle		36.7		48.9
SK	Striker to Knee	645	13.8	715	14.3
ST	Striker to Head	372	71.9	390	56.3
SH	Striker to H-Point	402	48.2	345	29.4

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
Test Date: 12/17/2025



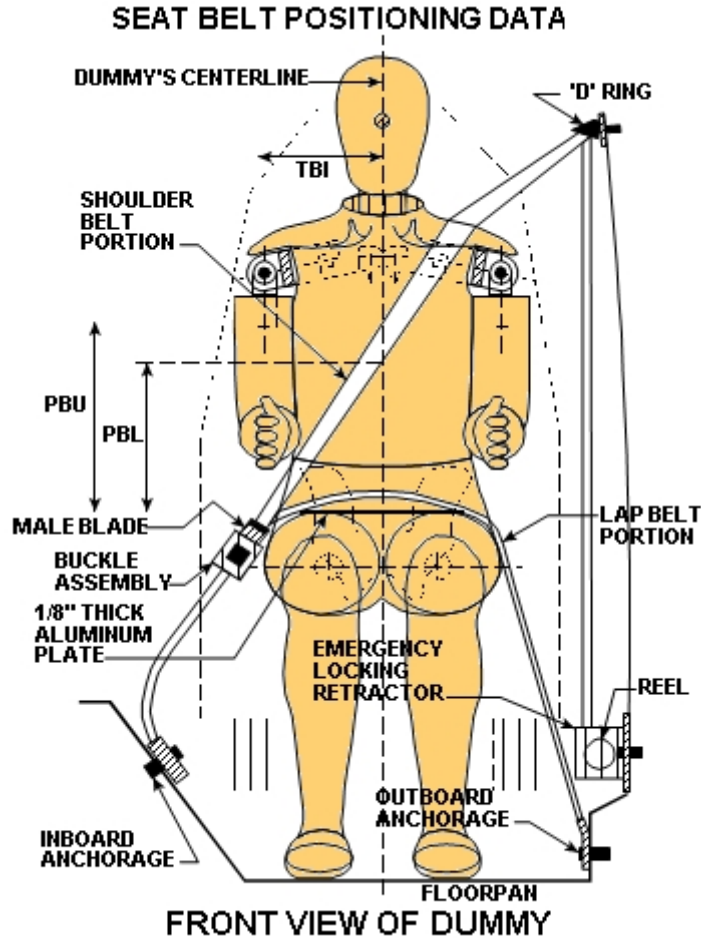
Front View

Code	Description	Driver (mm)	Passenger (mm)
AD	Arm to Door	155	100
HD	H-Point to Door	153	209
HR	Head to Side Header	275	308
HS	Head to Side Window	358	390
KK	Knee to Knee	335	205
SHY	Striker to H-Point (Y Direction)	250	316
AA	Ankle to Ankle	355	180

DATA SHEET NO. 5
SEAT BELT POSITIONING DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
Test Date: 12/17/2025



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU — Top surface of reference to belt upper edge	mm	375	300
PBL — Top surface of reference to belt lower edge	mm	280	210

BELT LENGTH DATA

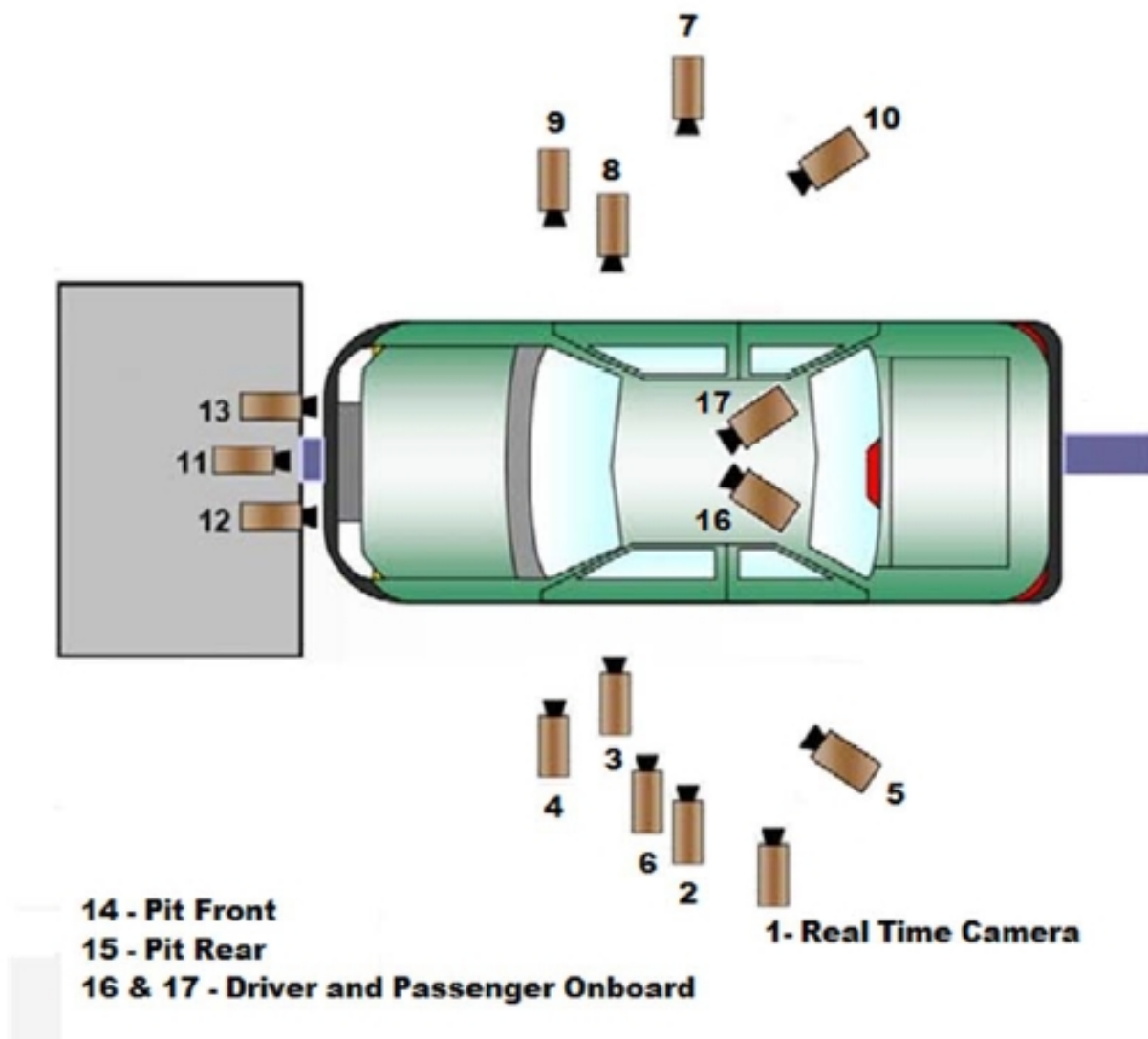
Measurement Description	Units	Driver	Passenger
Shoulder belt length as measured on ATD	mm	945	1030
Lap Belt Length as measured on ATD	mm	795	880
Remainder of belt on reel	mm	920	710
Total belt length for continuous webbing systems	mm	2660	2620

DATA SHEET NO. 6
HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
Test Date: 12/17/2025

CAMERA POSITIONS FOR FRONTAL IMPACTS



DATA SHEET NO. 6 ... (CONTINUED)
HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

CAMERA LOCATIONS

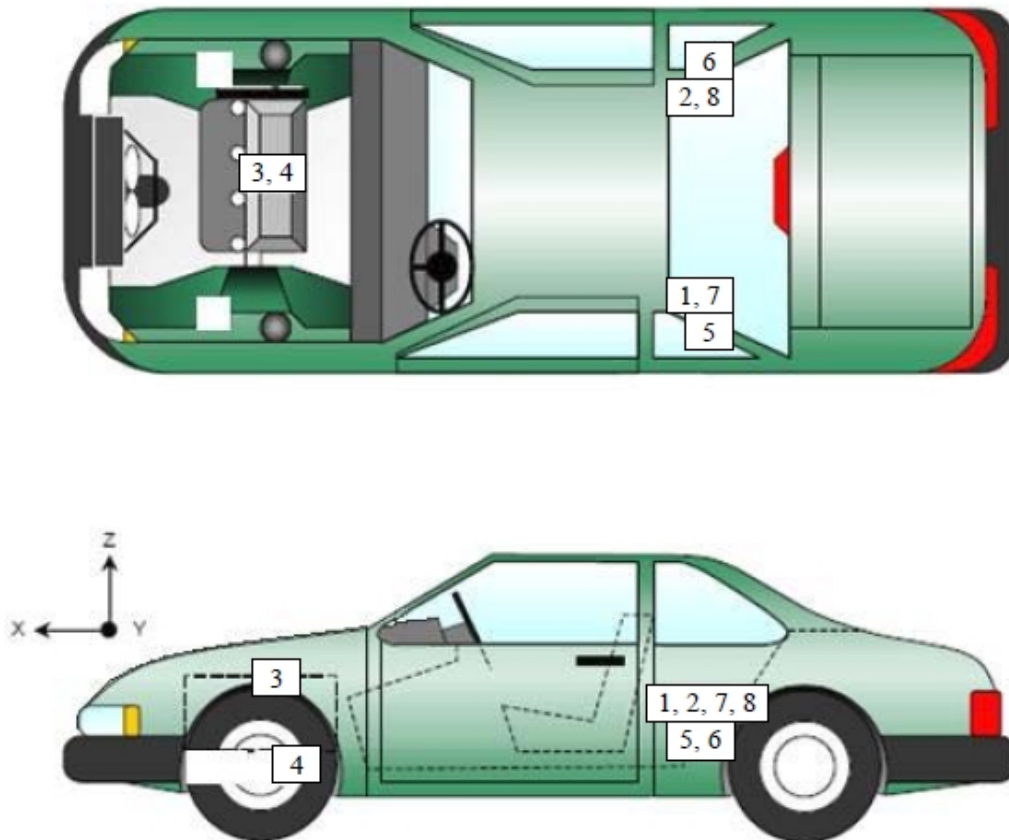
No.	Camera View	Location (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Overall				Zoom	30
2	Left Overall	-2500	-7320	-1550	24	1000
3	Driver Close-Up	-1680	-6313	-1525	50	1000
4	Left Front Half	-970	-6416	-1525	28	1000
5	Left Angle	-4645	-4500	-2480	50	1000
6	Steering Column	-1755	-6535	-2324	75	1000
7	Right Overall	-2355	8000	-1475	24	1000
8	Passenger Close-Up	-1376	7035	-1525	50	1000
9	Right Front Half	-960	6921	-1500	28	1000
10	Right Angle	-4315	4500	-2300	50	1000
11	Windshield	1900	0	-3850	12.5	1000
12	Driver Windshield	1850	-400	-2400	25	1000
13	Passenger Windshield	1850	400	-2400	25	1000
14	Pit Front	-1265	0	1970	12.5	1000
15	Pit Rear	-3445	0	1955	12.5	1000
16	Onboard Driver Airbag (Optional)				8	1000
17	Onboard Passenger Airbag (Optional)				8	1000

* COORDINATES: +X = forward of impact plane
 +Y = right of monorail center
 +Z = into ground

DATA SHEET NO. 7 **VEHICLE ACCELEROMETER LOCATIONS**

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Left Rear Accelerometer – X Direction	2147	-399	3
2	Right Rear Accelerometer – X Direction	2150	354	7
3	Engine Top X	4173	130	-462
4	Engine Bottom X	4596	152	288
5	Left Rear Accelerometer – Z Direction	2147	-399	3
6	Right Rear Accelerometer – Z Direction	2150	354	7
7	Left Rear Accelerometer – X Direction Redundant	2147	-413	2
8	Right Rear Accelerometer – X Direction Redundant	2150	365	8

Reference Points: *X – Rear Surface of Vehicle (+ forward)*
 Y – Vehicle Centerline (+ to right)
 Z – Ground Plane (+ down)

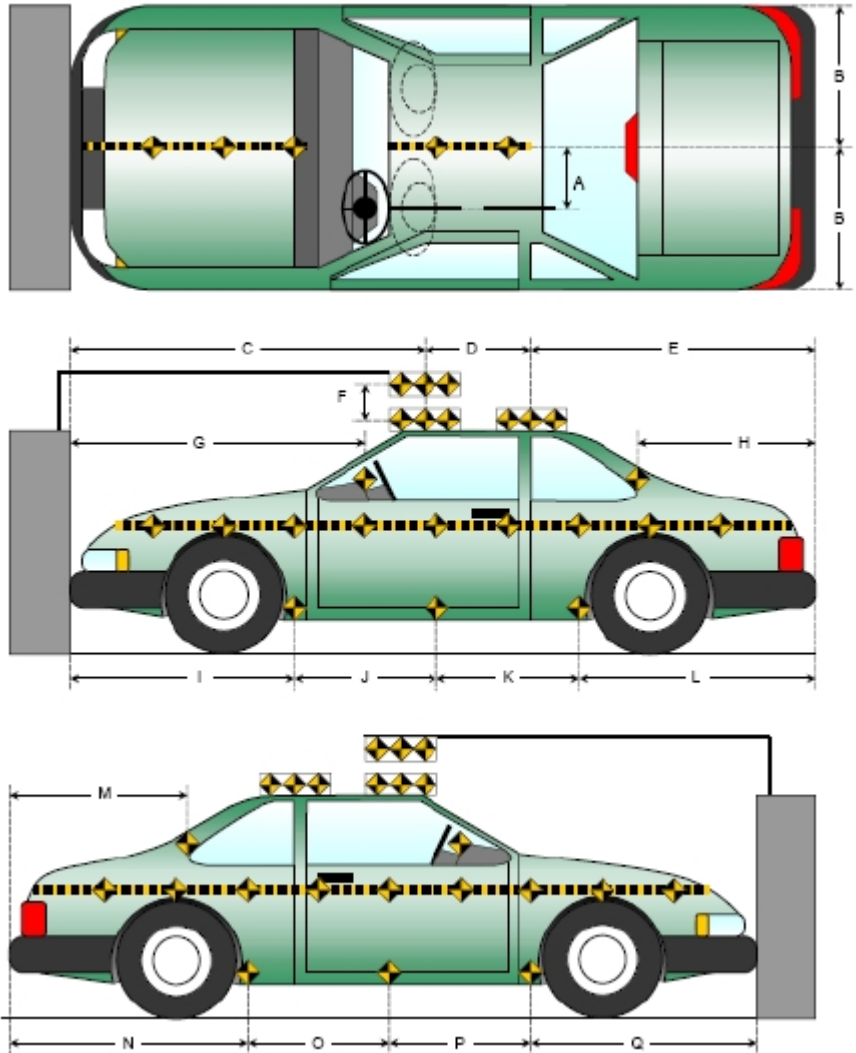
DATA SHEET NO. 8
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

Item	Value
A	423
B	989
C	2201
D	610
E	2247
F	165
G	1715
H	1264
I	1435
J	983
K	977
L	1663
M	1263
N	1663
O	979
P	978
Q	1438

All units in millimeters



DATA SHEET NO. 9 **LOAD CELL LOCATIONS ON FIXED BARRIER**

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

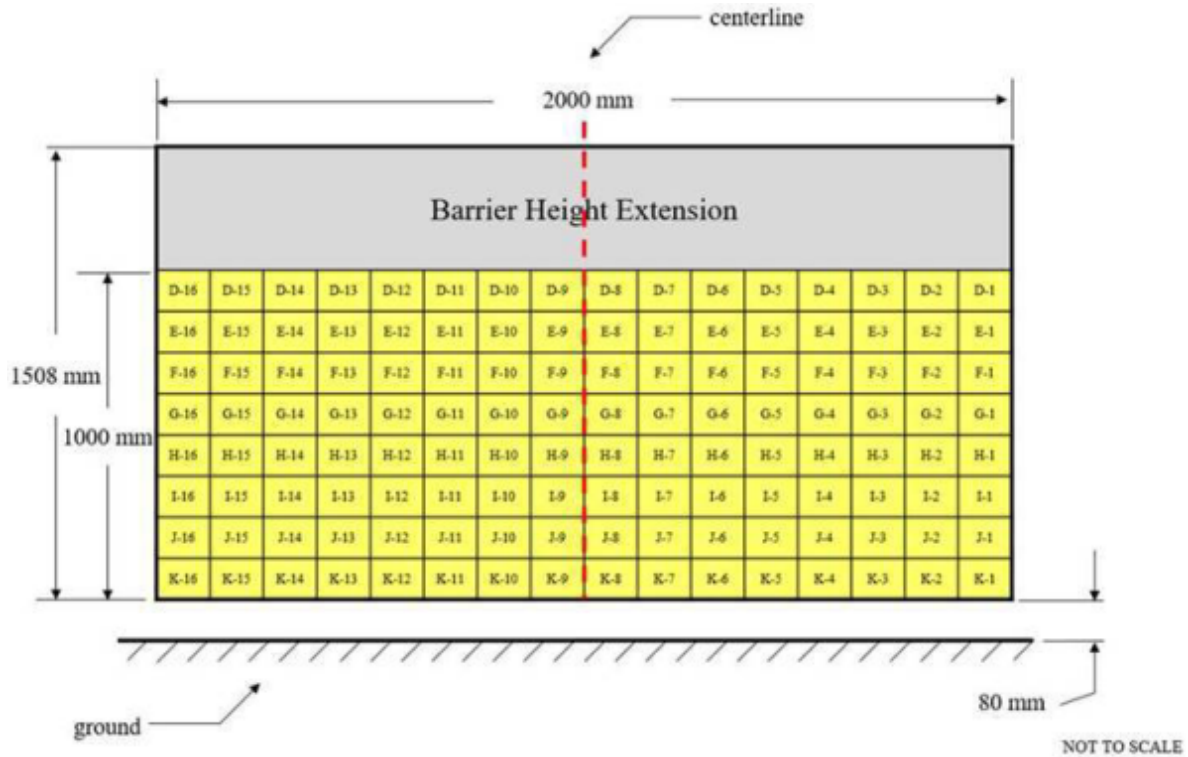


Figure 1 - Load Cell Locations on a 128-Load Cell Barrier with Plywood Height Extension*
 Please note above diagram is not actual representation of load cell barrier used.

DATA SHEET NO. 10
TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
Test Date: 12/17/2025

INSTRUMENTATION

Instrumentation	Number of Channels Collected
Driver Dummy Accelerometers	47
Passenger Dummy Accelerometers	47
Vehicle Structure Accelerometers	8
Load Cell Barrier	128
Total	230

CAMERA COVERAGE

Type of Camera	Number Used in this Test
High-Speed Vehicle Onboard	2
High-Speed Offboard	14
Real-Time Panning	1
Total	17

DATA SHEET NO. 11
POST-TEST OBSERVATIONS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
Test Date: 12/17/2025

TEST DUMMY INFORMATION AND CONTACT LOCATIONS

Description	Driver	Passenger
Dummy Type / Serial No.	Hybrid III 50th Male / 065	Hybrid III 5th Female / 137
Head Contact	Frontal Airbag, Headrest	Frontal Airbag, Headrest
Upper Torso Contact	Frontal Airbag	Frontal Airbag
Lower Torso Contact	None	None
Left Knee Contact	Knee Airbag	Glove Box
Right Knee Contact	Knee Airbag	Glove Box

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger	Other
Locked / Unlocked Doors	Unlocked	Unlocked	
Front Door Opening	Closed & Operational	Closed & Operational	
Rear Door Opening	Closed & Operational	Closed & Operational	
Trunk/Hatch/Tailgate Opening			Closed & Operational
Seat Track Shift (mm)	0	0	
Seat Back Movement from Initial Position	None	None	

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Windshield Damage	Cracked Throughout
Window Damage	None
Other	None

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	880
Center	mm	877
Right Side	mm	896
Average	mm	884

DATA SHEET NO. 11 ... (CONTINUED)
POST-TEST OBSERVATIONS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

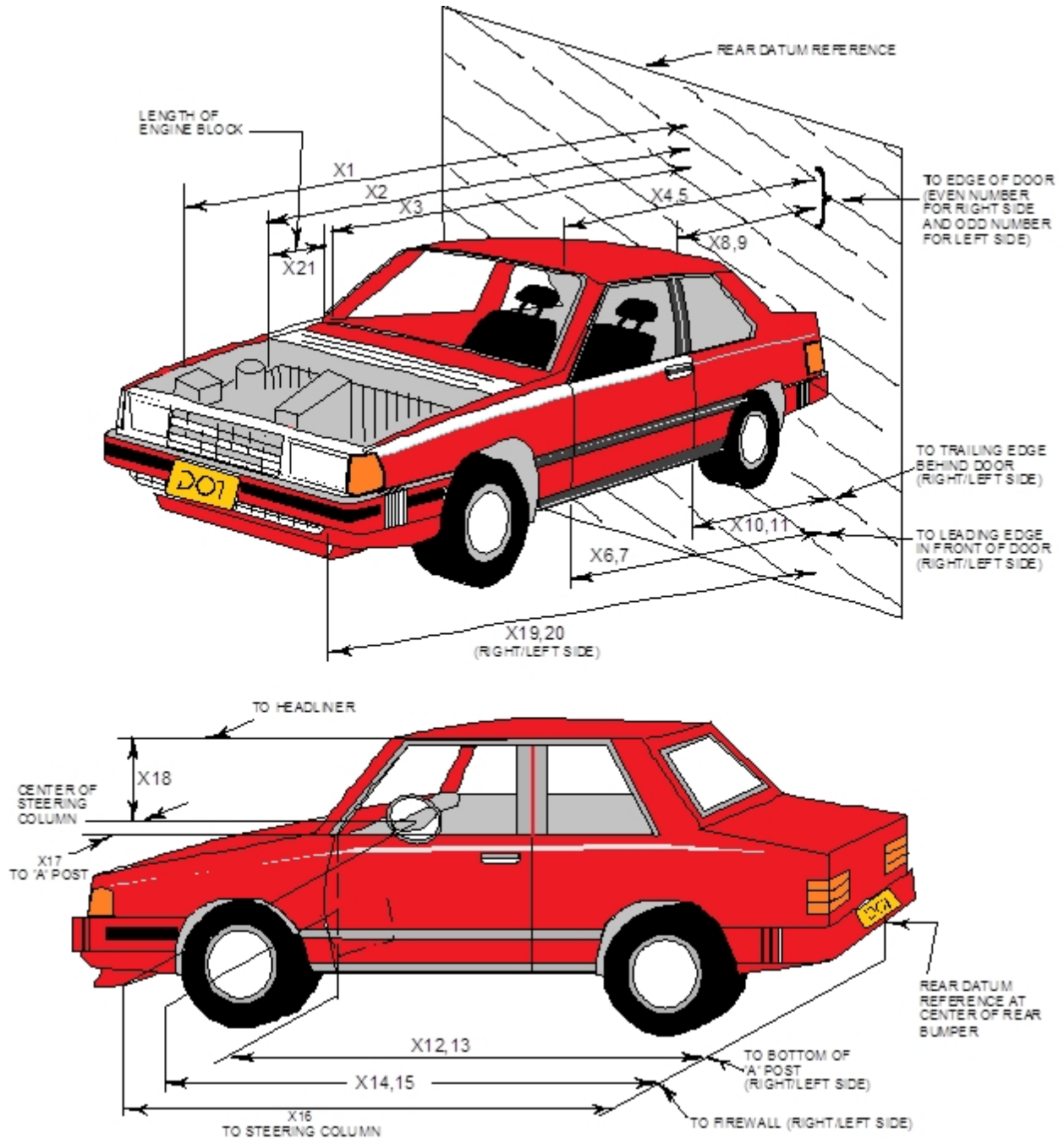
SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Driver		Passenger	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	Yes	Yes	Yes
Side Airbag 1 - Curtain	Yes	No	Yes	No
Side Airbag 2 - Torso/Pelvis	Yes	No	Yes	No
Knee Airbag	Yes	Yes	No	N/A
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes
Other - Driver Center Seat Airbag	Yes	No	No	N/A

DATA SHEET NO. 12 **VEHICLE PROFILE MEASUREMENTS**

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025



DATA SHEET NO. 12 ... (CONTINUED)
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

No.	Measurement Description	Pre-Test	Post-Test	Change
1	Total Length of Vehicle at Centerline	5058	4552	-506
2	Rear Surface of Vehicle (RSOV) to Front of Engine	4560	4300	-260
3	RSOV to Firewall	4018	3999	-19
4	RSOV to Upper Leading Edge of Right Door	3551	3549	-2
5	RSOV to Upper Leading Edge of Left Door	3549	3550	1
6	RSOV to Lower Leading Edge of Right Door	3512	3515	3
7	RSOV to Lower Leading Edge of Left Door	3515	3514	-1
8	RSOV to Upper Trailing Edge of Right Door	2449	2450	1
9	RSOV to Upper Trailing Edge of Left Door	2450	2449	-1
10	RSOV to Lower Trailing Edge of Right Door	2480	2485	5
11	RSOV to Lower Trailing Edge of Left Door	2483	2479	-4
12	RSOV to Bottom of "A" Post of Right Side	3531	3529	-2
13	RSOV to Bottom of "A" Post of Left Side	3531	3530	-1
14	RSOV to Firewall, Right Side	4041	4026	-15
15	RSOV to Firewall, Left Side	4042	4033	-9
16	RSOV to Steering Column	3122	3170	48
17	Center of Steering Column to "A" Post	290	291	1
18	Center of Steering Column to Headliner	465	479	14
19	RSOV to Right Side of Front Bumper	5029	4563	-466
20	RSOV to Left Side of Front Bumper	5030	4566	-464
21	Length of Engine Block	522	522	0
RD	RSOV to Right Side of Dash Panel	3307	3309	2
CD	RSOV to Center of Dash Panel	3340	3342	2
LD	RSOV to Left Side of Dash Panel	3307	3309	2

All Dimensions in mm

DATA SHEET NO. 13
ACCIDENT INVESTIGATION DIVISION DATA

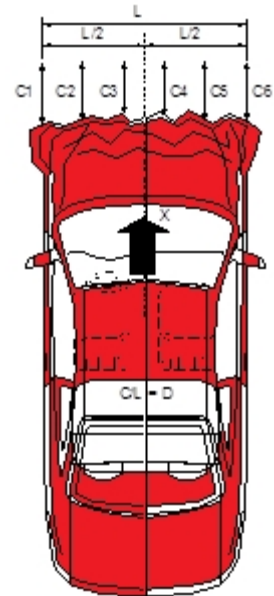
Test Vehicle: 2026 Hyundai Palisade 5 Door SUV NHTSA No.: O20264200
 Test Program: NCAP Frontal Barrier Impact Test Test Date: 12/17/2025

VEHICLE INFORMATION

VIN: KM8RGES26TU020437 Wheelbase (mm): 2971
 Vehicle Size Category: MPV Test Weight (kg): 2323

ACCELEROMETER DATA

Accelerometer Locations: Please See Data Sheet No. 7
 Cal. Procedure / Interval: Calspan Procedure / 6 month
 Integration Algorithm: Trapezoidal
 Linearity: > 99%
 Impact Velocity (km/h): 56.31
 Velocity Change (km/h): 74.860
 Time of Separation (ms): 125



CRUSH PROFILE

Collision Deformation Classification: 12FDEW2
 Midpoint of Damage: C4
 Damage Region Length (mm): 1678
 Impact Mode: Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Crush
C1	Crush Zone 1 at Left Side	mm	4905	4535	370
C2	Crush Zone 2 at Left Side	mm	5031	4570	461
C3	Crush Zone 3 at Left Side	mm	5054	4556	498
C4	Crush Zone 4 at Right Side	mm	5054	4553	501
C5	Crush Zone 5 at Right Side	mm	5029	4566	463
C6	Crush Zone 6 at Right Side	mm	4902	4569	333
L	C1 to C6	mm	1626	1678	-52

DATA SHEET NO. 14
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

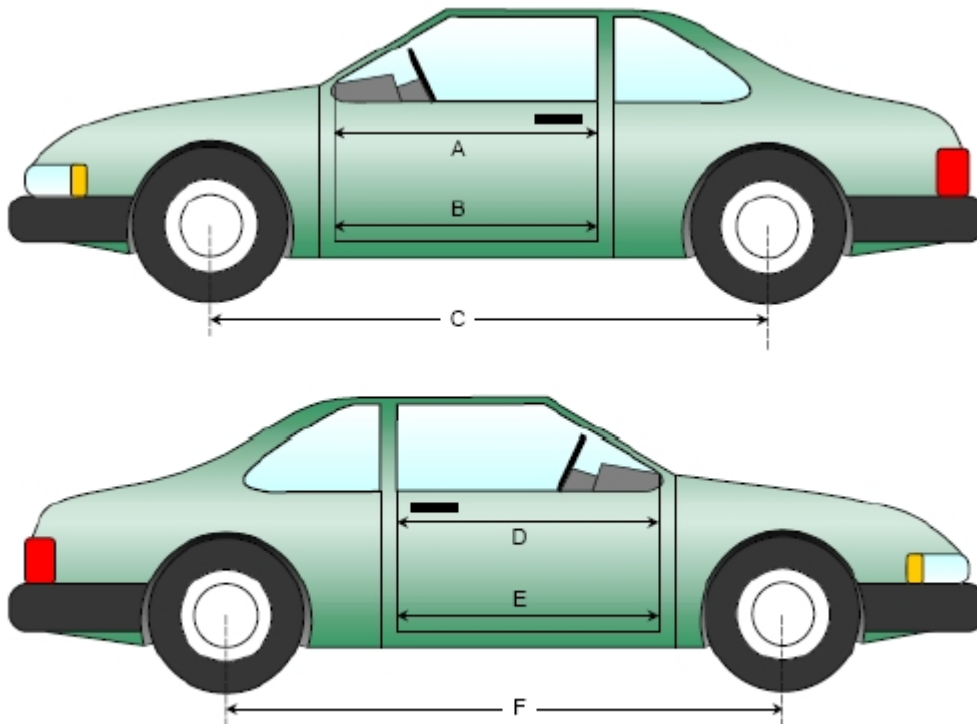
NHTSA No.: O20264200
 Test Date: 12/17/2025

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Change
A	Left Side Upper	mm	981	983	2
B	Left Side Lower	mm	880	883	3
D	Right Side Upper	mm	980	982	2
E	Right Side Lower	mm	881	882	1

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Change
C	Left Side Wheelbase	mm	2971	2872	-99
F	Right Side Wheelbase	mm	2971	2878	-93



Left & Right Side Views

DATA SHEET NO.14 ... (CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

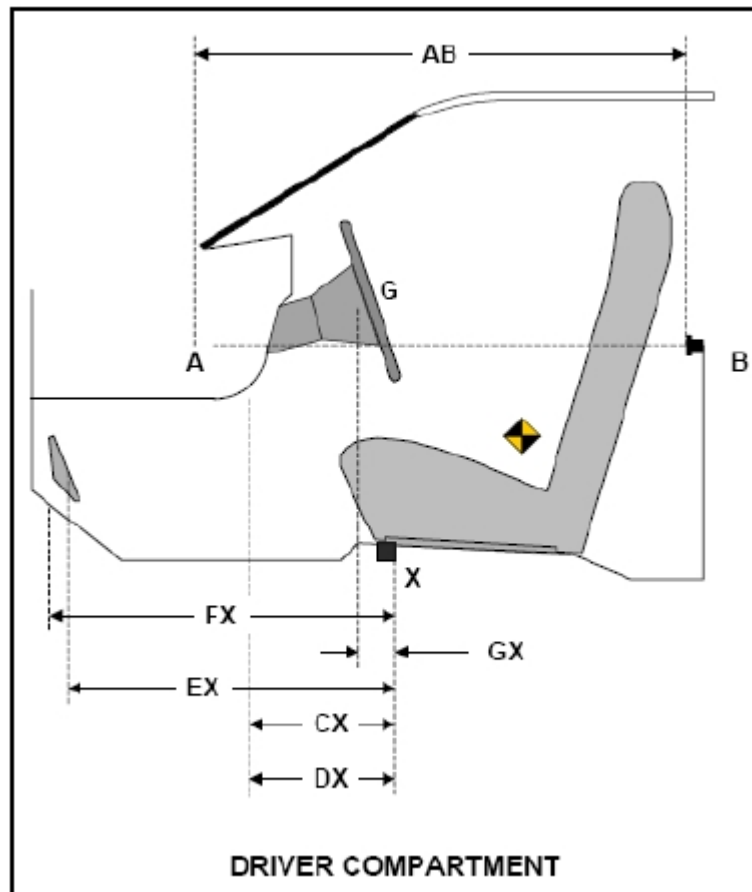
Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Change
AB	Door Opening (Inside Window Jam)	mm	711	716	5
CX	Left Knee Bolster to X	mm	263	267	4
DX	Right Knee Bolster to X	mm	257	260	3
EX	Brake Pedal to X	mm	527	456	-71
FX	Foot Rest to X	mm	520	517	-3
GX	Center of Steering Column Wheel Hub to X	mm	24	73	49

X = Front of Seat Track (Stationary)



DATA SHEET NO. 15
SUMMARY OF FMVSS 212, 219 (PARTIAL), AND 301 DATA

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025

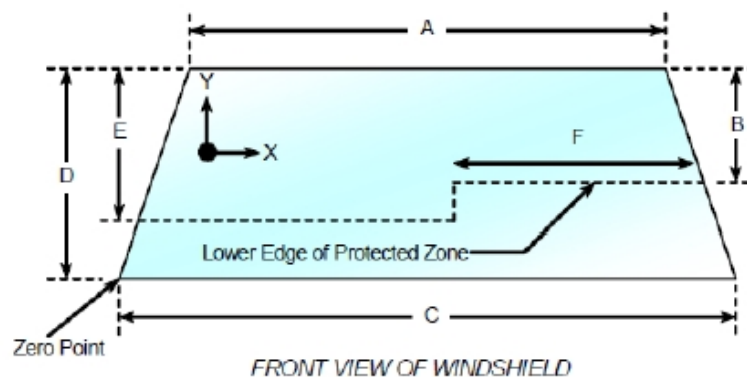
Windshield Mounting Details: A trim surrounds the top and side of windshield while a plastic shroud is on the bottom.

The standard requires that the post-test retention measurement be a minimum of 75% of the pre-test total periphery measurement for vehicles not equipped with occupant passive restraints and 50% for each side of the windshield for vehicles which are equipped with occupant passive restraints.

Temperature of windshield molding during test: 21 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% Retention
Left Side	2333.0	2333.0	100%
Right Side	2333.0	2333.0	100%
Total	4666	4666	100%



Item	Units	Value
A	mm	1358
B	mm	466
C	mm	1664
D	mm	822
E	mm	460
F	mm	600

AREAS OF PROTECTED ZONE FAILURES

- A. *Provide coordinates of the area that the protected zone was penetrated more than .25 inches by a vehicle component other than one that is normally in contact with the windshield.*
- No Penetration
- B. *Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component.*
- No Penetration

X	Y
X	Y

DATA SHEET NO. 15 ... (CONTINUED)
SUMMARY OF FMVSS 212, 219 (PARTIAL), AND 301 DATA

Test Vehicle:	<u>2026 Hyundai Palisade 5 Door SUV</u>	NHTSA No.:	<u>O20264200</u>
Test Program:	<u>NCAP Frontal Barrier Impact Test</u>	Test Date:	<u>12/17/2025</u>

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact:	21°C	Test Time:	11:38 AM
--------------------------------	-------------	------------	-----------------

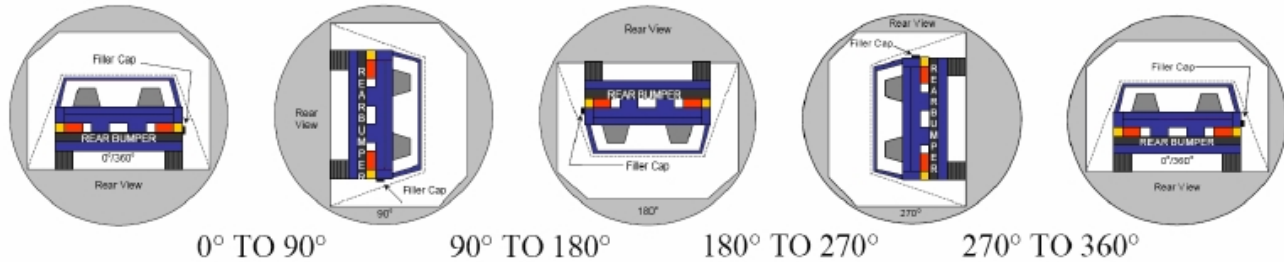
STODDARD SOLVENT SPILLAGE MEASUREMENTS

- | | | |
|--|-----------------------------|----|
| A. From impact until vehicle motion ceases
(Maximum allowable is 1 oz.) | 0 | oz |
| B. For the 5-minute period after motion ceases
(Maximum allowable is 5 oz.) | 0 | oz |
| C. For the following 25 minutes:
(Maximum allowable is 1 oz.) | 0 | oz |
| D. Spillage: | No Spillage Occurred | |

DATA SHEET NO. 16
FMVSS 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2026 Hyundai Palisade 5 Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: O20264200
 Test Date: 12/17/2025



1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent Spillage: No Spillage Occurred

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	72	300	372
90° to 180°	64	300	364
180° to 270°	67	300	367
270° to 360°	66	300	366

FMVSS 301 SPILLAGE TABLE

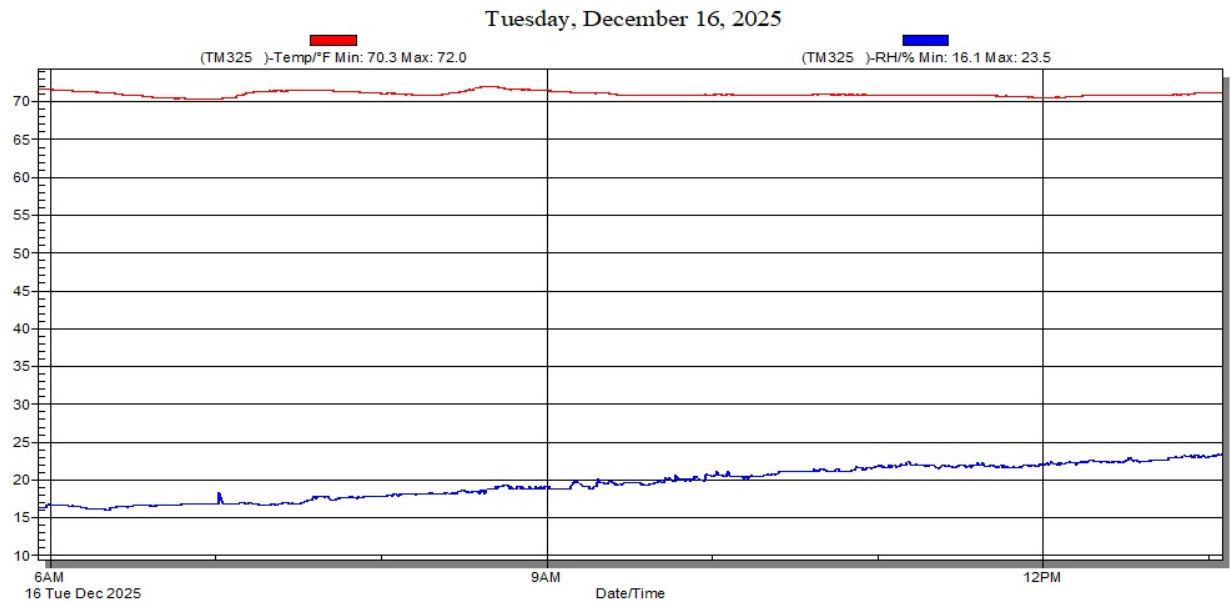
Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° to 90°	0	0	0	
90° to 180°	0	0	0	
180° to 270°	0	0	0	
270° to 360°	0	0	0	

SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° to 90°	None
90° to 180°	None
180° to 270°	None
270° to 360°	None

DATA SHEET NO. 17
DUMMY / VEHICLE TEMPERATURE STABILIZATION CHART

Test Vehicle:	2026 Hyundai Palisade 5 Door SUV	NHTSA No.:	O20264200
Test Program:	NCAP Frontal Barrier Impact Test	Test Date:	12/17/2025



Temperature and Humidity Stabilization Chart/Data for Dummies and Test Vehicle

APPENDIX A
PHOTOGRAPHS

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¹**NOTE:** *The underbody views should include the following vehicle components: fuel pump, fuel lines, sender unit, fuel tank filler pipe and any other visible system components.*

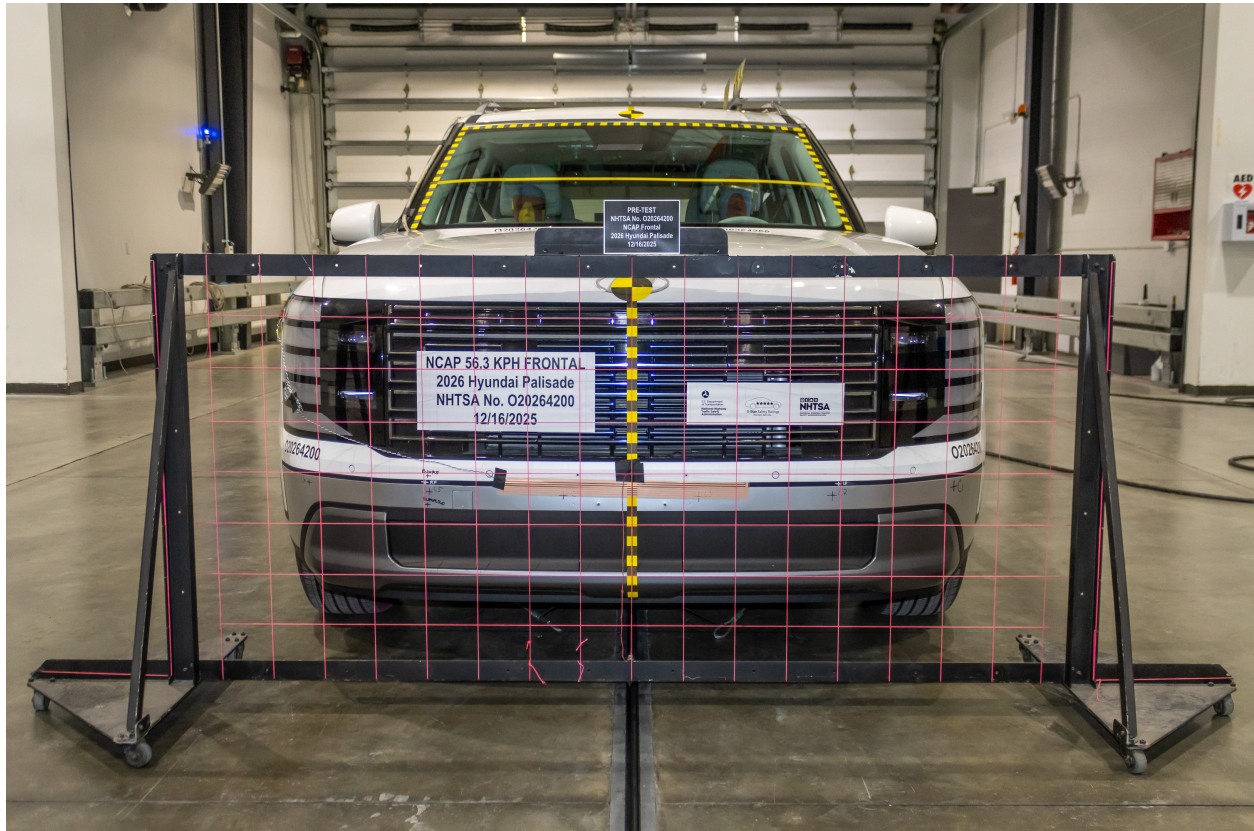


Figure A-1: Load Cell Location



Figure A-2: Pre-Test Load Cell Wall



Figure A-3: Post-Test Load Cell Wall

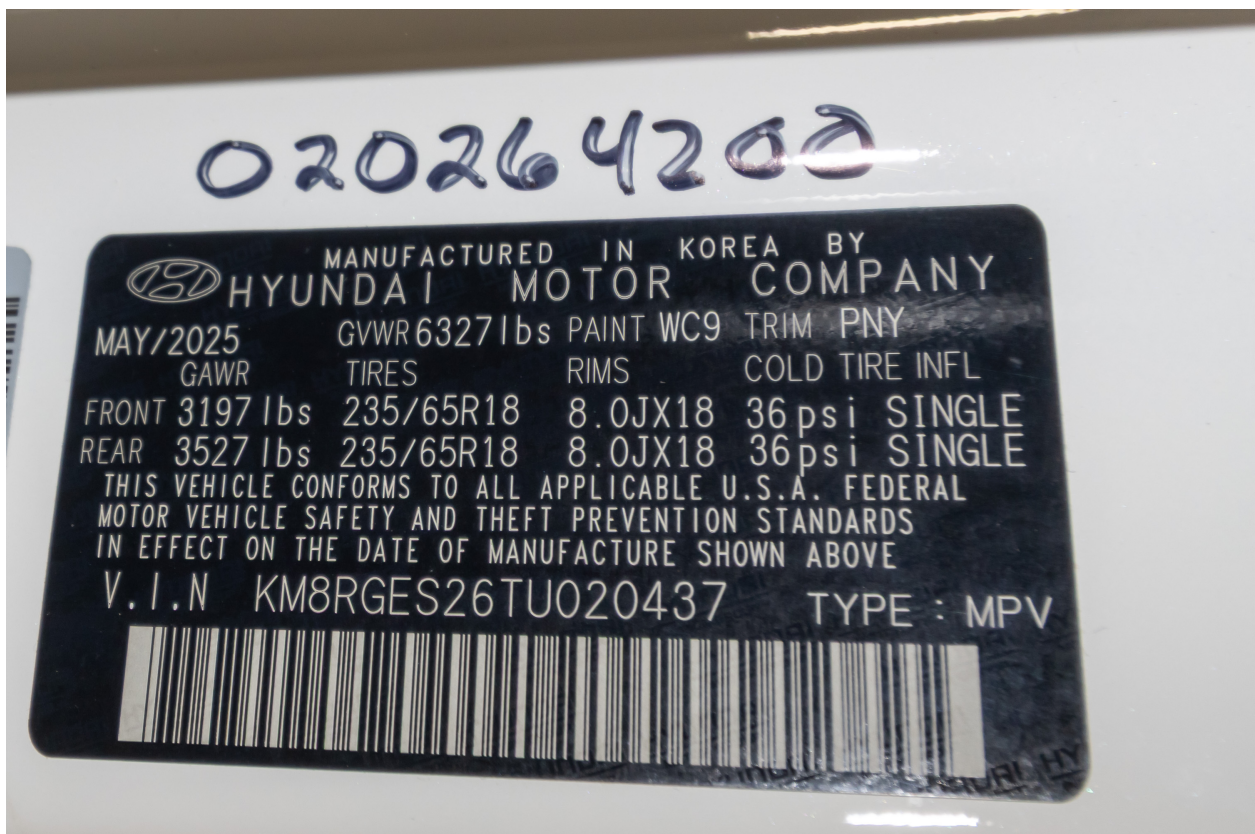


Figure A-4: Manufacturer's Label



Figure A-5: Tire Placard



Figure A-6: 2026 Hyundai Palisade Frontal As Delivered



O20264200

Figure A-7: Left Rear 3-4 View, As Received

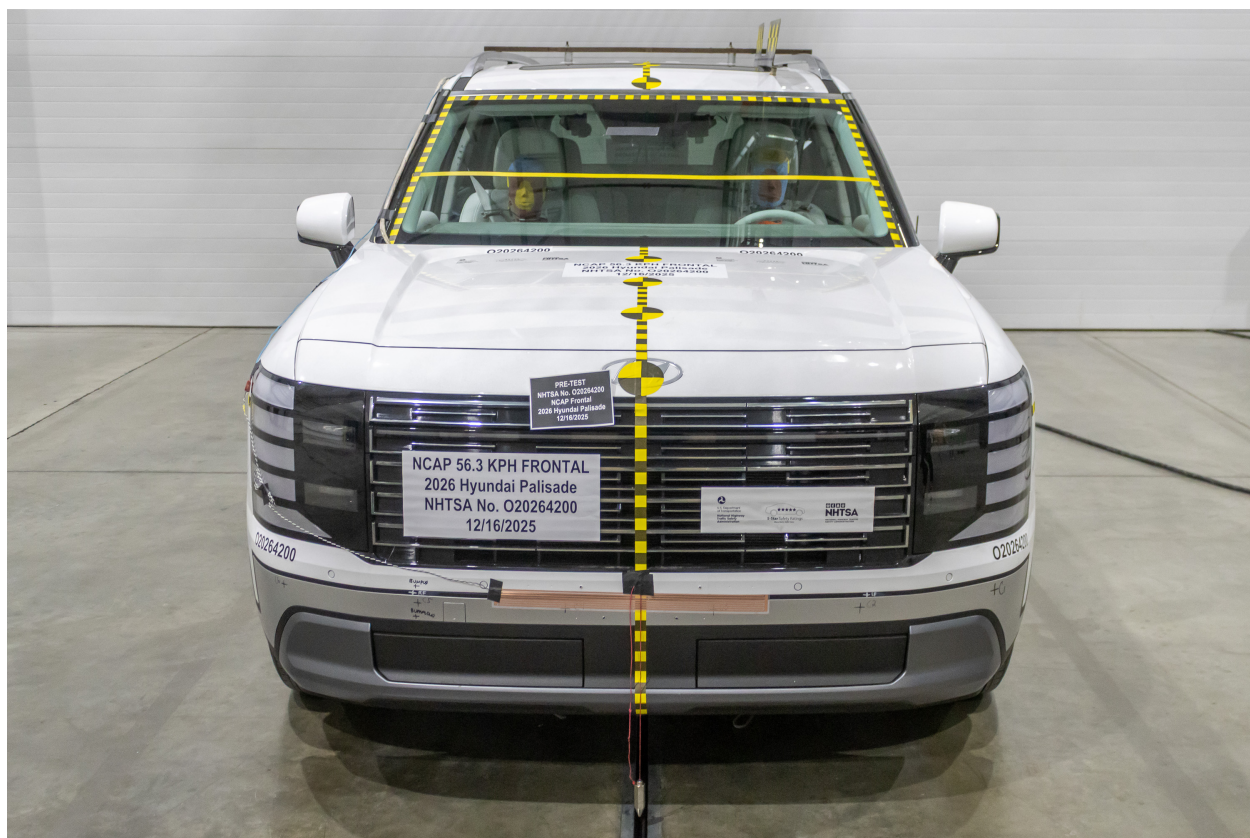


Figure A-8: Pre-Test Front View of Test Vehicle



Figure A-9: Post-Test Front View of Test Vehicle



Figure A-10: Pre-Test Left View of Test Vehicle



Figure A-11: Post-Test Left View of Test Vehicle



Figure A-12: Pre-Test Right View of Test Vehicle



Figure A-13: Post-Test Right View of Test Vehicle



Figure A-14: Pre-Test Right Front 3-4 View



Figure A-15: Post-Test Right Front 3-4 View



Figure A-16: Pre-Test Left Rear 3-4 View



Figure A-17: Post-Test Left Rear 3-4 View



Figure A-18: Pre-Test Windshield View



Figure A-19: Post-Test Windshield View



Figure A-20: Pre-Test Engine Compartment View



Figure A-21: Post-Test Engine Compartment View



Figure A-22: Pre-Test Fuel Filler Cap View



Figure A-23: Post-Test Fuel Filler Cap View

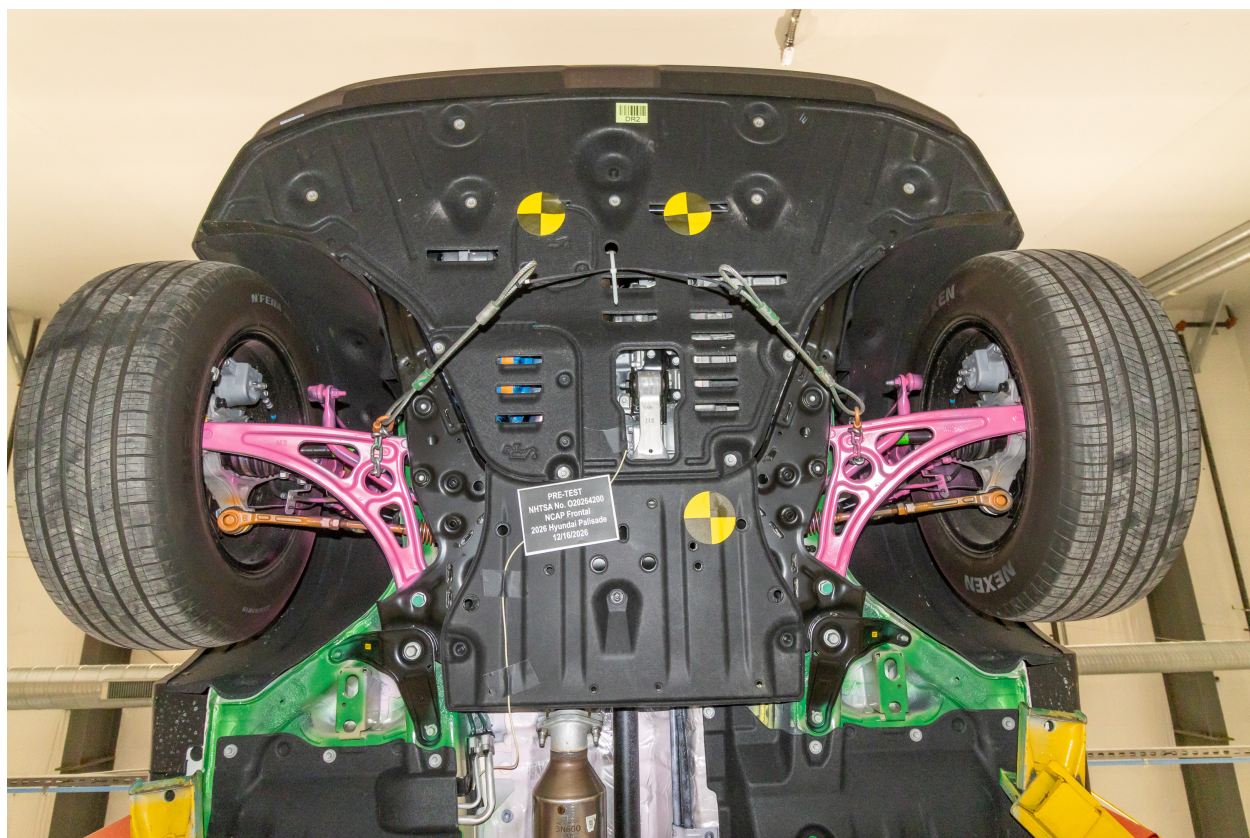


Figure A-24: Pre-Test Front Underbody View

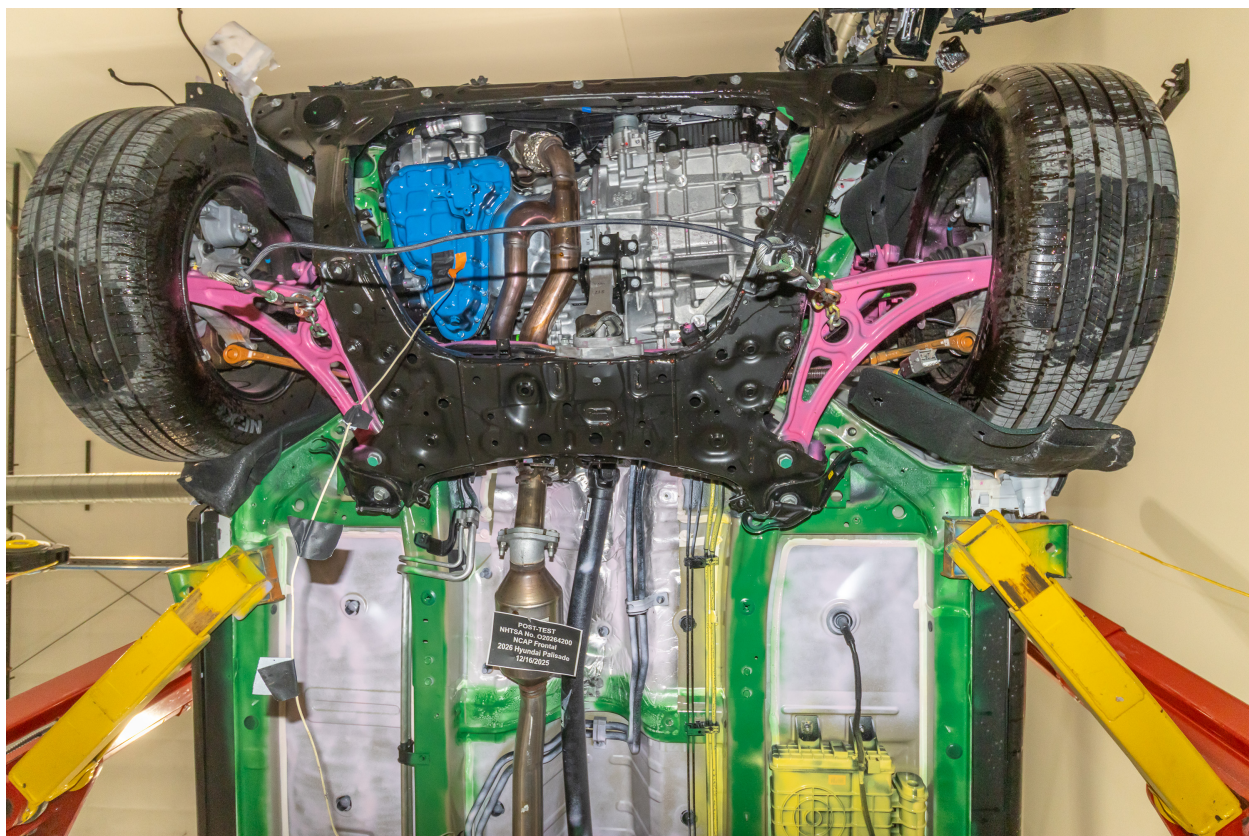


Figure A-25: Post-Test Front Underbody View



Figure A-26: Pre-Test Rear Underbody View

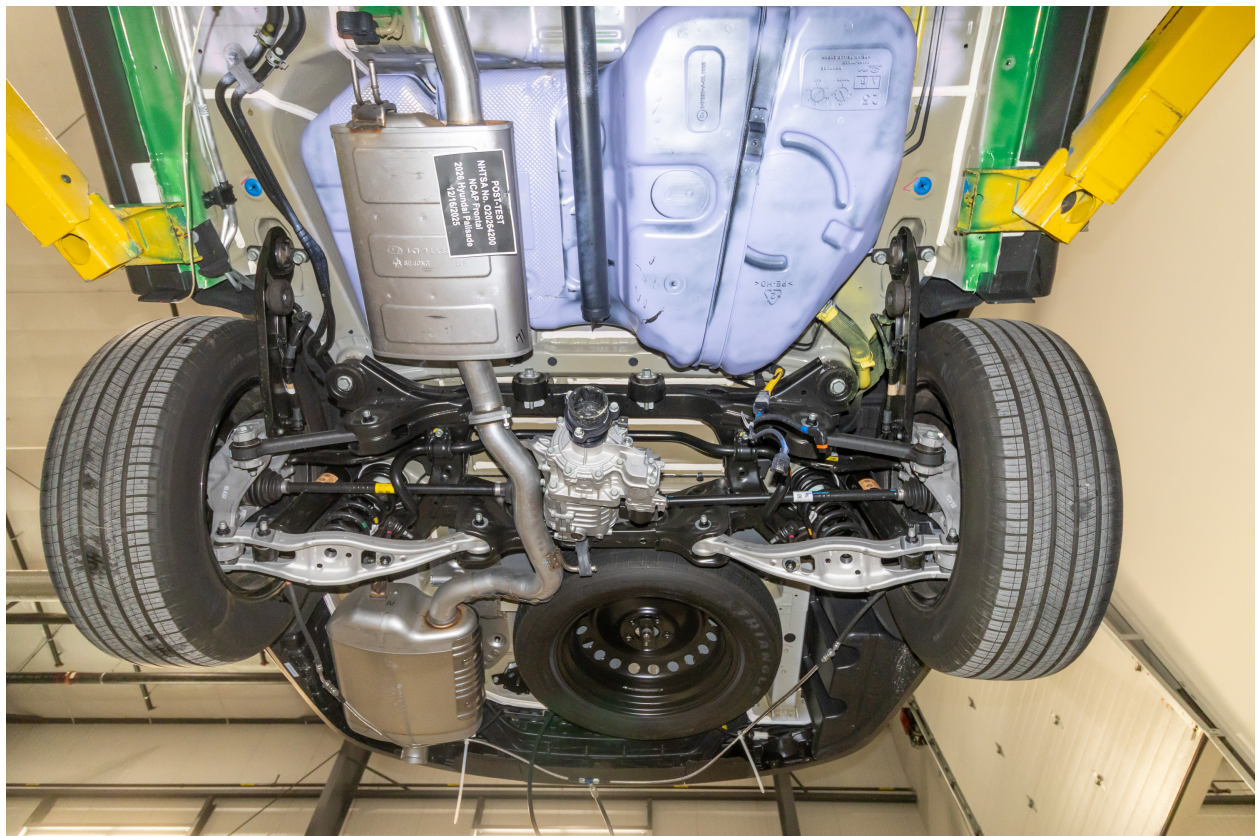


Figure A-27: Post-Test Rear Underbody View



Figure A-28: Pre-Test Dummy Cable Routing



Figure A-29: Post-Test Dummy Cable Routing



Figure A-30: Pre-Test Driver Dummy Front View



Figure A-31: Post-Test Driver Dummy Front View



Figure A-32: Pre-Test Driver Dummy Window View



Figure A-33: Post-Test Driver Dummy Window View



Figure A-34: Pre-Test Driver Dummy and Vehicle Interior View



Figure A-35: Post-Test Driver Dummy and Vehicle Interior View

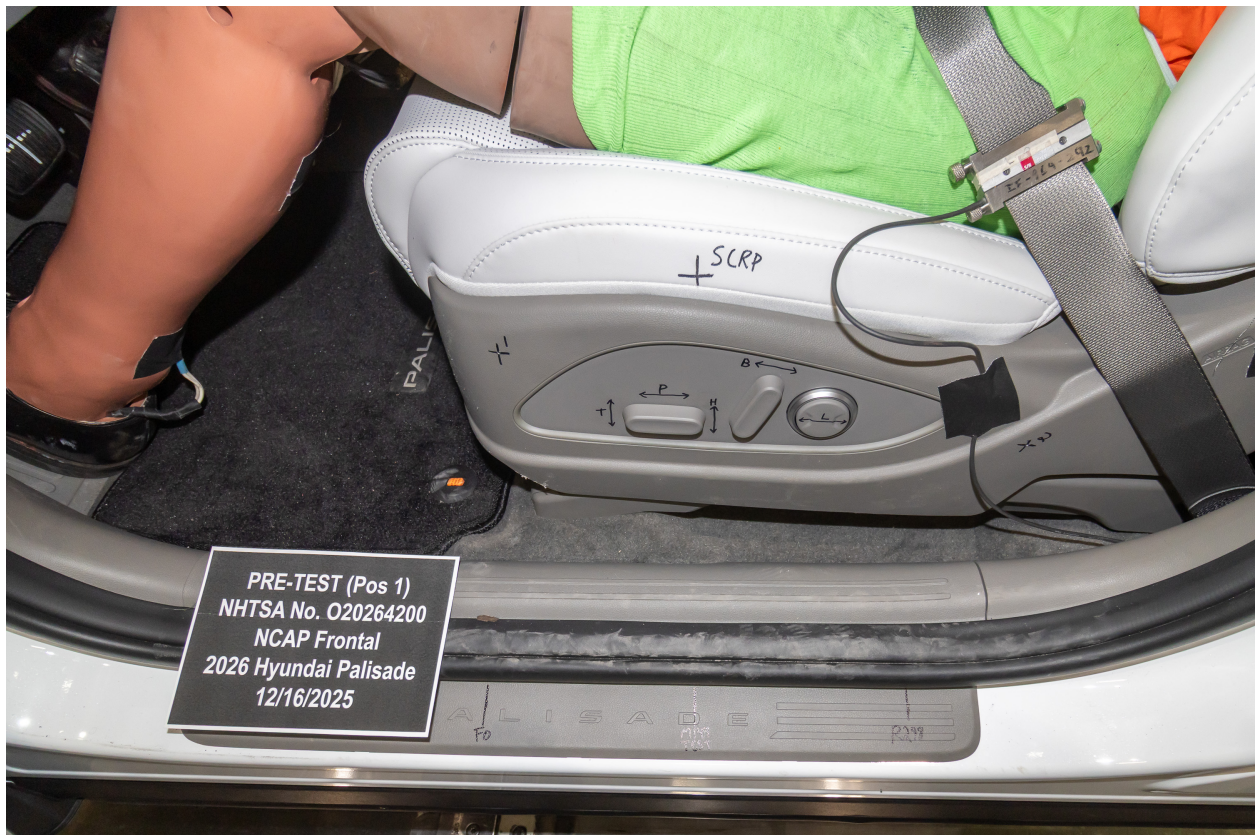


Figure A-36: Pre-Test Driver's Seat Fore-Aft Markings



Figure A-37: Post-Test Driver's Seat Fore-Aft Markings



Figure A-38: Pre-Test View of Belt Anchorage for Driver Dummy



Figure A-39: Post-Test View of Belt Anchorage for Driver Dummy



Figure A-40: Pre-Test View of Belt Buckle and Latch Plate for Driver Dummy



Figure A-41: Post-Test View of Belt Buckle and Latch Plate for Driver Dummy



Figure A-42: Pre-Test Driver Dummy Feet



Figure A-43: Post-Test Driver Dummy Feet



Figure A-44: Pre-Test Driver's Side Knee Bolster



Figure A-45: Post-Test Driver's Side Knee Bolster



Figure A-46: Pre-Test Driver's Side Floorpan



Figure A-47: Post-Test Driver's Side Floorpan



Figure A-48: Post-Test Driver Dummy Face



Figure A-49: Post-Test Driver Dummy Contact With Airbag



Figure A-50: Post-Test Driver Dummy Contact With Headrest



Figure A-51: Pre-Test View of the Steering Wheel



Figure A-52: Post-Test View of the Steering Wheel



Figure A-53: Pre-Test Passenger Dummy Front View



Figure A-54: Post-Test Passenger Dummy Front View



Figure A-55: Pre-Test Passenger Dummy Window View



Figure A-56: Post-Test Passenger Dummy Window View



Figure A-57: Pre-Test Passenger Dummy and Vehicle Interior View



Figure A-58: Post-Test Passenger Dummy and Vehicle Interior View



Figure A-59: Pre-Test Passenger's Seat Fore-Aft Markings



Figure A-60: Post-Test Passenger's Seat Fore-Aft Markings

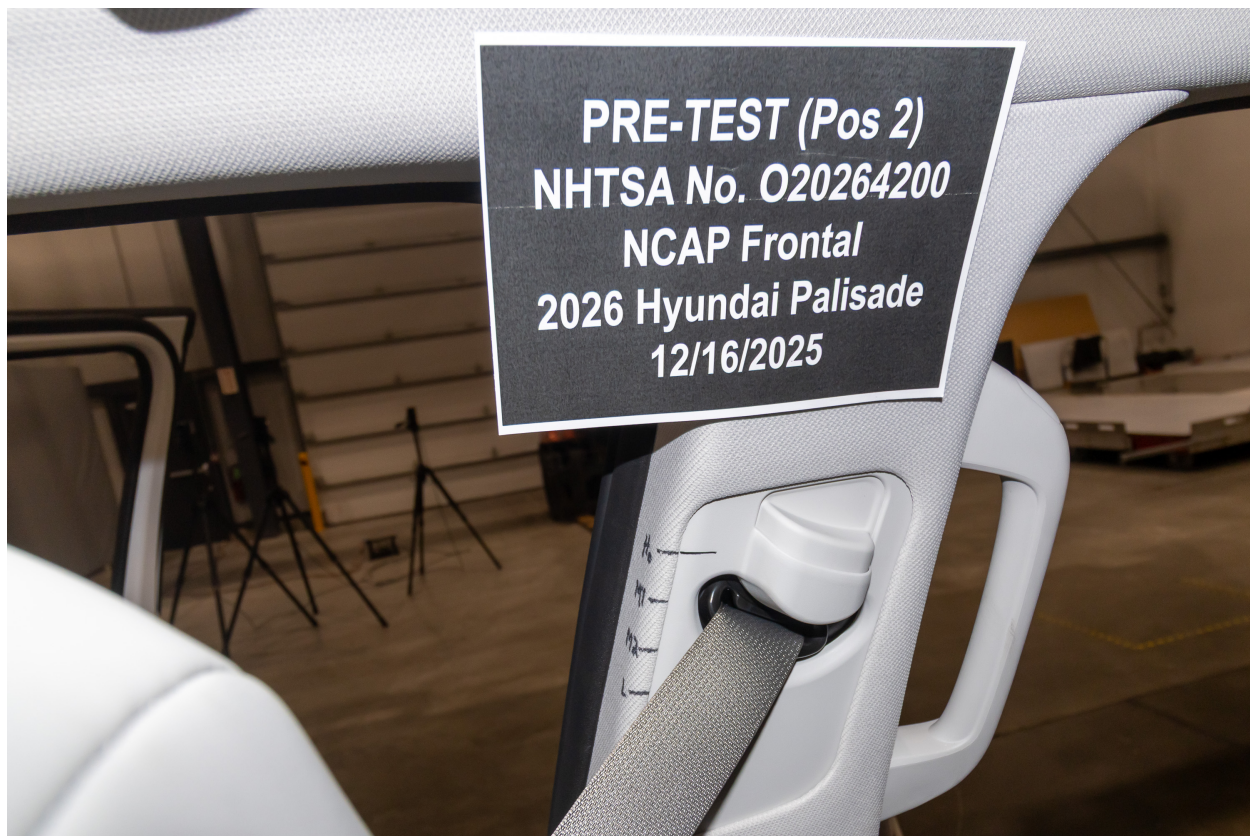


Figure A-61: Pre-Test View of Belt Anchorage for Passenger Dummy

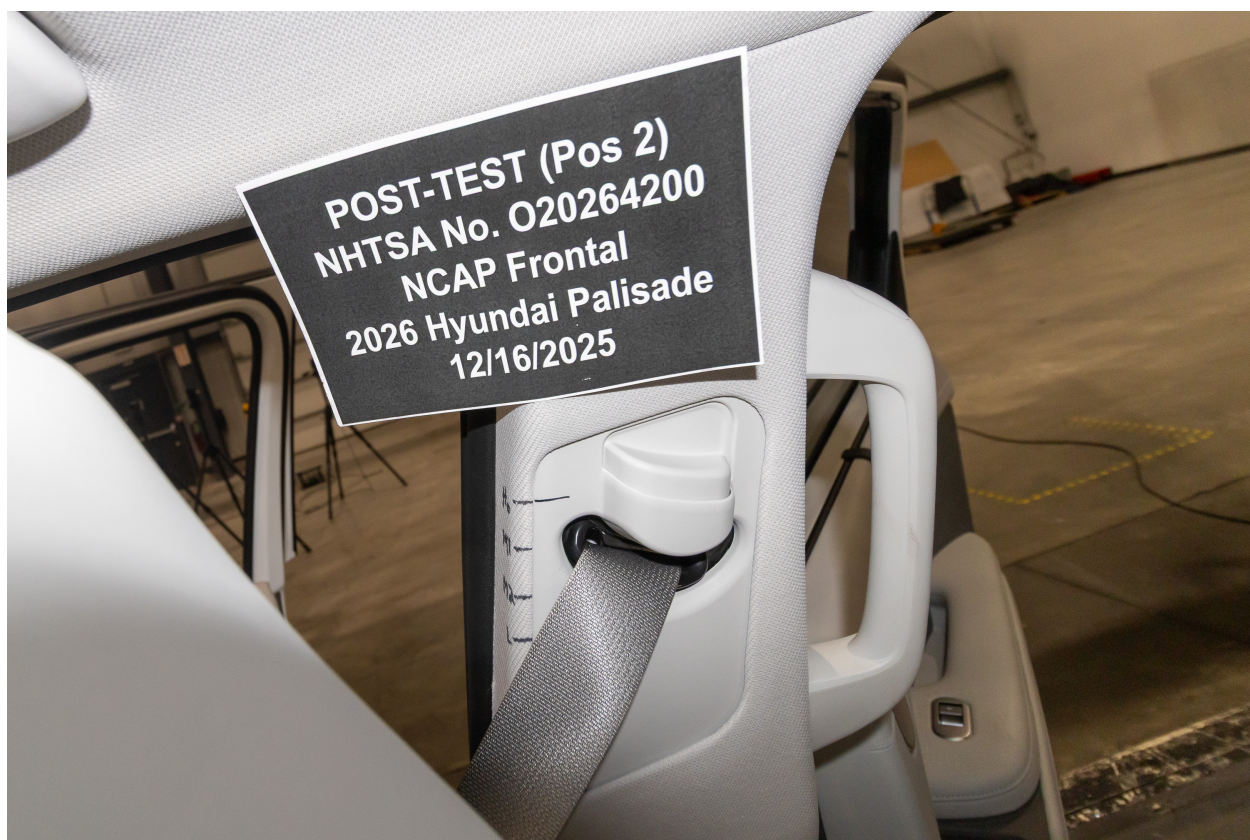


Figure A-62: Post-Test View of Belt Anchorage for Passenger Dummy



Figure A-63: Pre-Test View of Belt Buckle and Latch Plate for Passenger Dummy



Figure A-64: Post-Test View of Belt Buckle and Latch Plate for Passenger Dummy



Figure A-65: Pre-Test Passenger Dummy Feet



Figure A-66: Post-Test Passenger Dummy Feet



Figure A-67: Pre-Test Passenger's Side Knee Bolster



Figure A-68: Post-Test Passenger's Side Knee Bolster



Figure A-69: Pre-Test Passenger's Side Floorpan



Figure A-70: Post-Test Passenger's Side Floorpan



Figure A-71: Post-Test Passenger Dummy Face



Figure A-72: Post-Test Passenger Dummy Contact With Airbag



Figure A-73: Post-Test Passenger Dummy Contact With Headrest

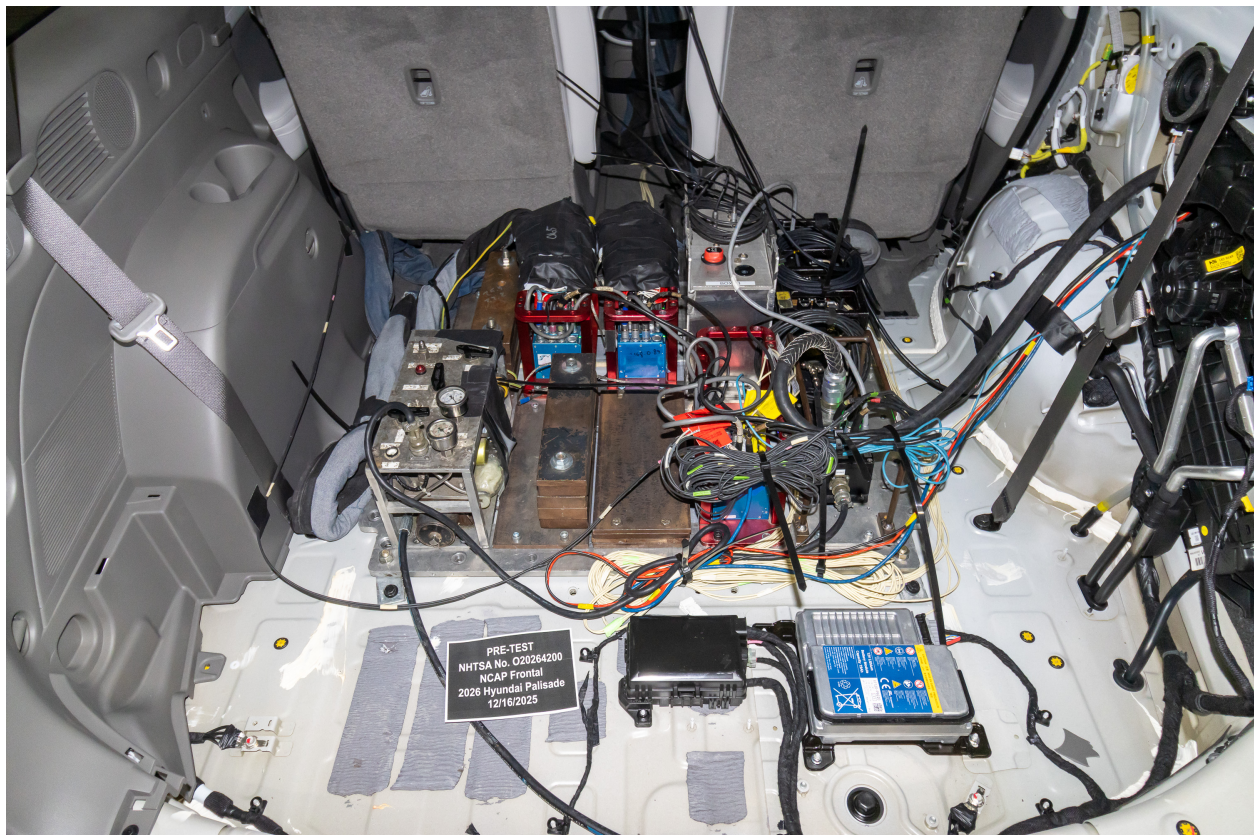


Figure A-74: Photograph of Ballast Installed in Vehicle

Photo Not Applicable

Figure A-75: Post-Test Stoddard Solvent Spillage Location View, If Required



Figure A-76: Post-Test Speed Trap Read-Out



Figure A-77: Vehicle at 0° on Static Rollover Device

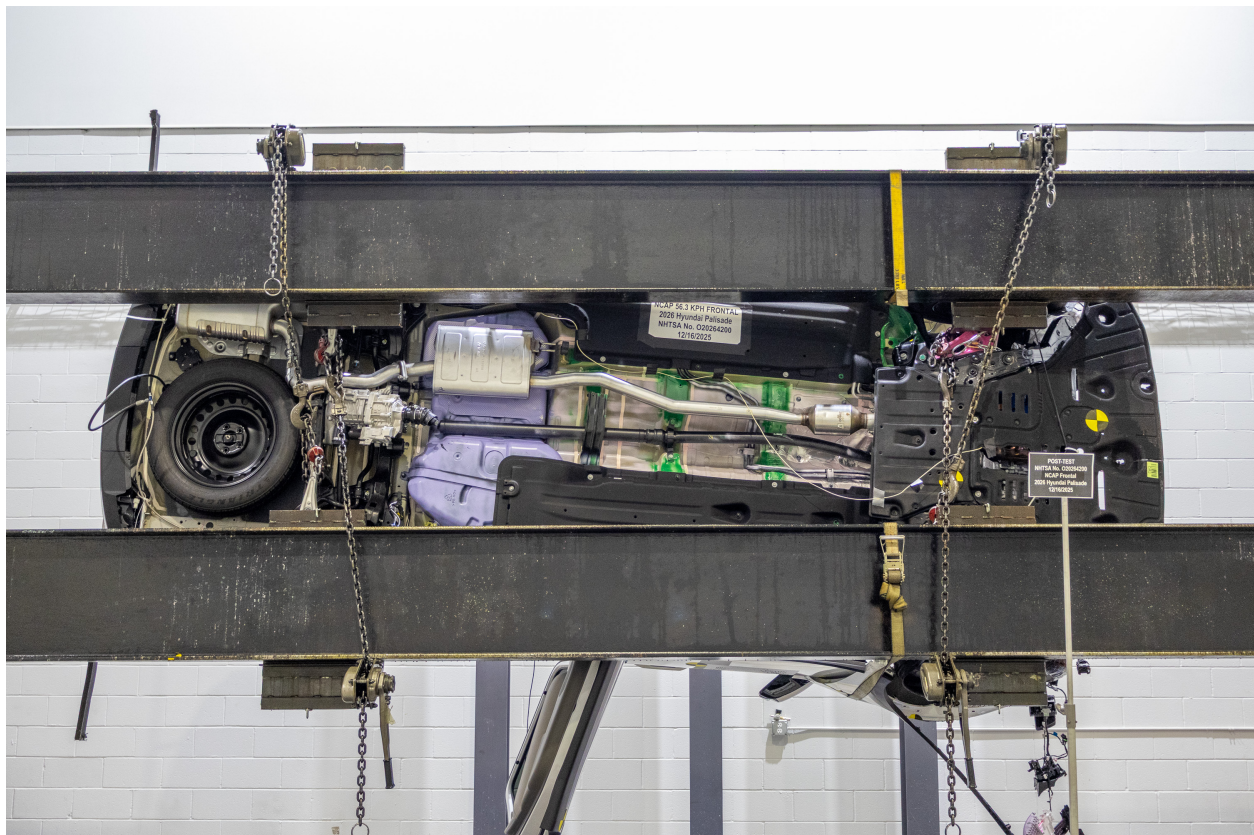


Figure A-78: Vehicle at 90° on Static Rollover Device

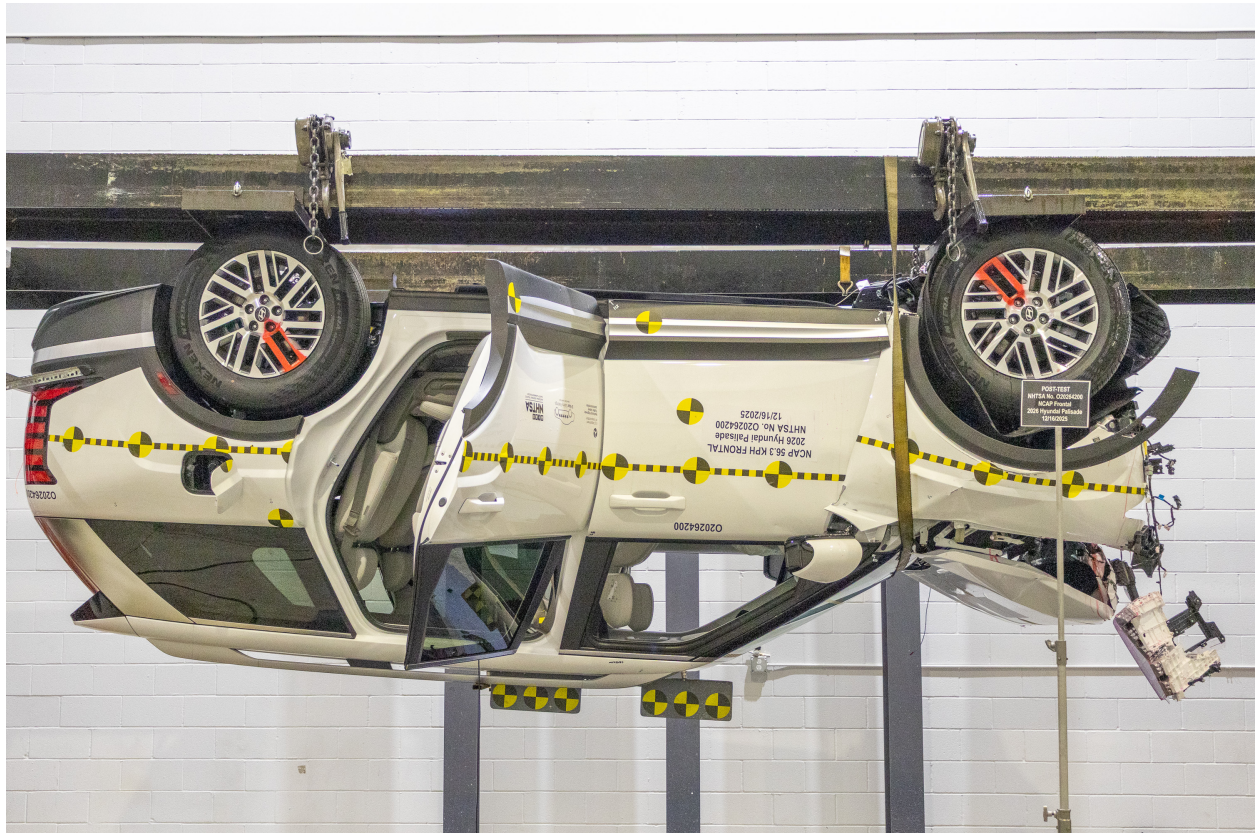


Figure A-79: Vehicle at 180° on Static Rollover Device



Figure A-80: Vehicle at 270° on Static Rollover Device



Figure A-81: Vehicle at 360° on Static Rollover Device



Figure A-82: 2026 Hyundai Palisade Frontal Impact Event

2026 PALISADE SEL
CONVENIENCE AWD

Model: J242A65

PORT OF ENTRY: TO

EXTERIOR COLOR: CREAMY WHITE

INTERIOR/SEAT COLOR: GRAY/GRAY

TRANSPORT: TRUCK

ACCESSORY WEIGHT: 22 lbs./ 10 kgs.

EMISSIONS: This vehicle is certified to meet emission requirements in all 50 states

GOVERNMENT 5-STAR SAFETY RATINGS

This vehicle has not been rated by the government for overall vehicle score, frontal crash, side crash or rollover risk.

Source: National Highway Traffic Safety Administration (NHTSA).
www.safercar.gov or 1-888-327-4236

STANDARD FEATURES:

AMERICA'S BEST WARRANTY

- 5-year/60,000-mile New Vehicle Warranty*
- 10-year/100,000-mile Powertrain Warranty*
- 7-year/Unlimited-mile Anti-Performance Warranty*
- 5-year/Unlimited-mile Roadside Assistance
- *Limited warranties, see dealer for details

ADVANCED SAFETY TECHNOLOGIES

- Front, Front Center, Front & 2nd Row Side, Side-Curtain & Driver's Knee Airbags
- Forward Collision Avoidance Assist
- Lane Keeping Assist, Lane Following Assist
- Forward Attention Warning
- Blind-Spot Collision Warning
- Rear Cross-Traffic Collision-Avoidance Assist
- Parking Distance Warning-Forward & Reverse
- Rear Occupant Alert
- Rearview Camera
- Immobilizer

POWERTRAIN TECHNOLOGY

- 3.0L V6 Engine
- 8-Speed Automatic Transmission w/ Paddle Shifters
- HTRAC AWD

EXTERIOR

- 17" Alloy Wheels
- Power Sunroof
- LED Headlights, Tail Lights & Daytime Running Lights
- Road Side Help
- Temporary Spare Tire

COMFORT & CONVENIENCE

- Proximity Key w/ Push Button Start
- Hands-Free Smart Power Liftgate w/ Auto Open
- Smart Cruise Control
- Highway Driving Assist
- H-Text® Trimmed Seating Surfaces
- Heated, Power Front Seats
- 2nd Row Captain's Chairs
- 2nd Row Manual Window Curtains
- 3-Zone Automatic Temperature Control
- 12.3" Digital Instrument Cluster
- Auto-Dimming Rearview Mirror
- Front & Rear USB Ports

MULTIMEDIA & CONNECTIVITY

- 12.3" Navigation System w/ AM/FM/HD Radio*
- Wireless Android Auto™ & Apple CarPlay®

MULTIMEDIA & CONNECTIVITY(cont.)

- Wireless Phone Charger
- Digital Key
- SiriusXM® Radio w/ 90-Day trial subscription; not available in AK & HI
- Bluetooth® - All-Inclusive Connected Services (premium required)
- Wi-Fi Hotspot (trial w/ Bluetooth®)
- Full Tank of Fuel

Manufacturer's Suggested Retail Price: \$44,870.00

ADDED FEATURES:

- *CREAMY WHITE(WCS) Paint \$500.00
- *Carpeted Floor Mats \$245.00
- *Cargo Tray (Non-Reversible) \$160.00
- *Cargo Cover \$205.00
- *First Aid Kit \$45.00

Inland Freight & Handling: \$1,495.00

Total Price: \$47,520.00

Proudly Supporting Hyundai Hope On Wheels and the Fight Against Pediatric Cancer Since 1998.

EPA DOT Fuel Economy and Environment Gasoline Vehicle

Fuel Economy

20 MPG combined city/hwy
18 city
24 highway
5.0 gallons per 100 miles

Standard SUVs range from 12 to 115 MPG. The best vehicle rates 146 MPG.

You spend \$4,000 more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost \$2,500

Fuel Economy & Greenhouse Gas Rating (tailpipe only) **4** Best 10 Worst

Smog Rating (tailpipe only) **6** Best 10 Worst

This vehicle emits 444 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fueleconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 29 MPG and costs \$8,500 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.29 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fueleconomy.gov
Calculate personalized estimates and compare vehicles

The asking price of the vehicle is the MSRP displayed on the label attached to this vehicle plus the add'l services fee disclosed below.

Additional Services Fee \$499.00

Manufacturer's suggested retail price includes manufacturer's recommended state and local taxes and dealer installed options and accessories are not included. This label has been affixed to this vehicle by Hyundai Motor America, pursuant, which prohibits its removal or alteration prior to delivery to the ultimate purchaser.

PARTS CONTENT INFORMATION FOR VEHICLE IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 1 %
MAJOR SOURCES OF FOREIGN PARTS CONTENT: KOREA: 90 %

Note: Parts content does not include final assembly, distribution, or other non-parts costs.

FOR THIS VEHICLE:
FINAL ASSEMBLY POINT: ULSAN, KOREA
COUNTRY OF ORIGIN: ENGINE: KOREA
TRANSMISSION: KOREA

192 A 1096TMANON 5

Figure A-83: Monroney Label Photograph

APPENDIX B

VEHICLE AND DUMMY RESPONSE DATA TRACES

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Plot 9	Driver Chest Resultant Acceleration vs. Time Primary	B-7
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The following additional dummy and vehicle response data can be found in the R&D section of the NHTSA website at www.NHTSA.gov

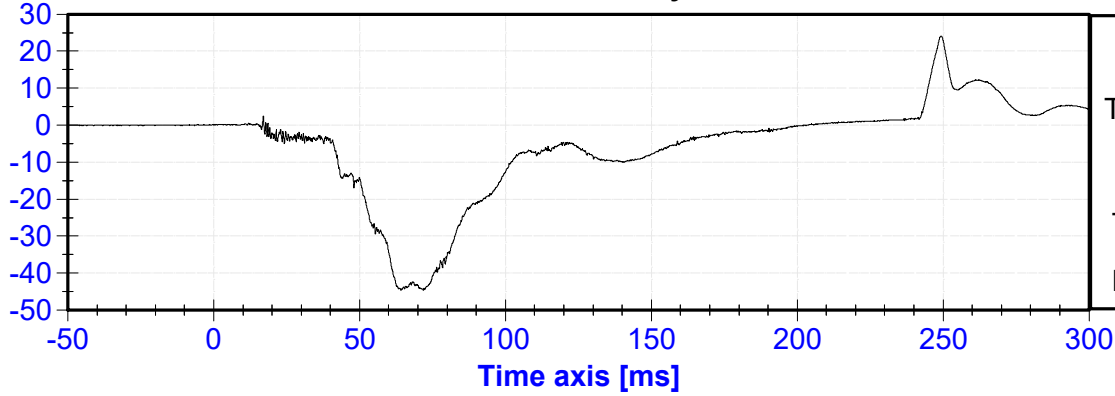
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 Driver Head Y Acceleration Redundant
 Driver Head Z Acceleration Redundant
 Driver Upper Neck Force Y
 Driver Upper Neck Moment X
 Driver Upper Neck Moment Z
 Driver Chest X Acceleration Redundant
 Driver Chest Y Acceleration Redundant
 Driver Chest Z Acceleration Redundant
 Driver Pelvis X
 Driver Pelvis Y
 Driver Pelvis Z
 Driver Left Femur Redundant
 Driver Right Femur Redundant
 Driver Left Upper Tibia Moment X
 Driver Left Upper Tibia Moment Y

Driver Left Upper Tibia Force Z
Driver Left Lower Tibia Moment X
Driver Left Lower Tibia Moment Y
Driver Left Lower Tibia Force Z
Driver Right Upper Tibia Moment X
Driver Right Upper Tibia Moment Y
Driver Right Upper Tibia Force Z
Driver Right Lower Tibia Moment X
Driver Right Lower Tibia Moment Y
Driver Right Lower Tibia Force Z
Driver Left Foot Fore Z
Driver Left Foot Aft X
Driver Left Foot Aft Z
Driver Right Foot Fore Z
Driver Right Foot Aft X
Driver Right Foot Aft Z
Driver Shoulder Belt Force
Driver Lap Belt Force
Driver Head Angular Velocity X
Driver Head Angular Velocity Y
Driver Head Angular Velocity Z
Passenger Head X Acceleration Redundant
Passenger Head Y Acceleration Redundant
Passenger Head Z Acceleration Redundant
Passenger Upper Neck Force X
Passenger Upper Neck Force Z
Passenger Upper Neck Moment Y
Passenger Chest X Acceleration Redundant
Passenger Chest Y Acceleration Redundant
Passenger Chest Z Acceleration Redundant
Passenger Pelvis X
Passenger Pelvis Y
Passenger Pelvis Z
Passenger Left Femur Redundant
Passenger Right Femur Redundant
Passenger Left Upper Tibia Moment X
Passenger Left Upper Tibia Moment Y
Passenger Left Upper Tibia Force Z
Passenger Left Lower Tibia Moment X
Passenger Left Lower Tibia Moment Y
Passenger Left Lower Tibia Force Z
Passenger Right Upper Tibia Moment X
Passenger Right Upper Tibia Moment Y
Passenger Right Upper Tibia Force Z
Passenger Right Lower Tibia Moment X
Passenger Right Lower Tibia Moment Y
Passenger Right Lower Tibia Force Z
Passenger Left Foot Fore Z
Passenger Left Foot Aft X
Passenger Left Foot Aft Z

Passenger Right Foot Fore Z
Passenger Right Foot Aft X
Passenger Right Foot Aft Z
Passenger Shoulder Belt Force
Passenger Lap Belt Force
Passenger Head Angular Velocity X
Passenger Head Angular Velocity Y
Passenger Head Angular Velocity Z
Left Rear Seat Crossmember X
Left Rear Seat Crossmember Z
Right Rear Seat Crossmember X
Right Rear Seat Crossmember Z
Left Rear Seat Crossmember X Redundant
Right Rear Seat Crossmember X Redundant
Vehicle Engine Top X
Vehicle Engine Bottom X
Load Cell Barrier Forces and Moments

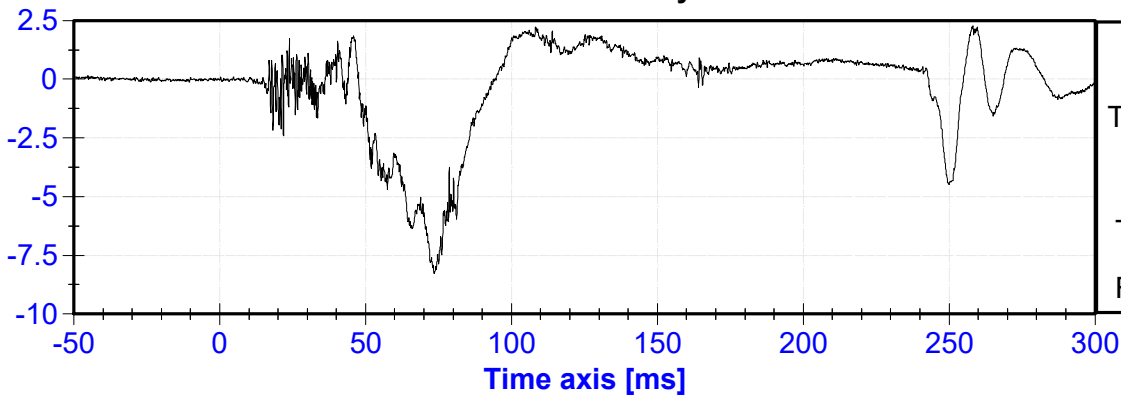
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Driver Head X Acceleration vs. Time Primary



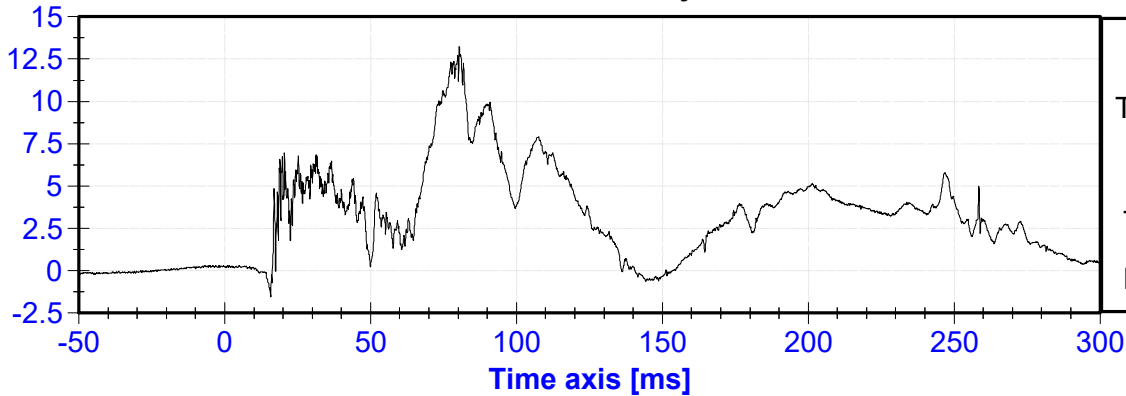
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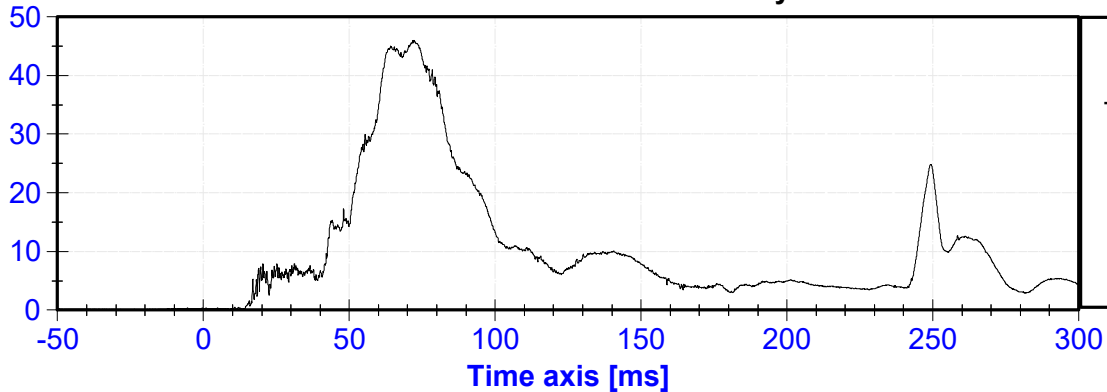
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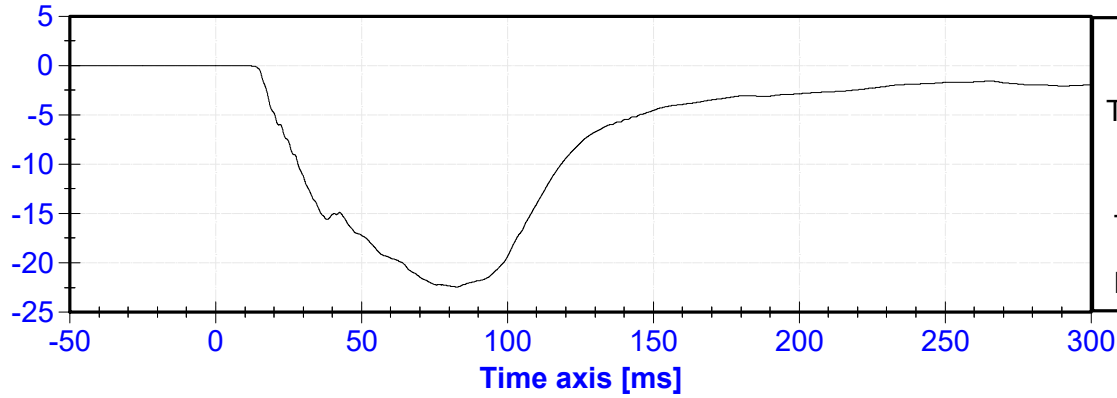
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Driver Head Resultant Acceleration vs. Time Primary



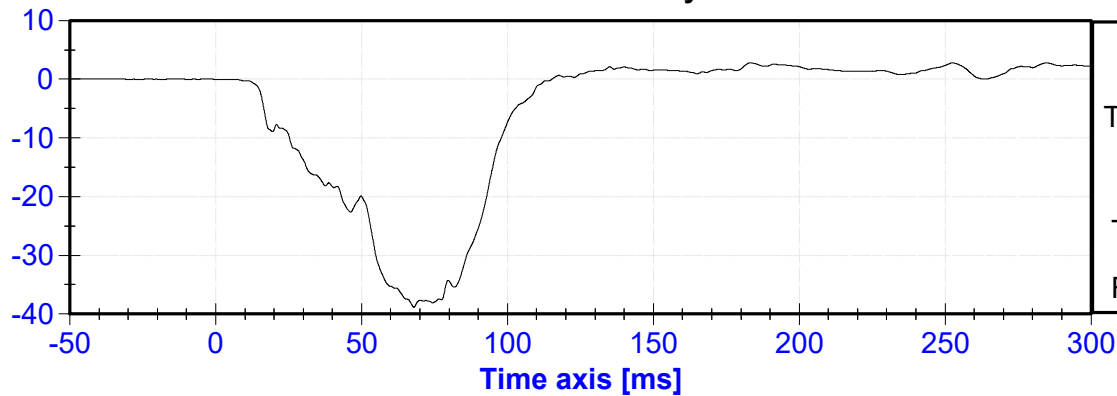
DISPLACEMENT [mm]

Driver Chest X Deflection vs. Time



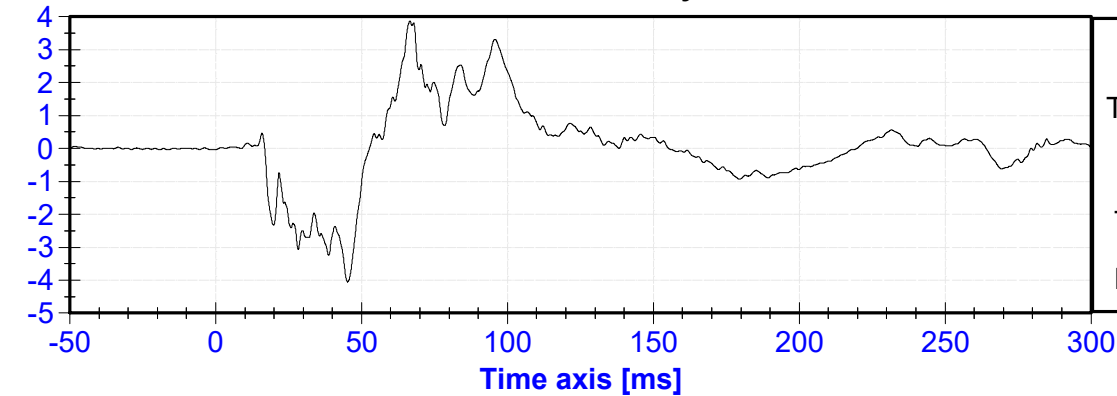
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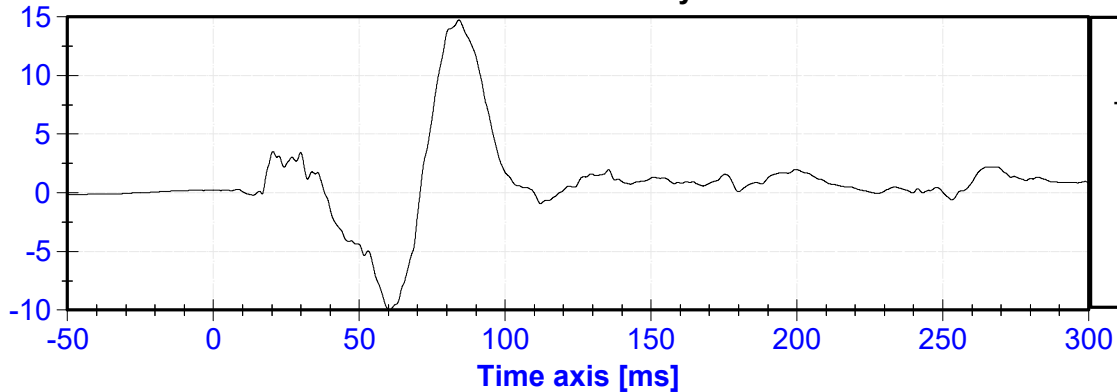
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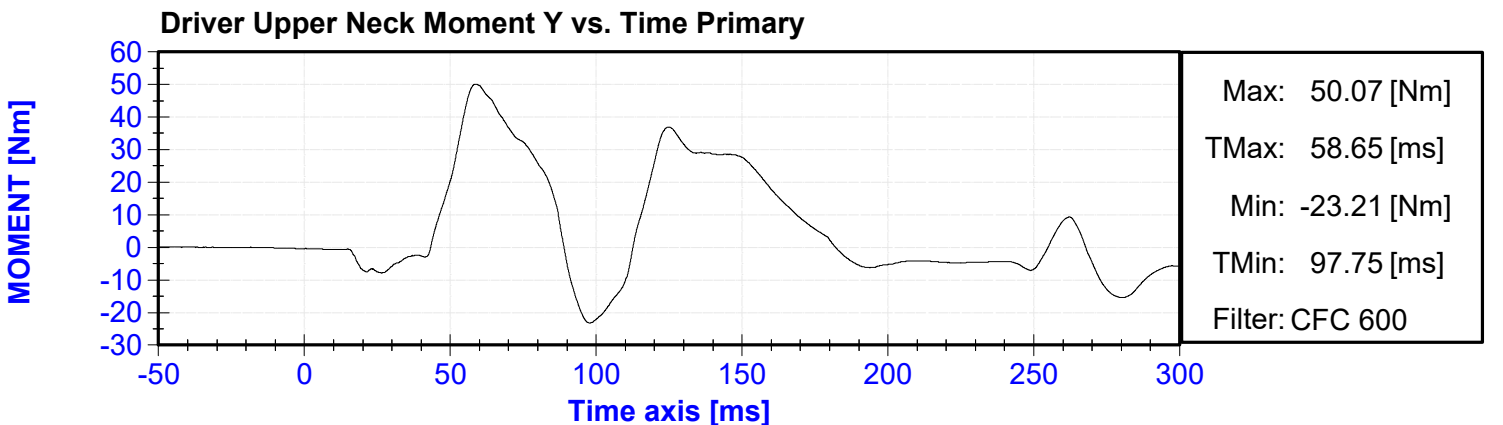
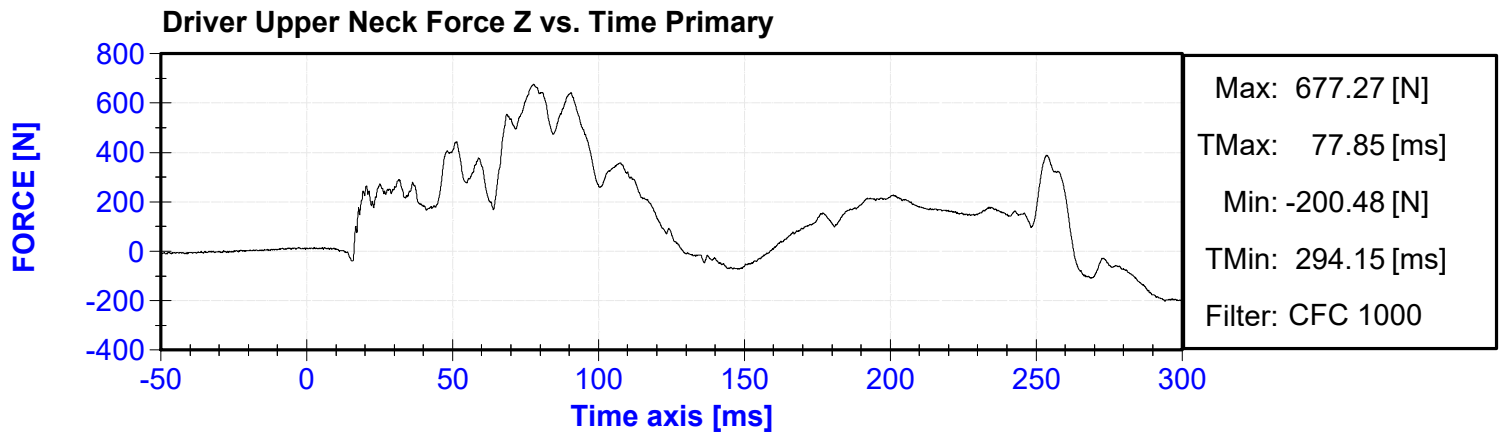
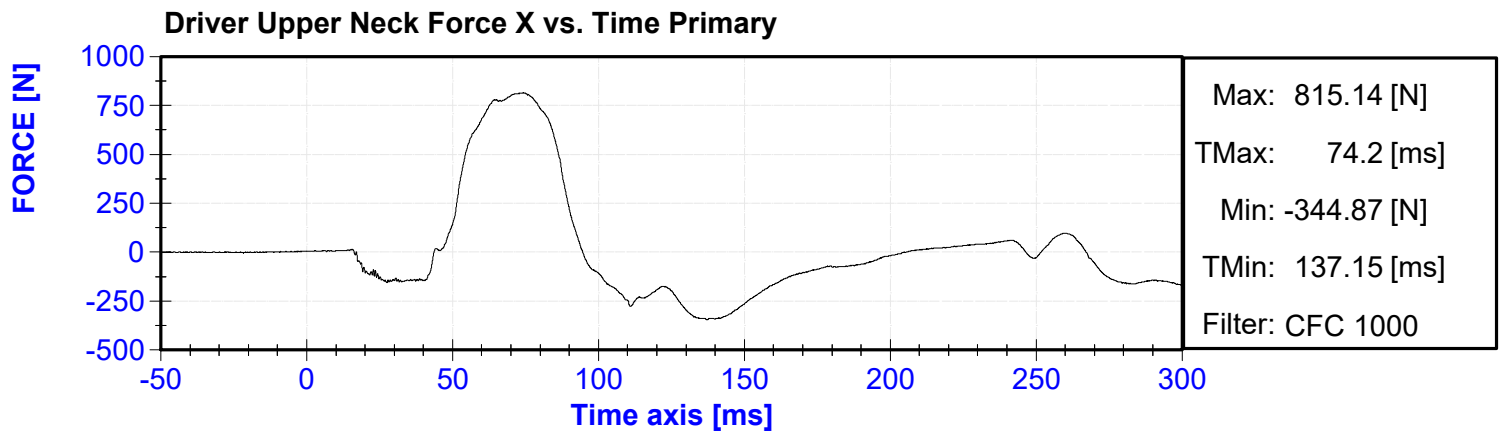
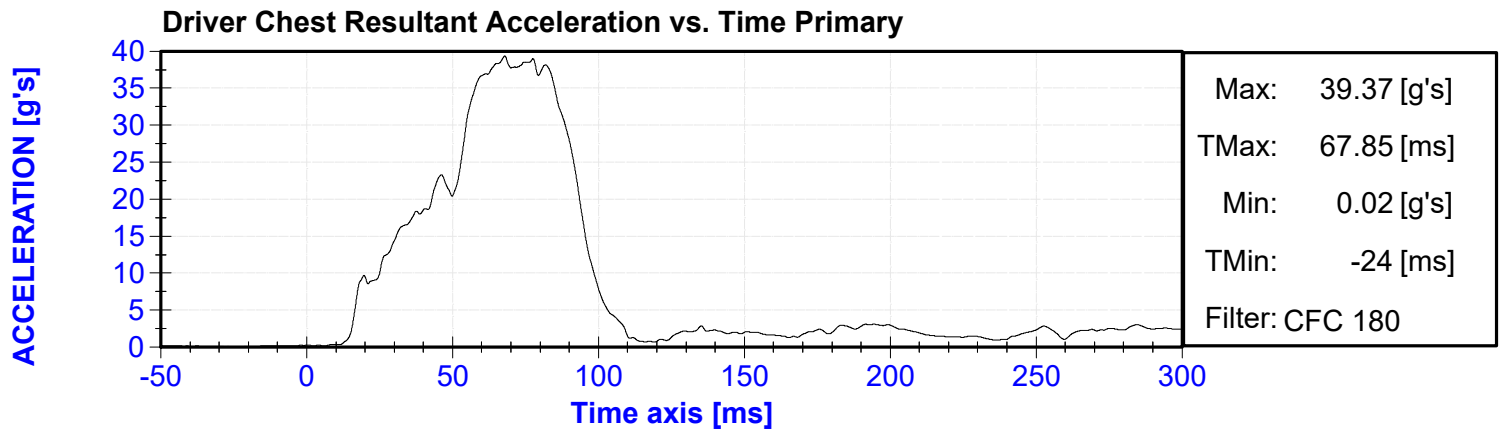
Driver Chest Y Acceleration vs. Time Primary



ACCELERATION [g's]

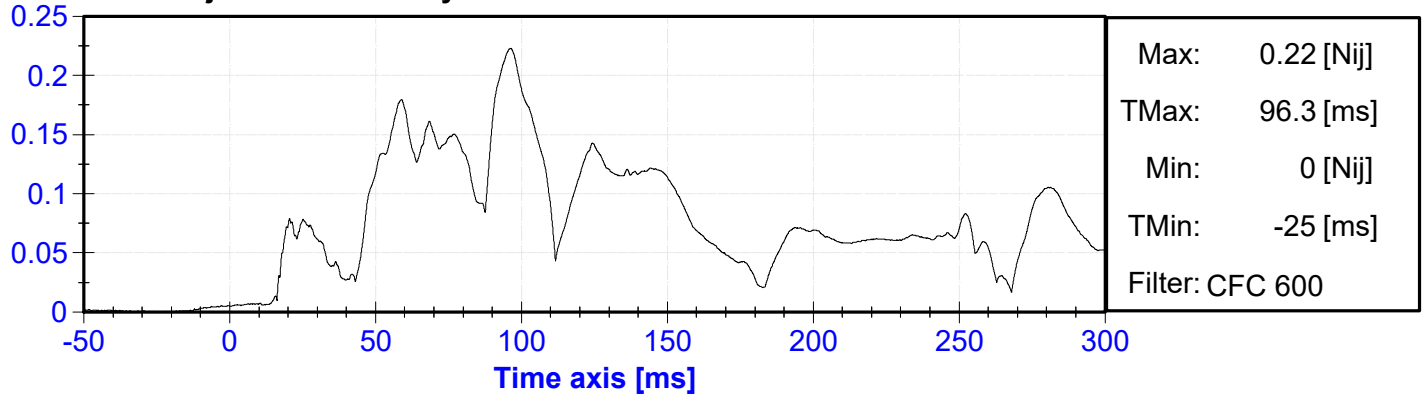
Driver Chest Z Acceleration vs. Time Primary





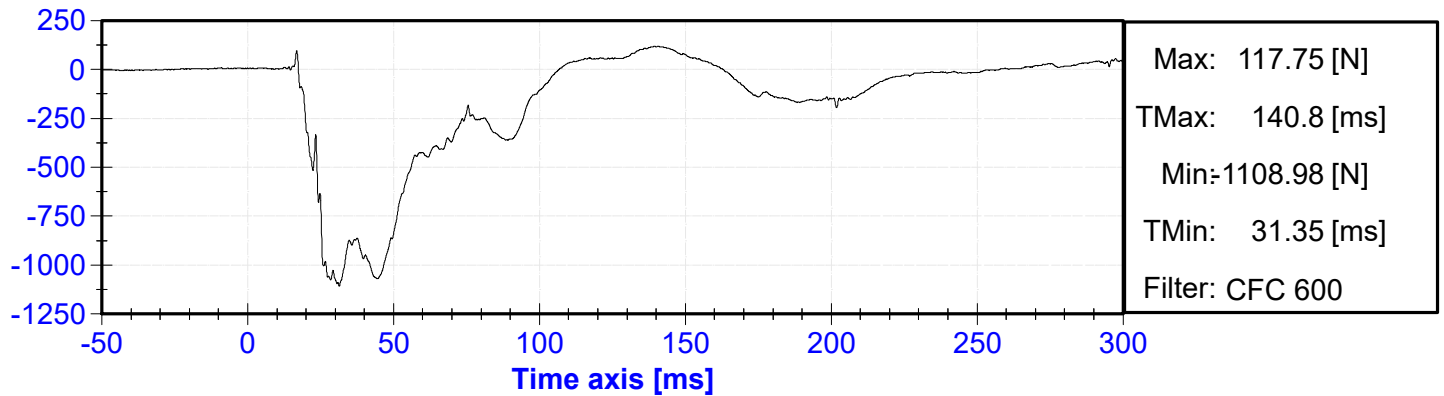
NECK INJURY CRITERIA

Driver Nij vs. Time Primary



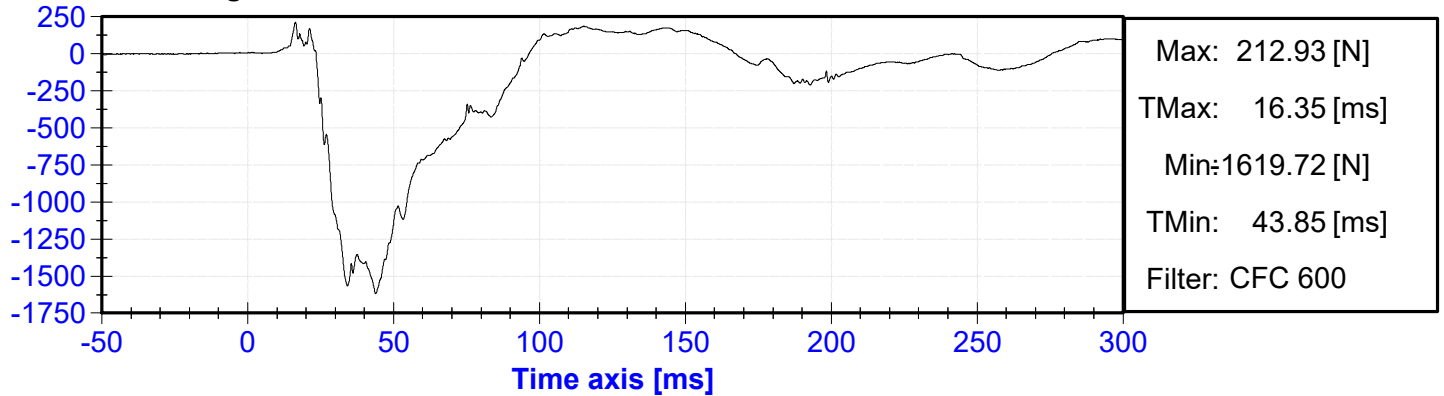
FORCE [N]

Driver Left Femur Force vs. Time



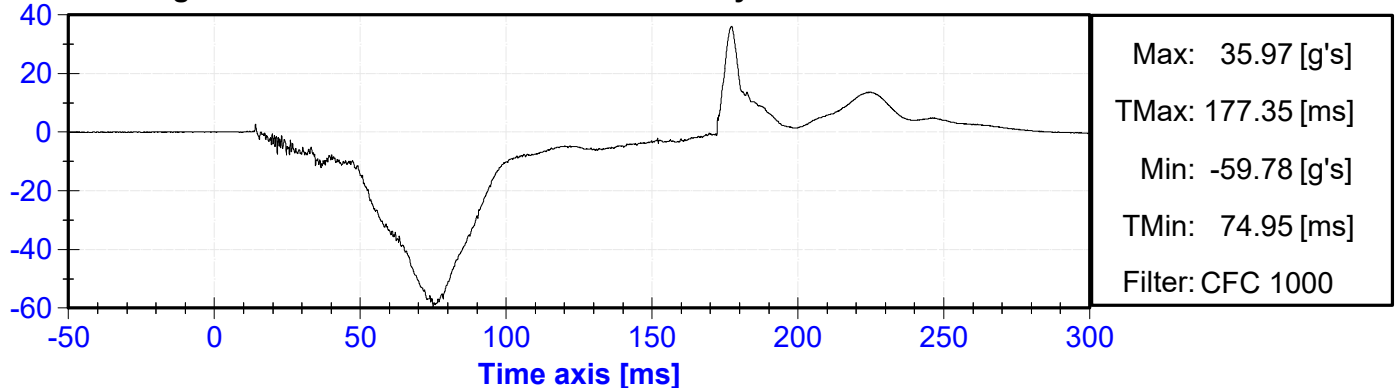
FORCE [N]

Driver Right Femur Force vs. Time



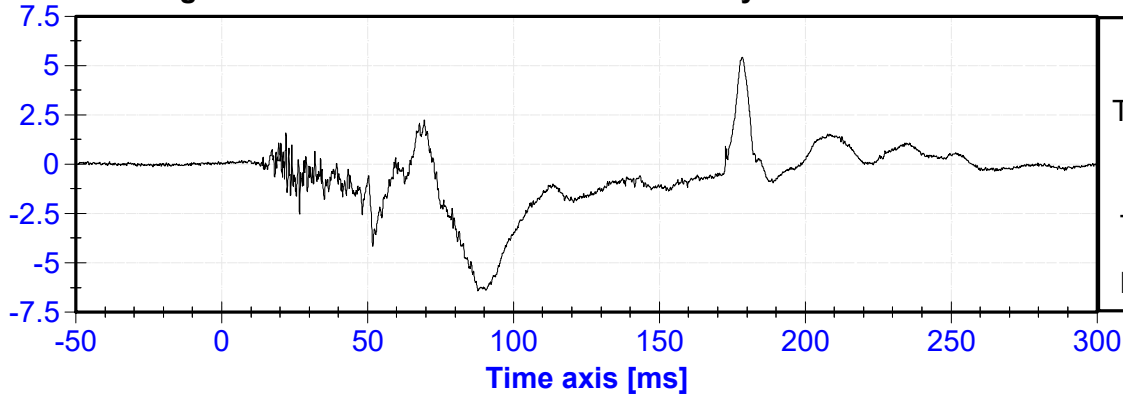
ACCELERATION [g's]

Passenger Head X Acceleration vs. Time Primary



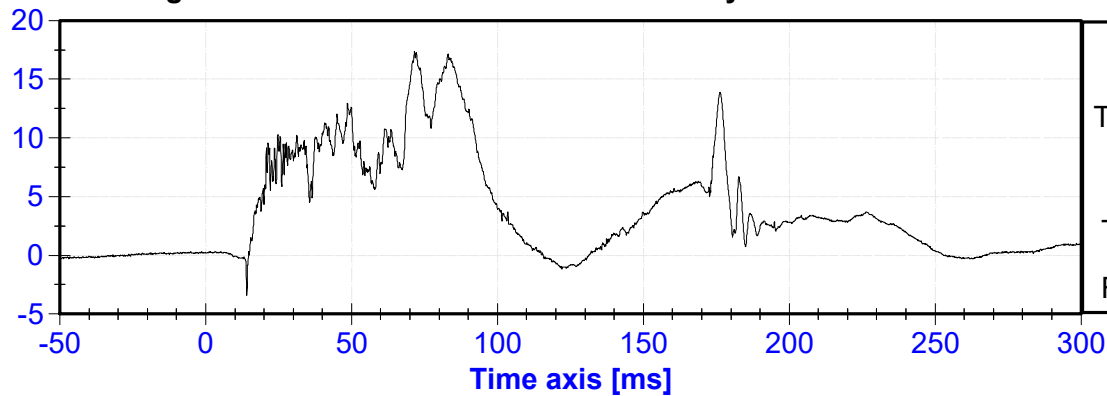
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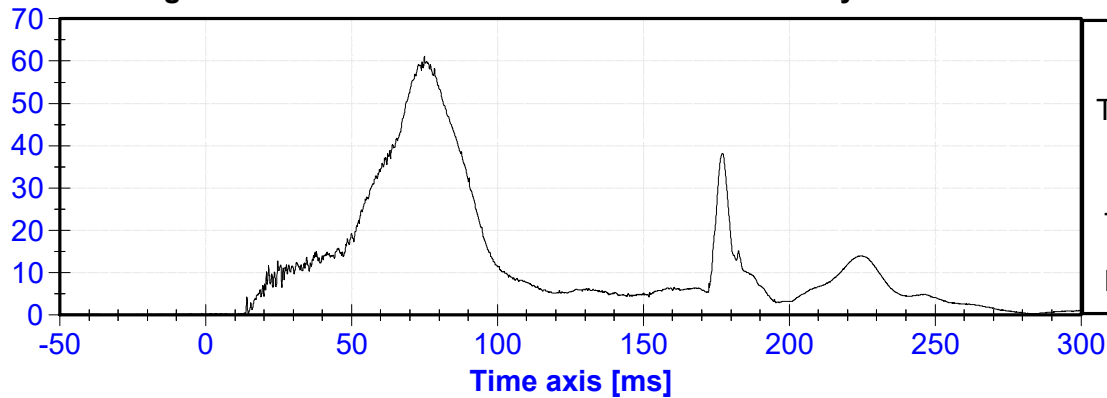
ACCELERATION [g's]

Passenger Head Z Acceleration vs. Time Primary



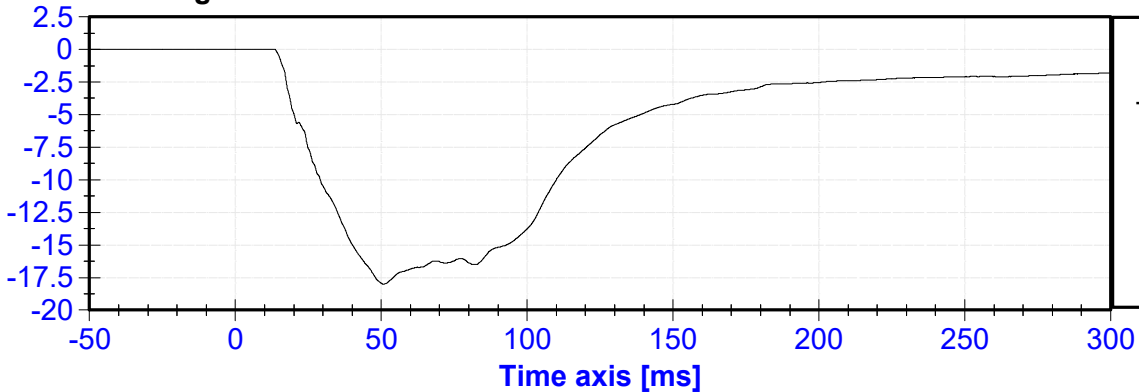
ACCELERATION [g's]

Passenger Head Resultant Acceleration vs. Time Primary



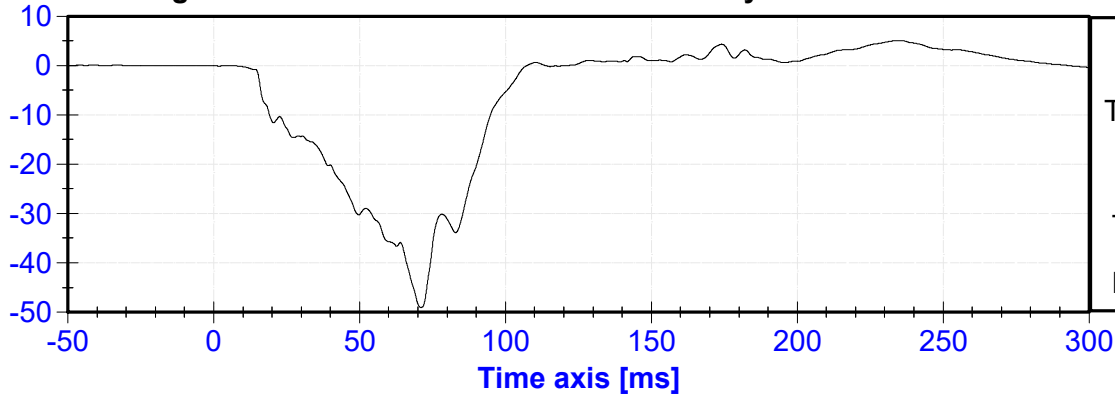
DISPLACEMENT [mm]

Passenger Chest X Deflection vs. Time



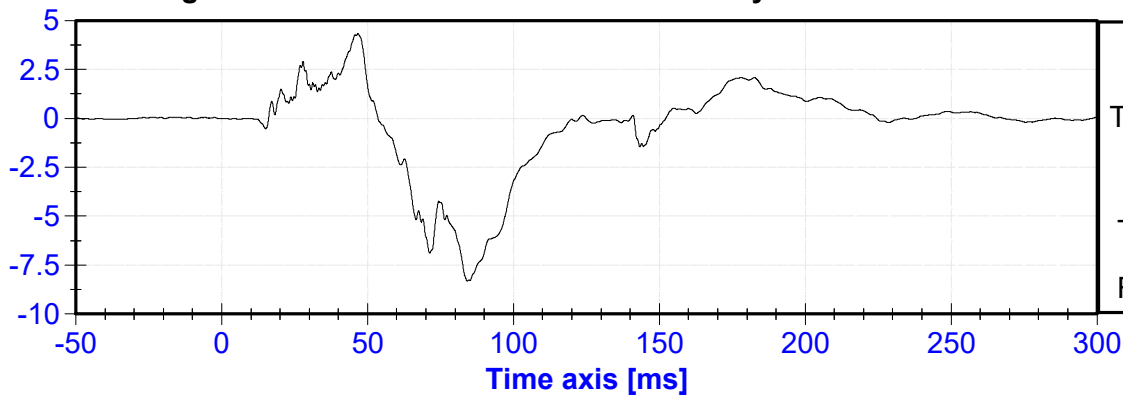
ACCELERATION [g's]

Passenger Chest X Acceleration vs. Time Primary



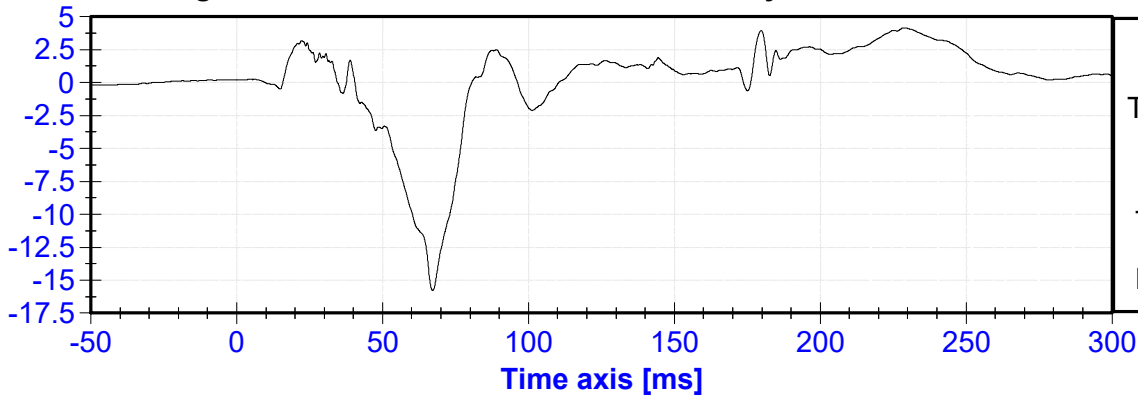
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Passenger Chest Y Acceleration vs. Time Primary



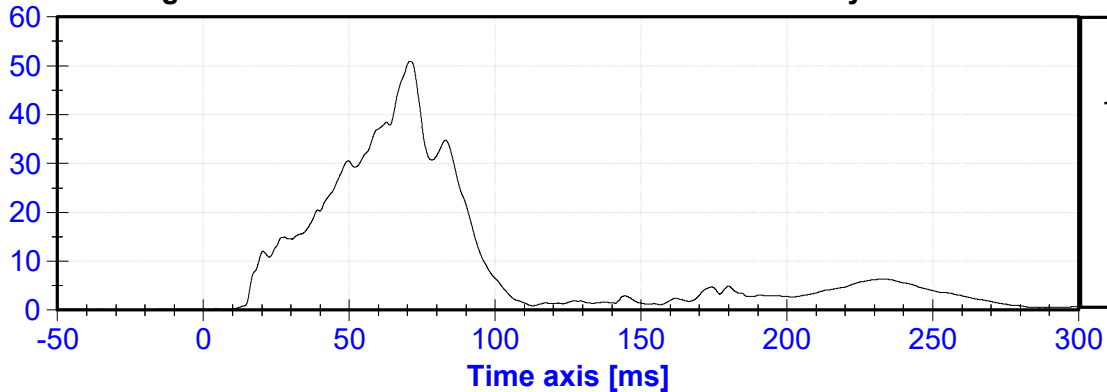
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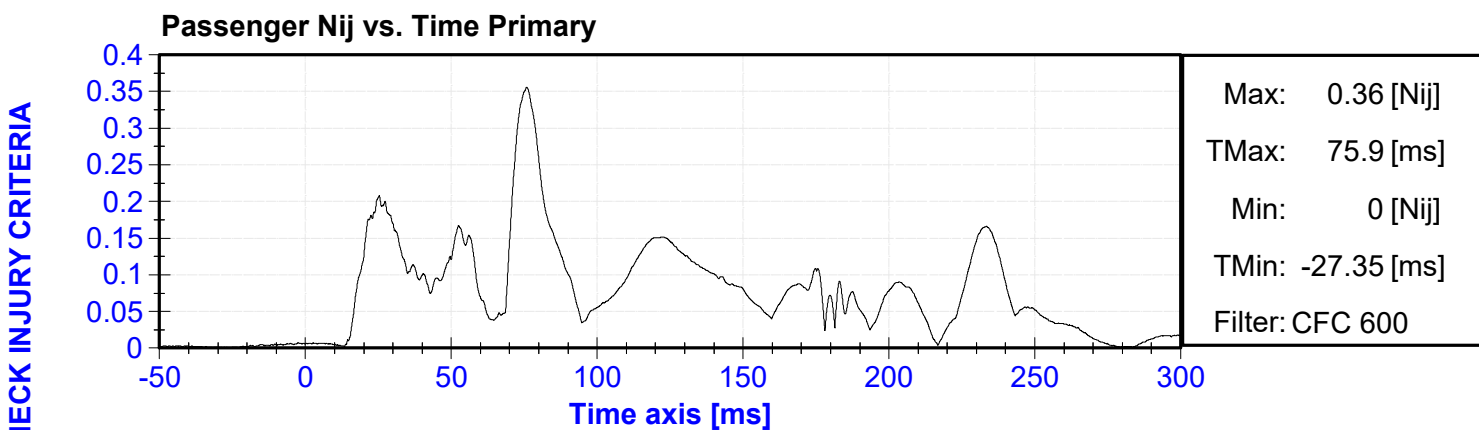
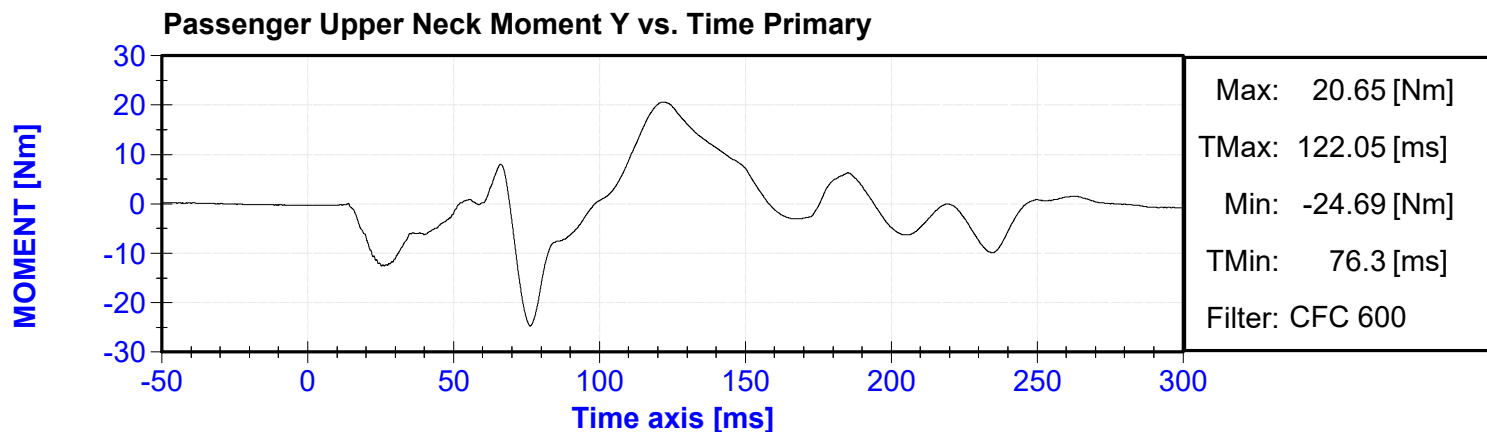
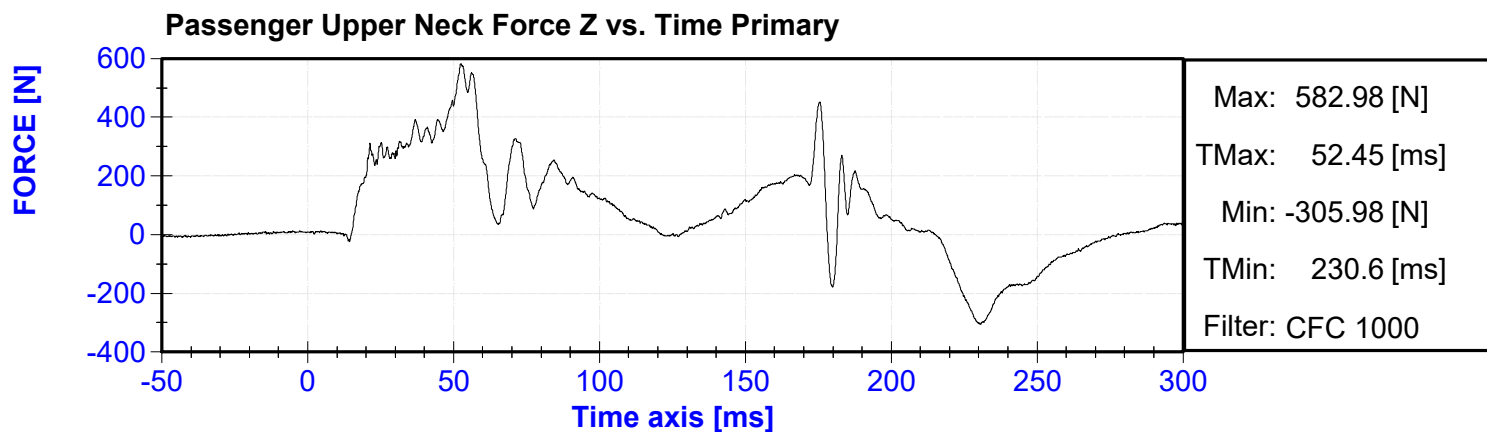
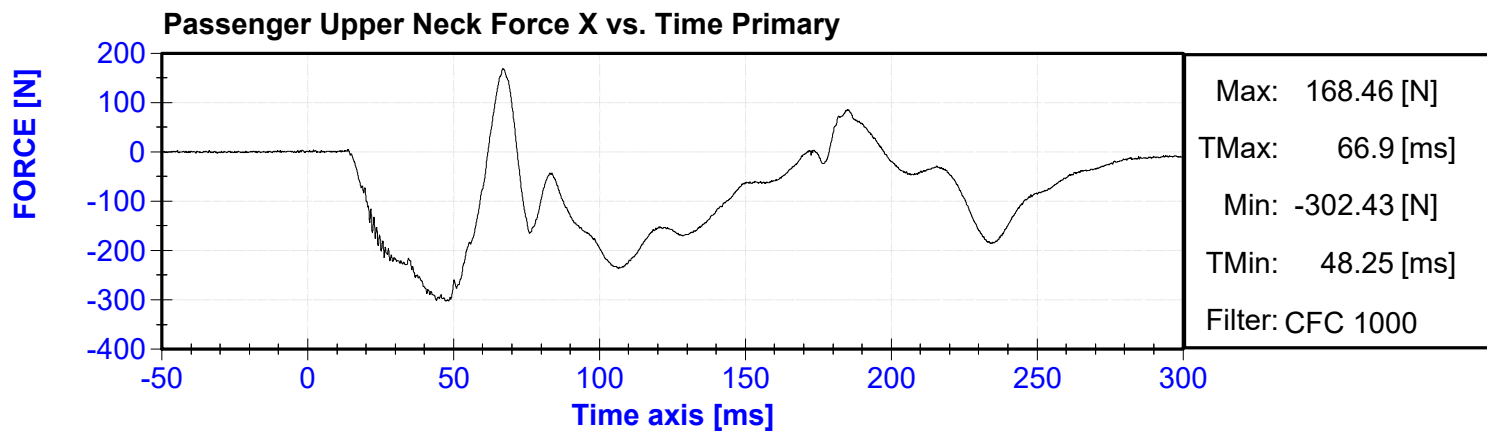
Passenger Chest Z Acceleration vs. Time Primary

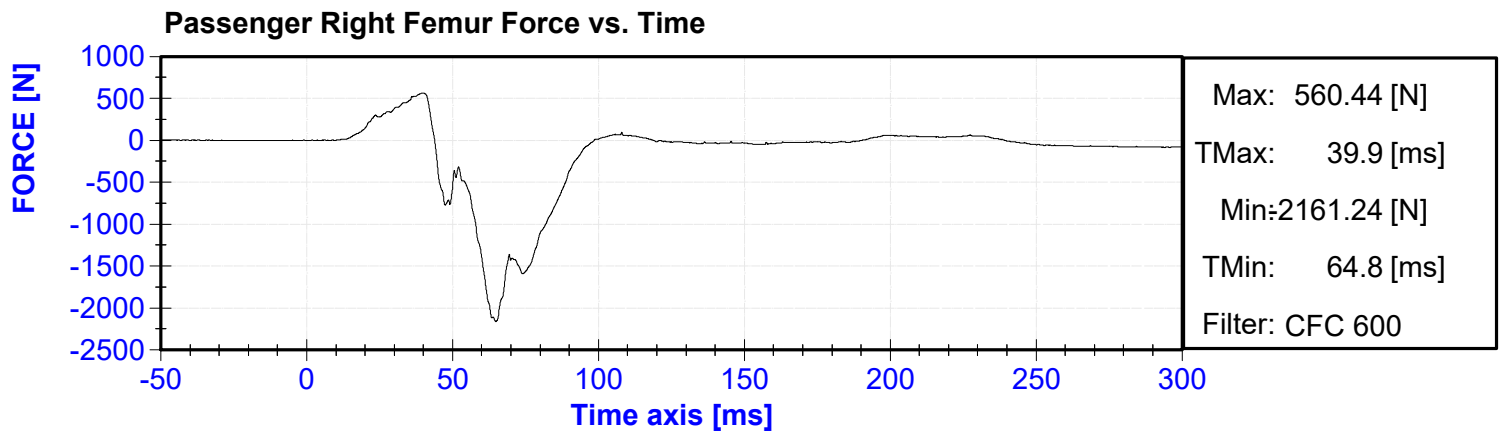
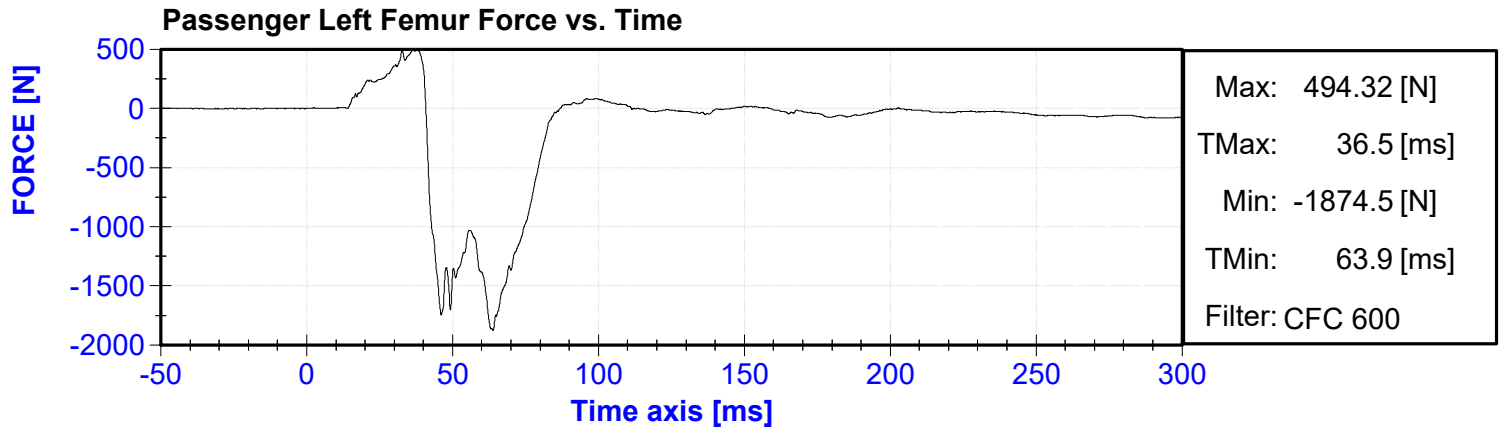


ACCELERATION [g's]

Passenger Chest Resultant Acceleration vs. Time Primary







APPENDIX C

DUMMY CALIBRATION AND PERFORMANCE VERIFICATION DATA

CALIBRATION TEST RESULTS

PRE-TEST

HYBRID III 50TH PERCENTILE MALE - DRIVER ATD

SERIAL NO: 065

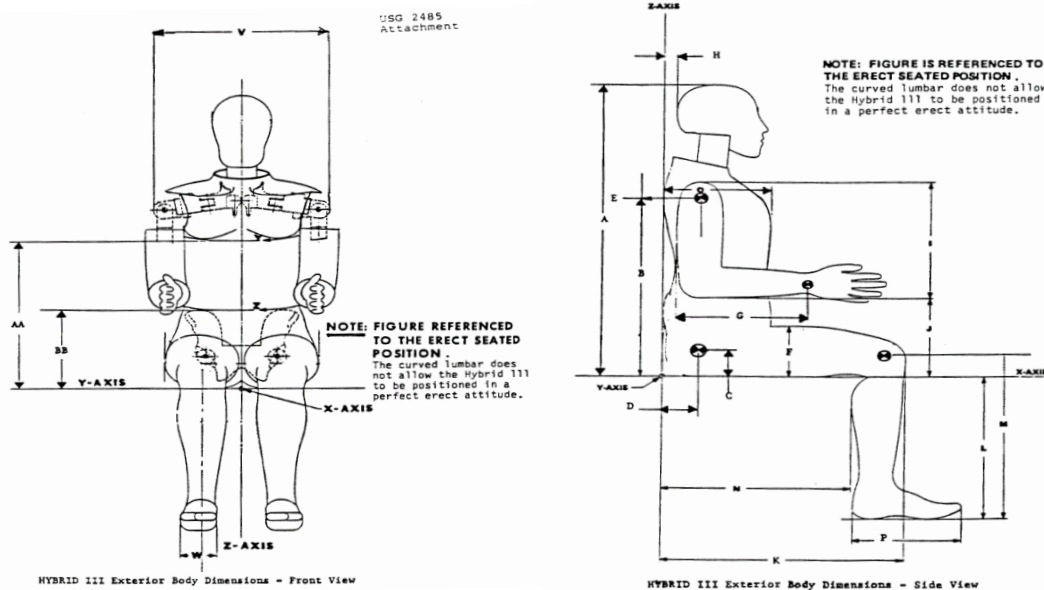


External Measurements - Hybrid 3 - 50th Male

Technician: J. Rios

Date: 12/12/2025

Dummy Serial Number: 065



Symbol	Description	Specification (in)		Result (in)	Pass/Fail
A	Sitting Height	34.6	35.0	34.8	Pass
B	Shoulder Pivot Height	19.9	20.5	20.2	Pass
C	H-Point Height	3.3	3.5	3.4	Pass
D	H-Point from Backline	5.3	5.5	5.5	Pass
E	Shoulder Pivot from Backline	3.3	3.7	3.6	Pass
F	Thigh Clearance	5.5	6.1	5.8	Pass
G	Back of Elbow to Wrist Pivot	11.4	12.0	11.7	Pass
H	Head Back to Backline	1.6	1.8	1.6	Pass
I	Shoulder to Elbow Length	13.0	13.6	13.1	Pass
J	Elbow Rest Height	7.5	8.3	8.1	Pass
K	Buttock to Knee Length	22.8	23.8	23.2	Pass
L	Popliteal Height	16.9	17.9	17.5	Pass
M	Knee Pivot Height	19.1	19.7	19.6	Pass
N	Buttock Popliteal Length	17.8	18.8	18.1	Pass
O	Chest Depth without Jacket	8.4	9.0	8.8	Pass
P	Foot Length (right)	9.9	10.5	10.0	Pass
V	Shoulder Breadth	16.3	17.2	16.4	Pass
W	Foot Breadth	3.6	4.2	4.0	Pass
Y	Chest Circumference with Jacket	38.2	39.4	38.6	Pass
Z	Waist Circumference	32.9	34.1	33.7	Pass
AA	Reference Location (Chest Circumference)	16.9	17.1	17.0	Pass
BB	Reference Location (Waist Circumference)	8.9	9.1	9.0	Pass

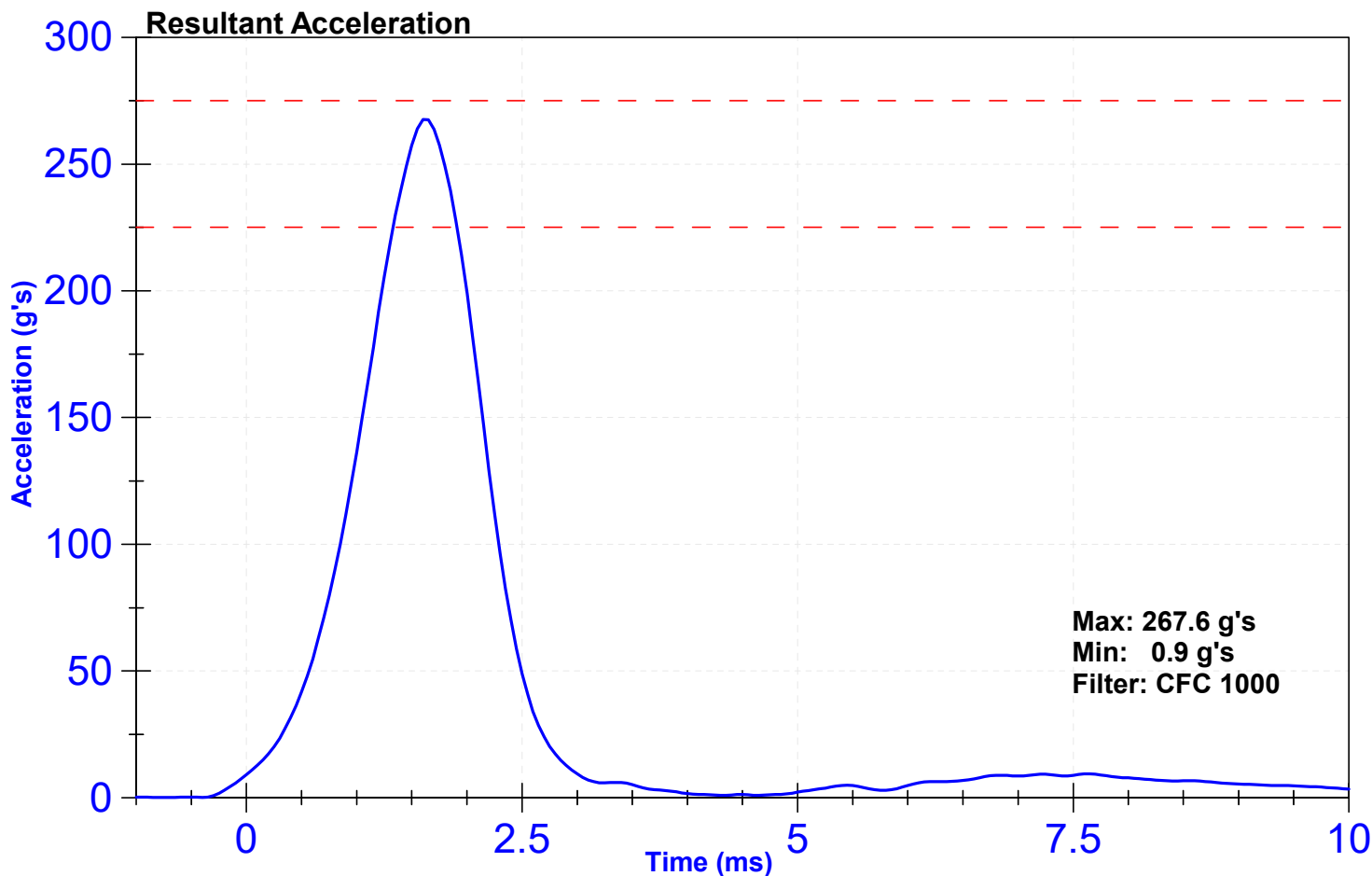
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

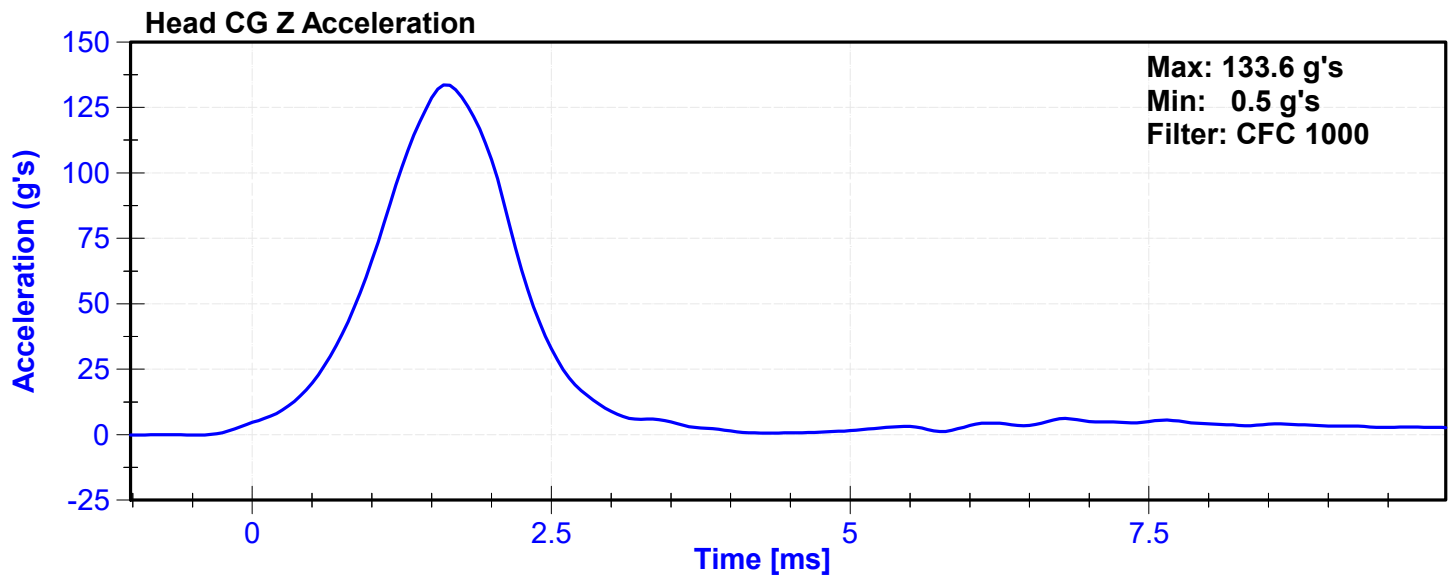
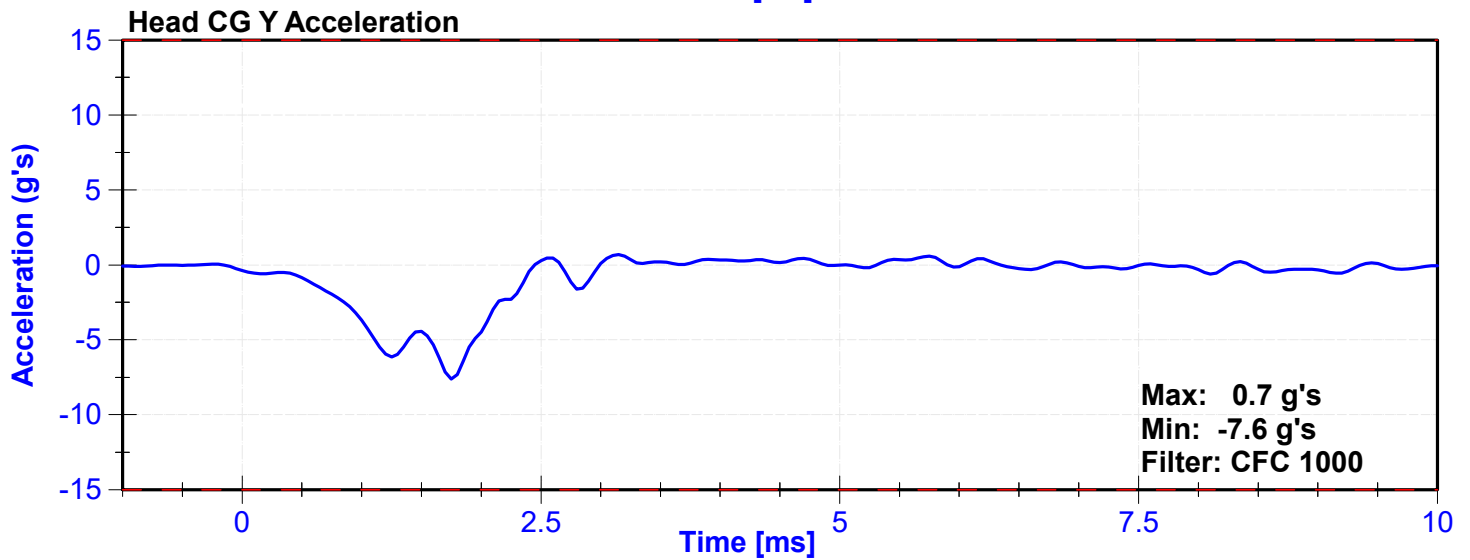
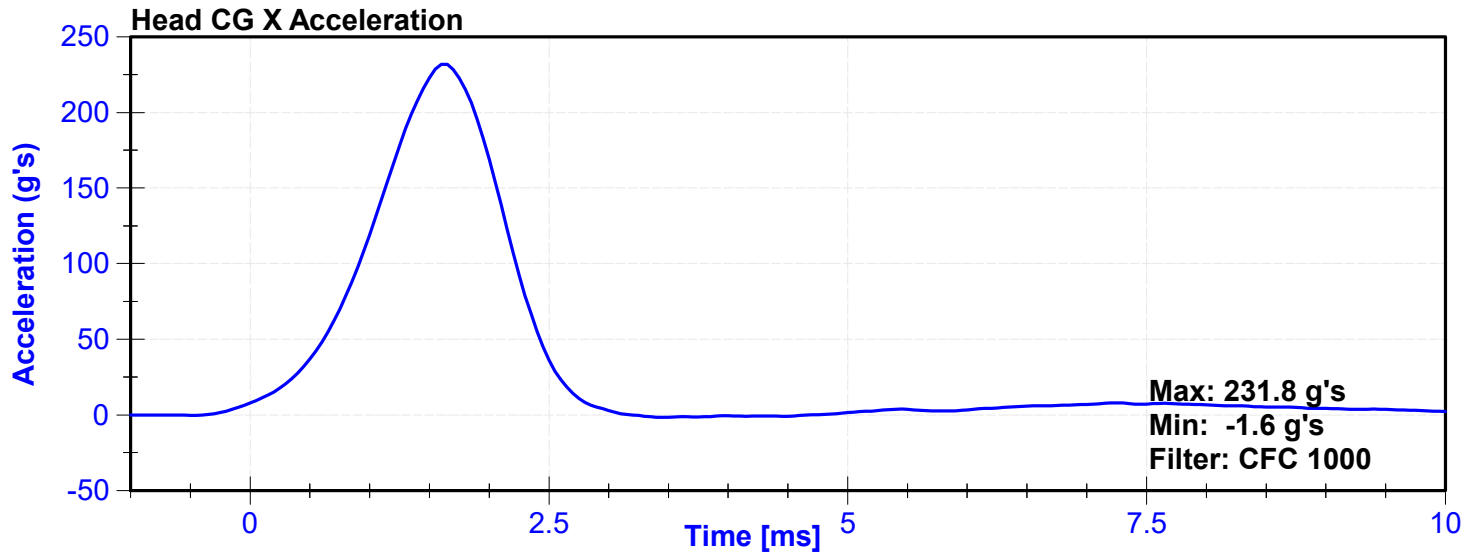
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Resultant Acceleration	225	275	g's	267.6	Pass
Oscillation	0	10	%	3.5	Pass
Lateral Acceleration	-15	15	g's	-7.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	Endevco	P52152	12/9/2025	6/7/2026
Y Accelerometer	Endevco	P58888	12/9/2025	6/7/2026
Z Accelerometer	Endevco	P58911	12/9/2025	6/7/2026





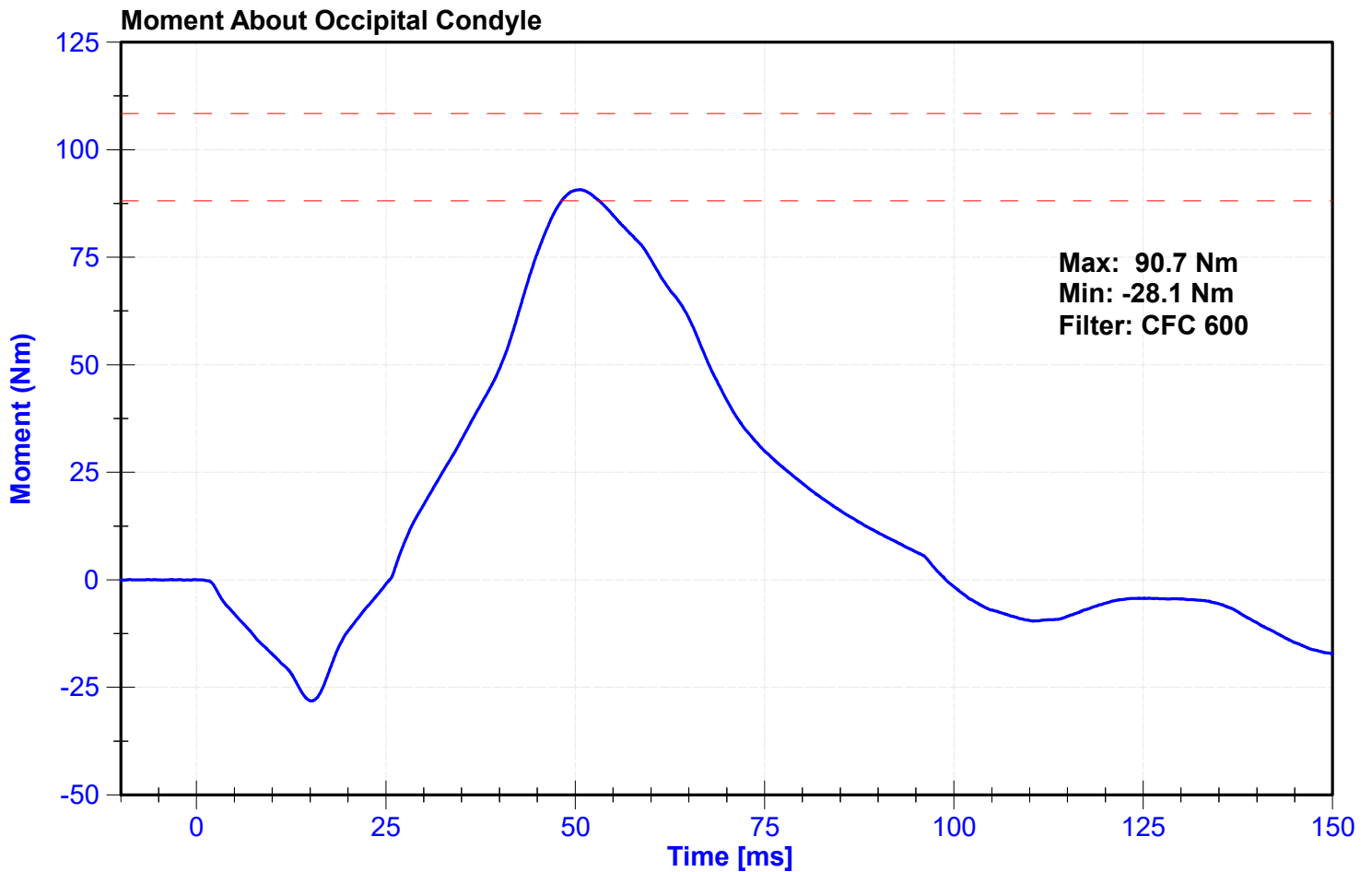
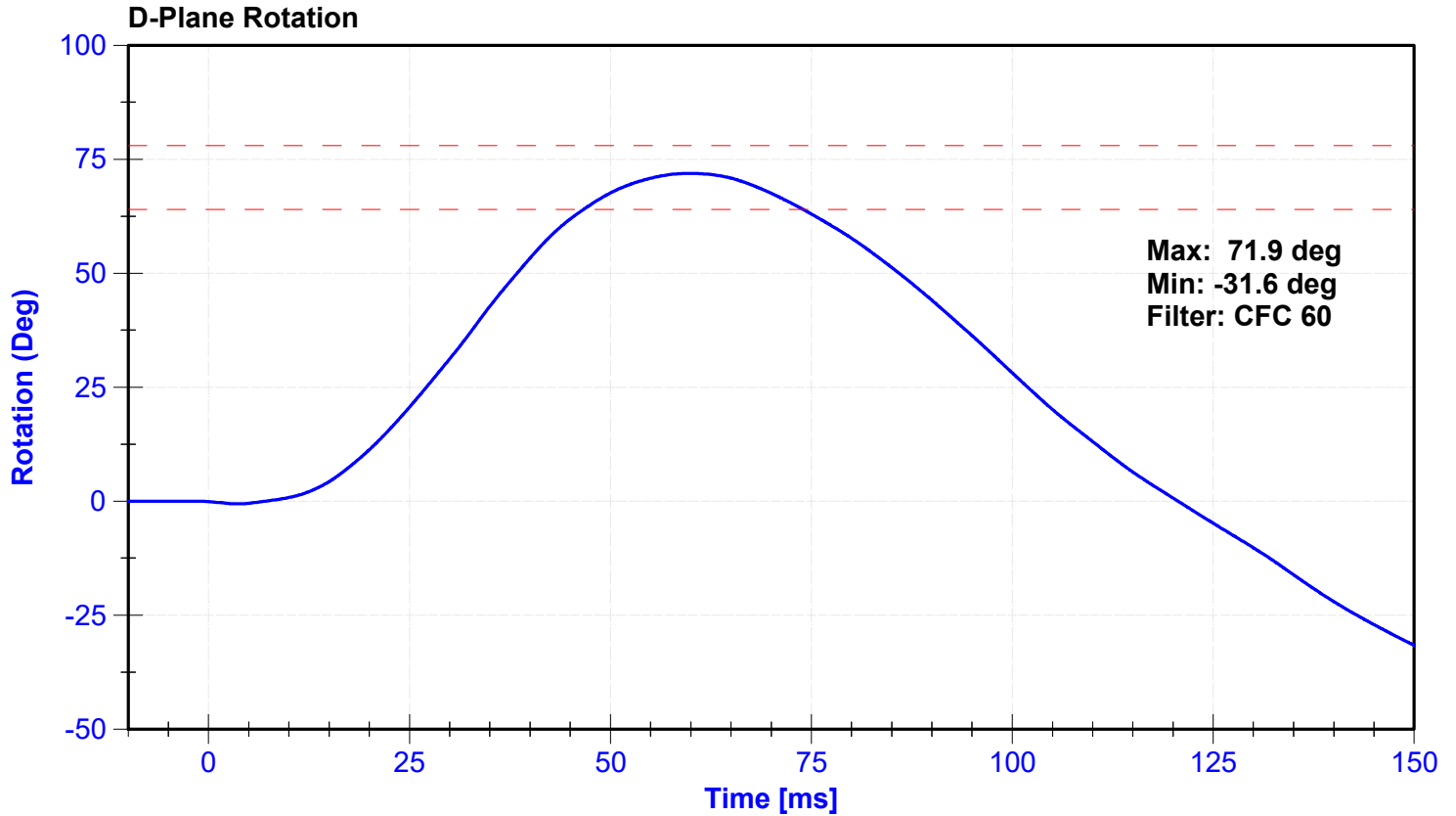
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

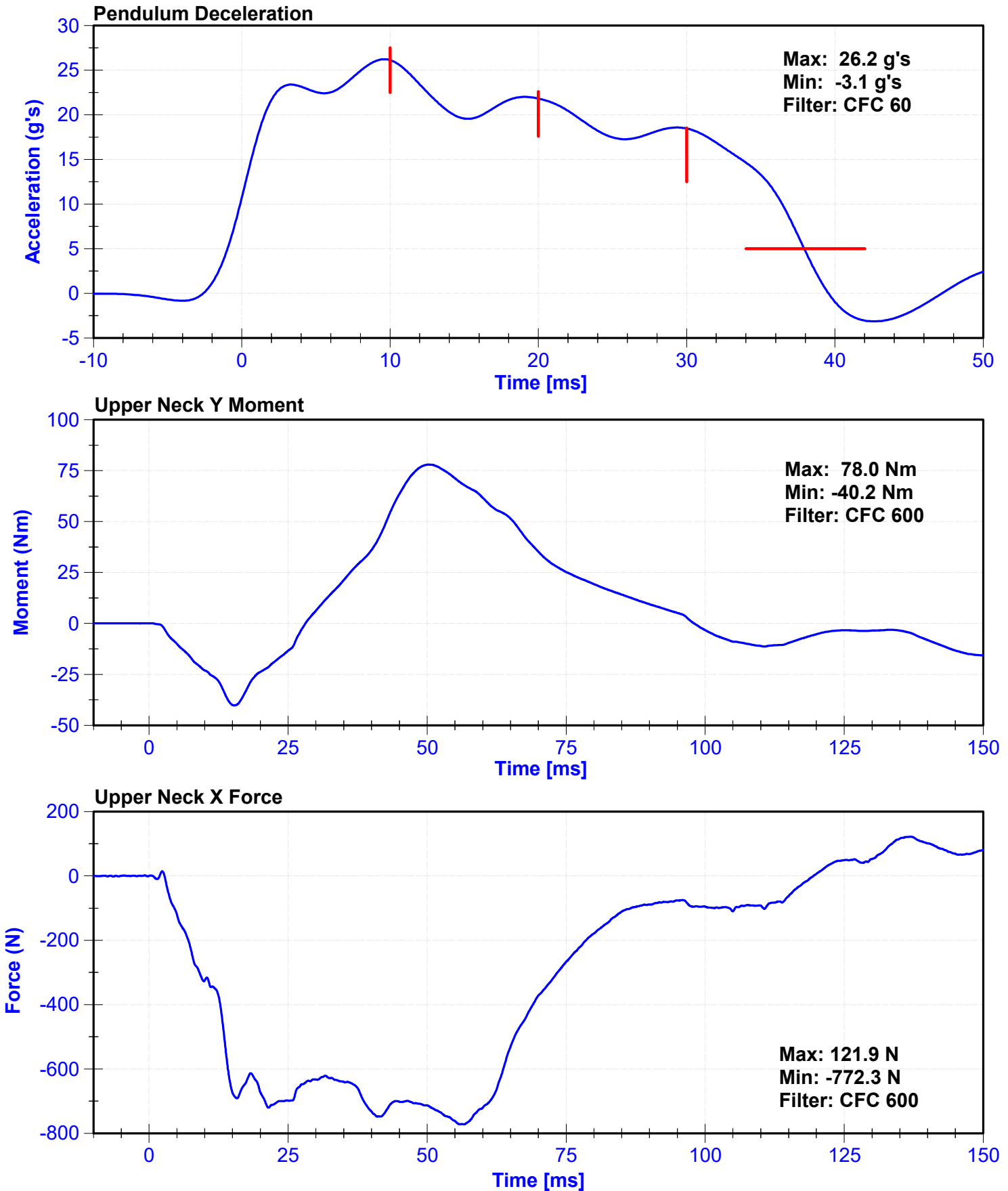
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	19	Pass
Velocity	6.89	7.13	m/s	6.961	Pass
Pendulum Deceleration at 10ms	22.5	27.5	g's	26.12	Pass
Pendulum Deceleration at 20ms	17.6	22.6	g's	21.82	Pass
Pendulum Deceleration at 30ms	12.5	18.5	g's	18.47	Pass
Max. Pendulum Deceleration After 30ms	0	29	g's	26.2	Pass
Pendulum Deceleration Time to 5 g's	34	42	ms	37.9	Pass
Maximum D Plane Rotation	64	78	deg	71.9	Pass
Time to Maximum Rotation	57	64	ms	59.9	Pass
Rotation Decay to Zero	113	127	ms	120.7	Pass
Moment About Occipital Condyle	88.1	108.4	Nm	90.70	Pass
Time to Maximum Moment	47	58	ms	50.7	Pass
Moment Decay to Zero	97	107	ms	99.0	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/21/2025	10/21/2026
Pendulum Potentiometer	ETI	LABPOT1	5/14/2025	5/14/2026
Condyle Potentiometer	ETI	LABPOT2	5/14/2025	5/14/2026
Upper Neck Load Cell	Denton	2207-FX	7/7/2025	7/7/2026





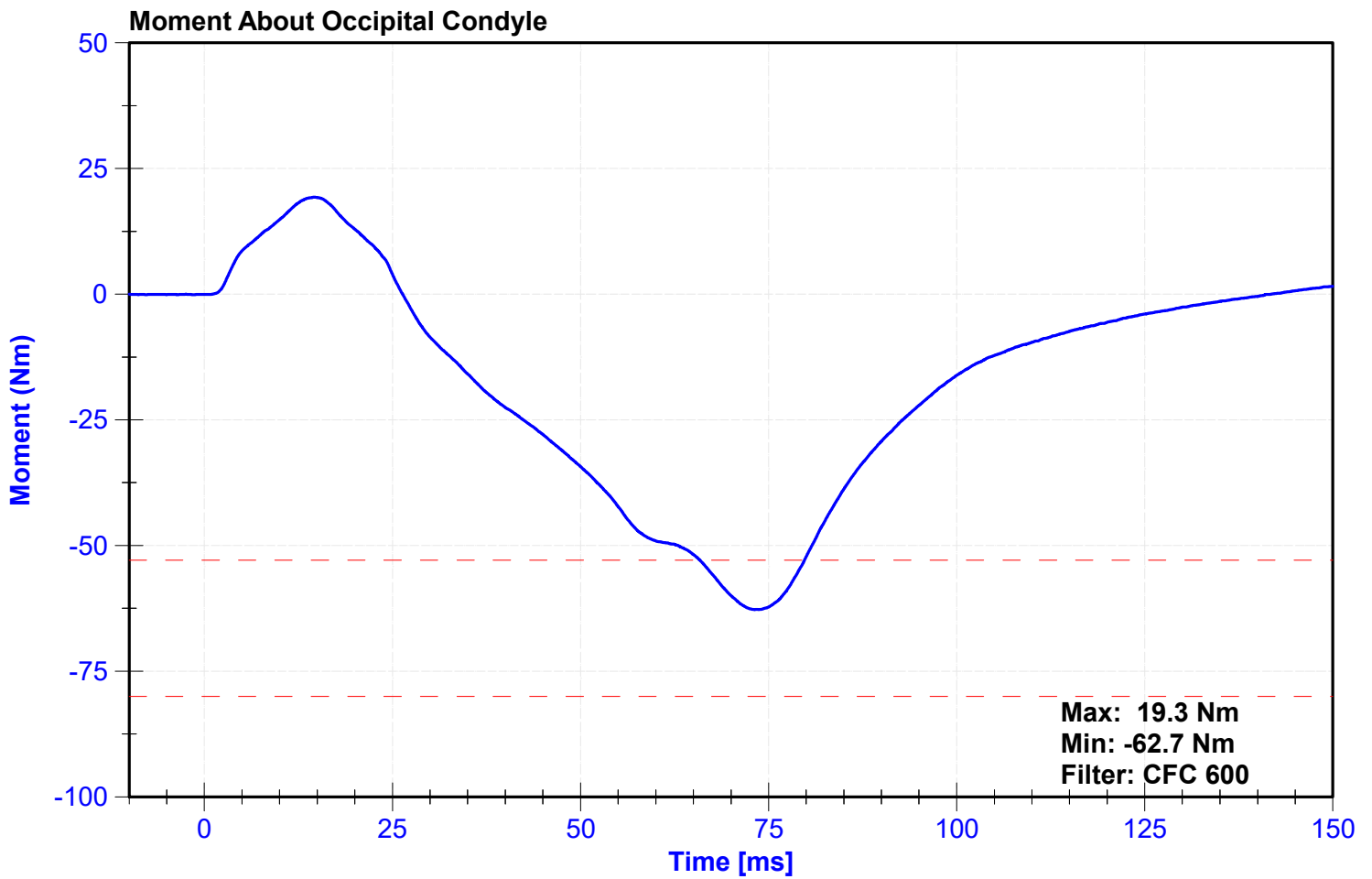
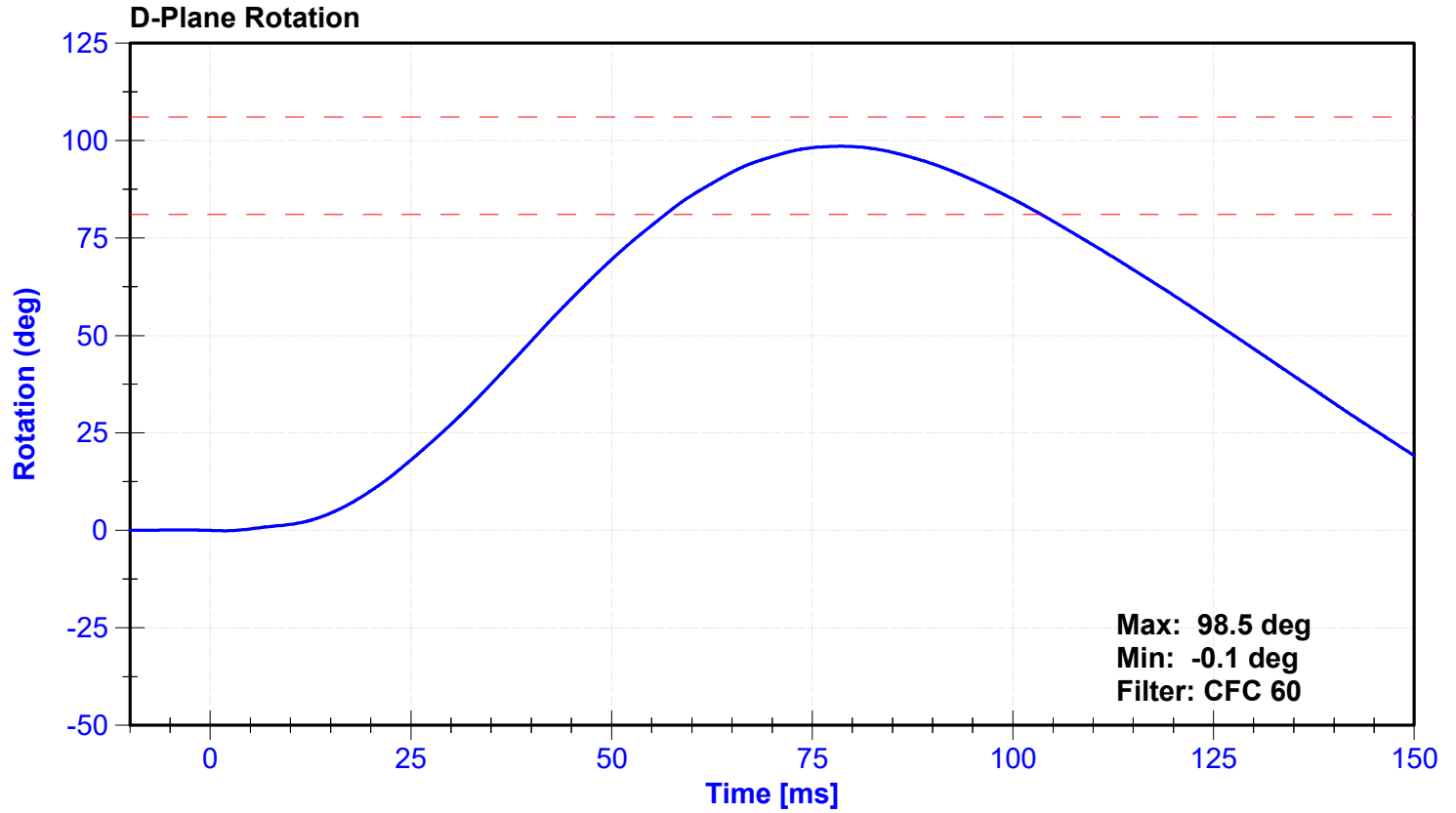
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

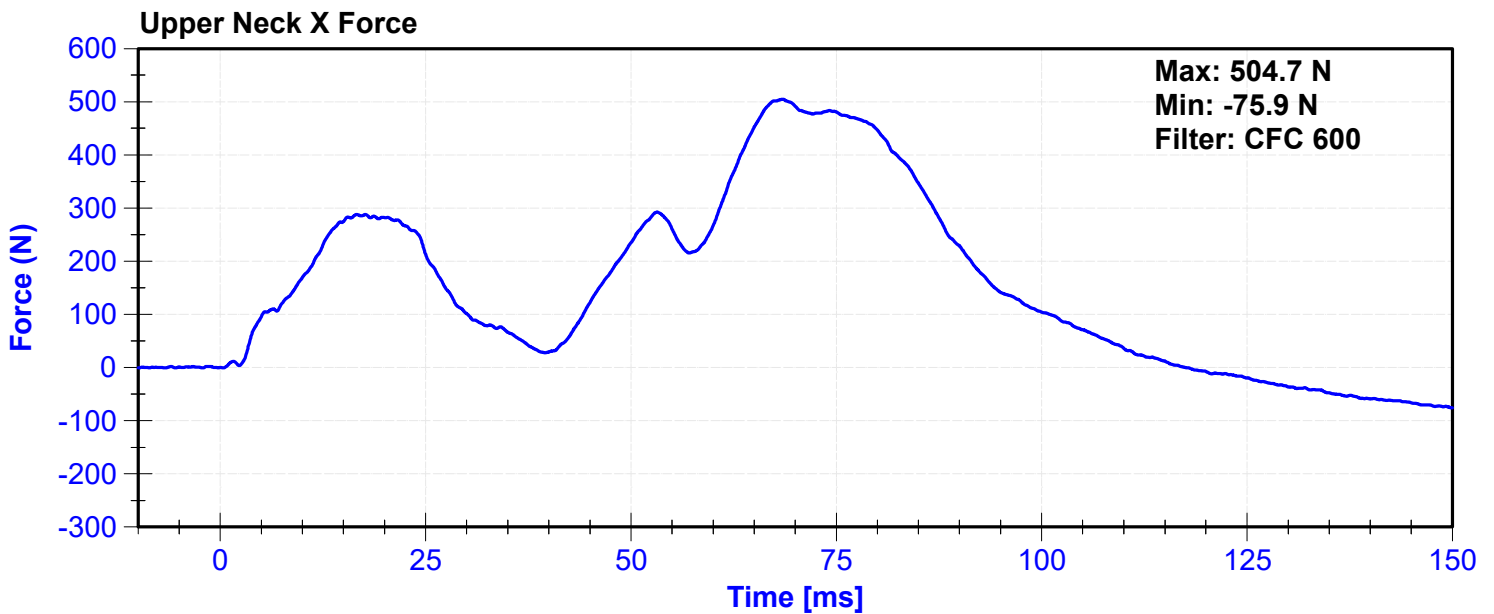
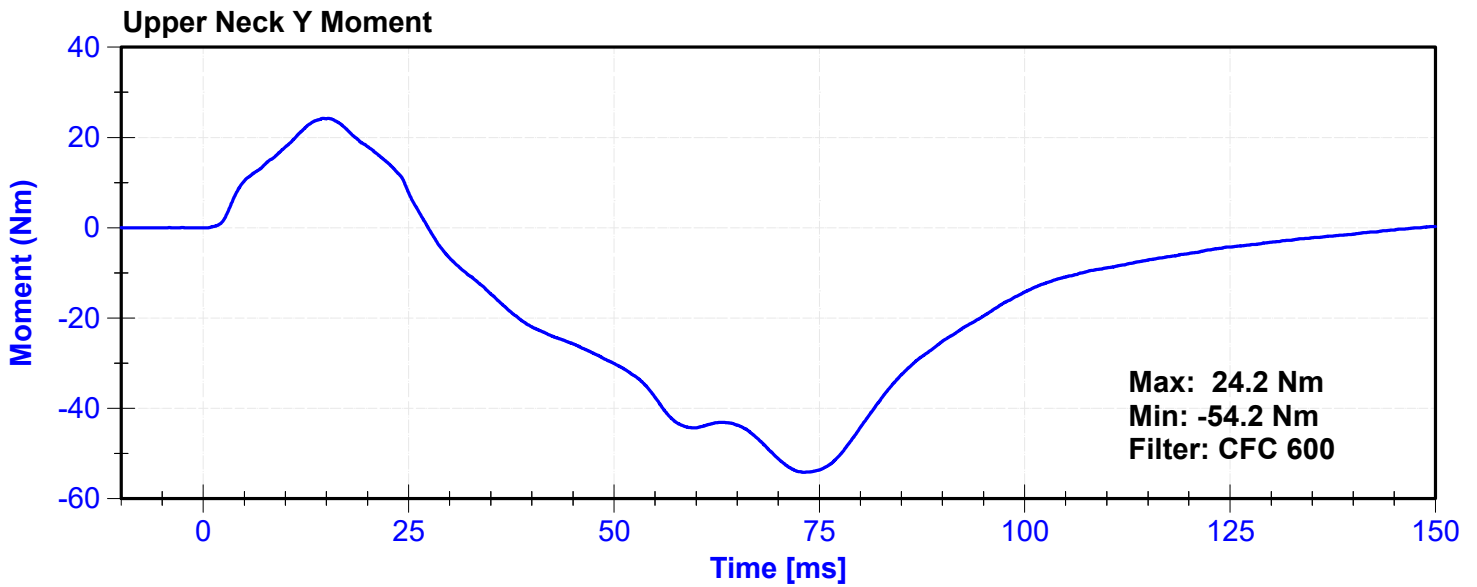
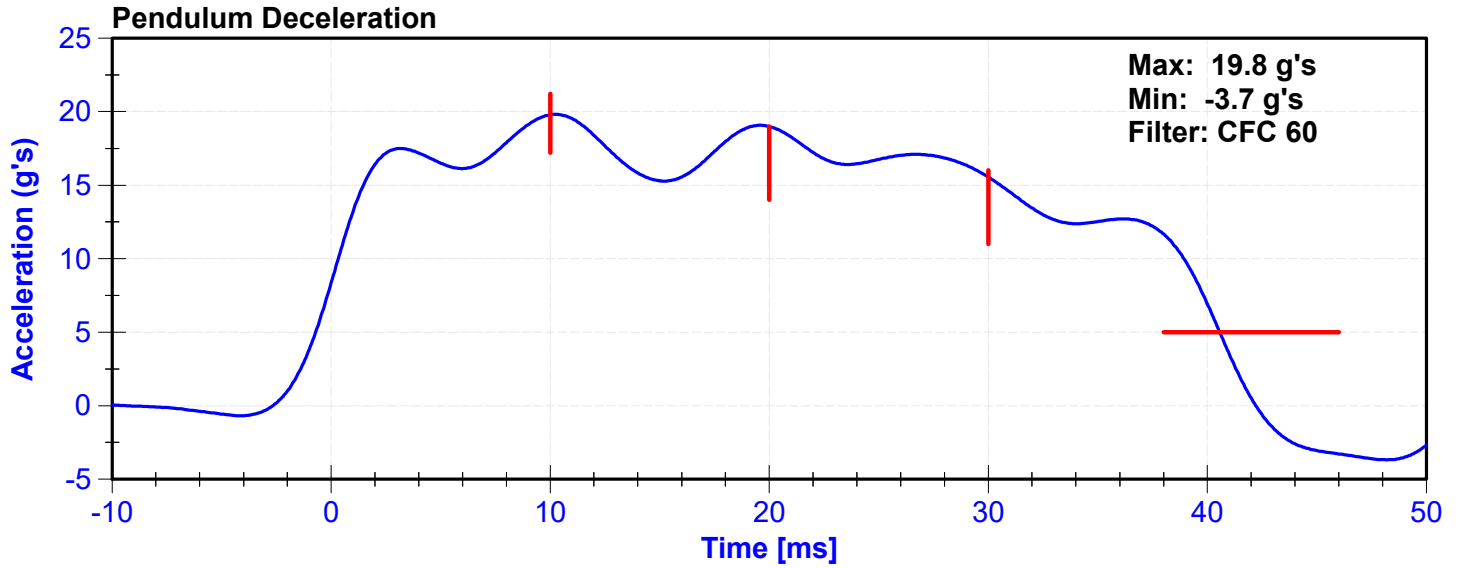
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	19	Pass
Velocity	5.94	6.19	m/s	6.008	Pass
Pendulum Deceleration at 10ms	17.2	21.2	g's	19.78	Pass
Pendulum Deceleration at 20ms	14	19	g's	19.0	Pass
Pendulum Deceleration at 30ms	11	16	g's	15.5	Pass
Max. Pendulum Deceleration After 30ms	0	22	g's	19.8	Pass
Pendulum Deceleration Time to 5 g's	38	46	ms	40.6	Pass
Maximum D Plane Rotation	81	106	deg	98.5	Pass
Time to Maximum Rotation	72	82	ms	78.6	Pass
Rotation Decay to Zero	147	174	ms	164.9	Pass
Minimum Moment About OC	-80	-52.9	Nm	-62.73	Pass
Time to Minimum Moment	65	79	ms	73.1	Pass
Moment Decay to Zero	120	148	ms	141.7	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/21/2025	10/21/2026
Pendulum Potentiometer	ETI	SP22G_LABPOT1	5/14/2025	5/14/2026
Condyle Potentiometer	ETI	SP22G_LABPOT2	5/14/2025	5/14/2026
Upper Neck Load Cell	Denton	2207-FX	7/7/2025	7/7/2026





ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

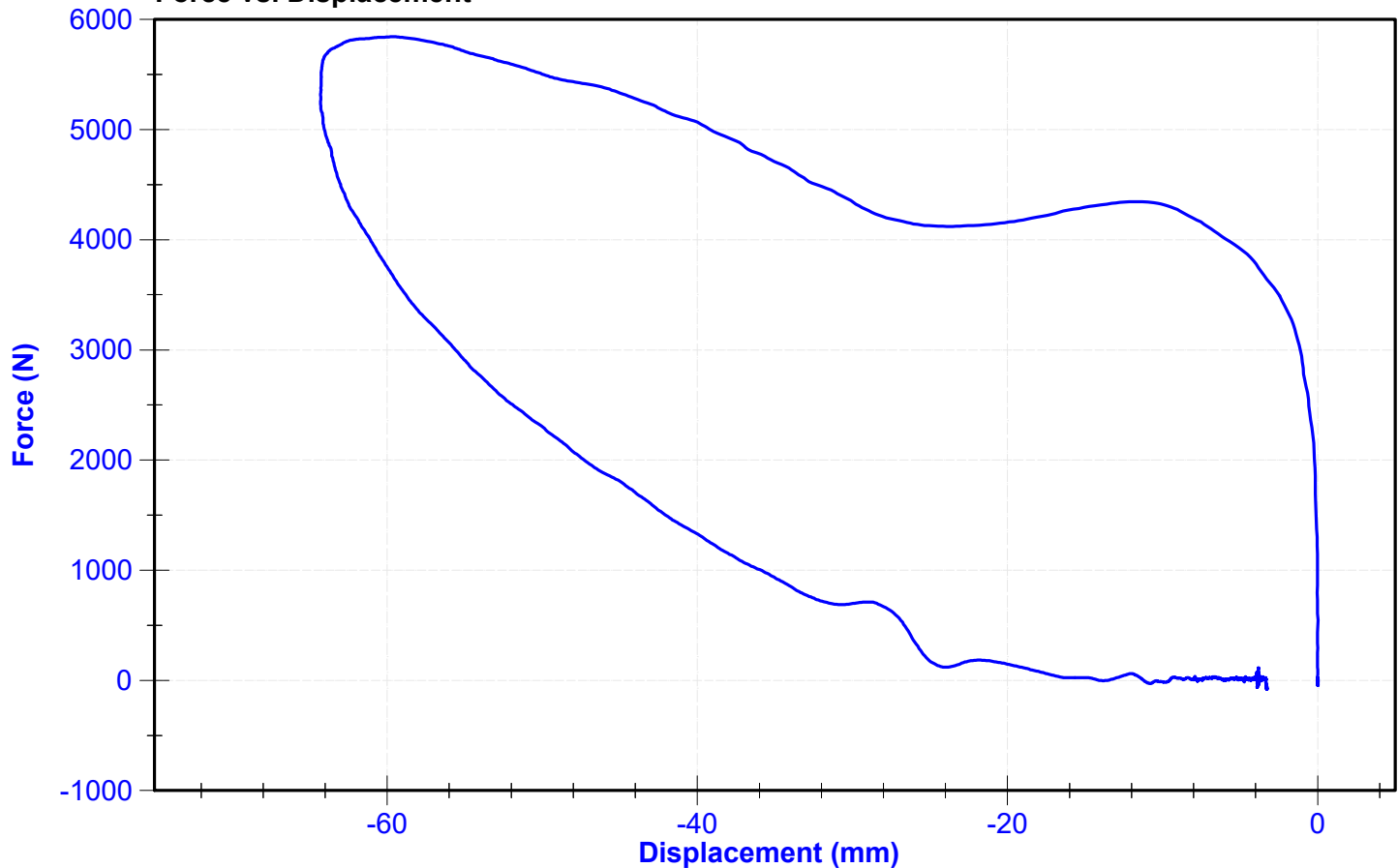
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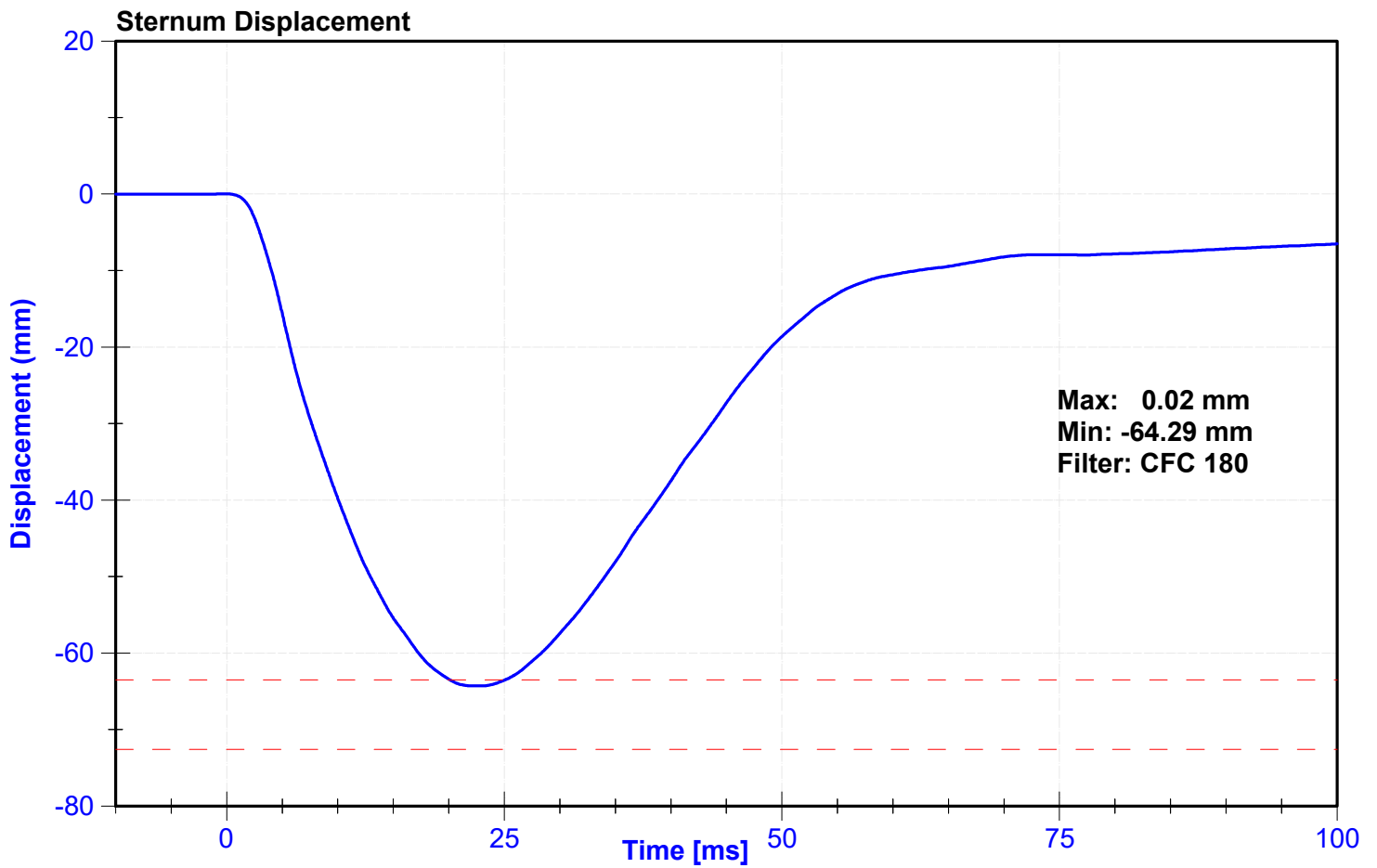
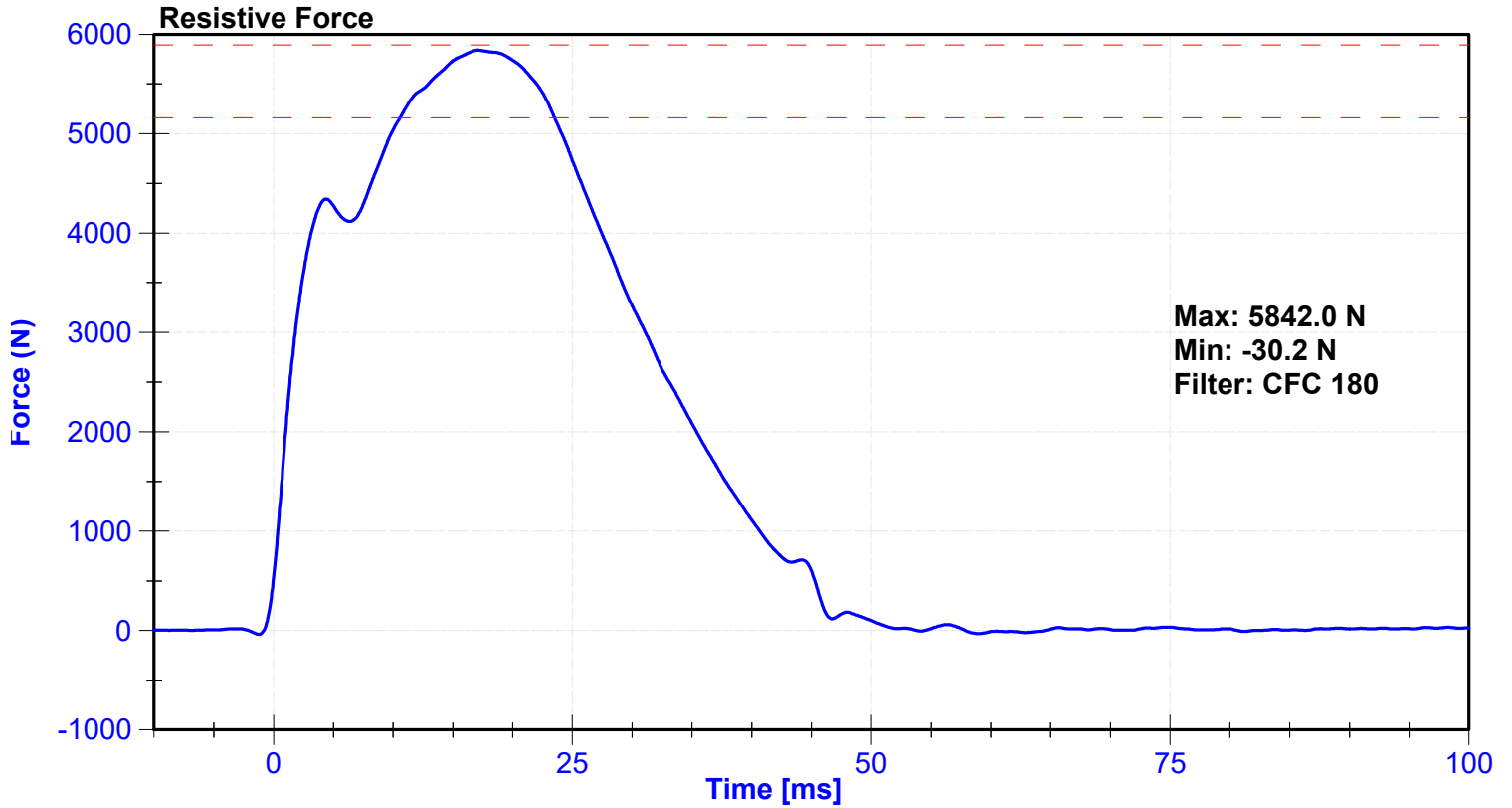
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	6.59	6.83	m/s	6.694	Pass
Chest Displacement	-72.6	-63.5	mm	-64.29	Pass
Resistive Force	5160	5894	N	5842.0	Pass
Hysteresis	69	85	%	73.9	Pass

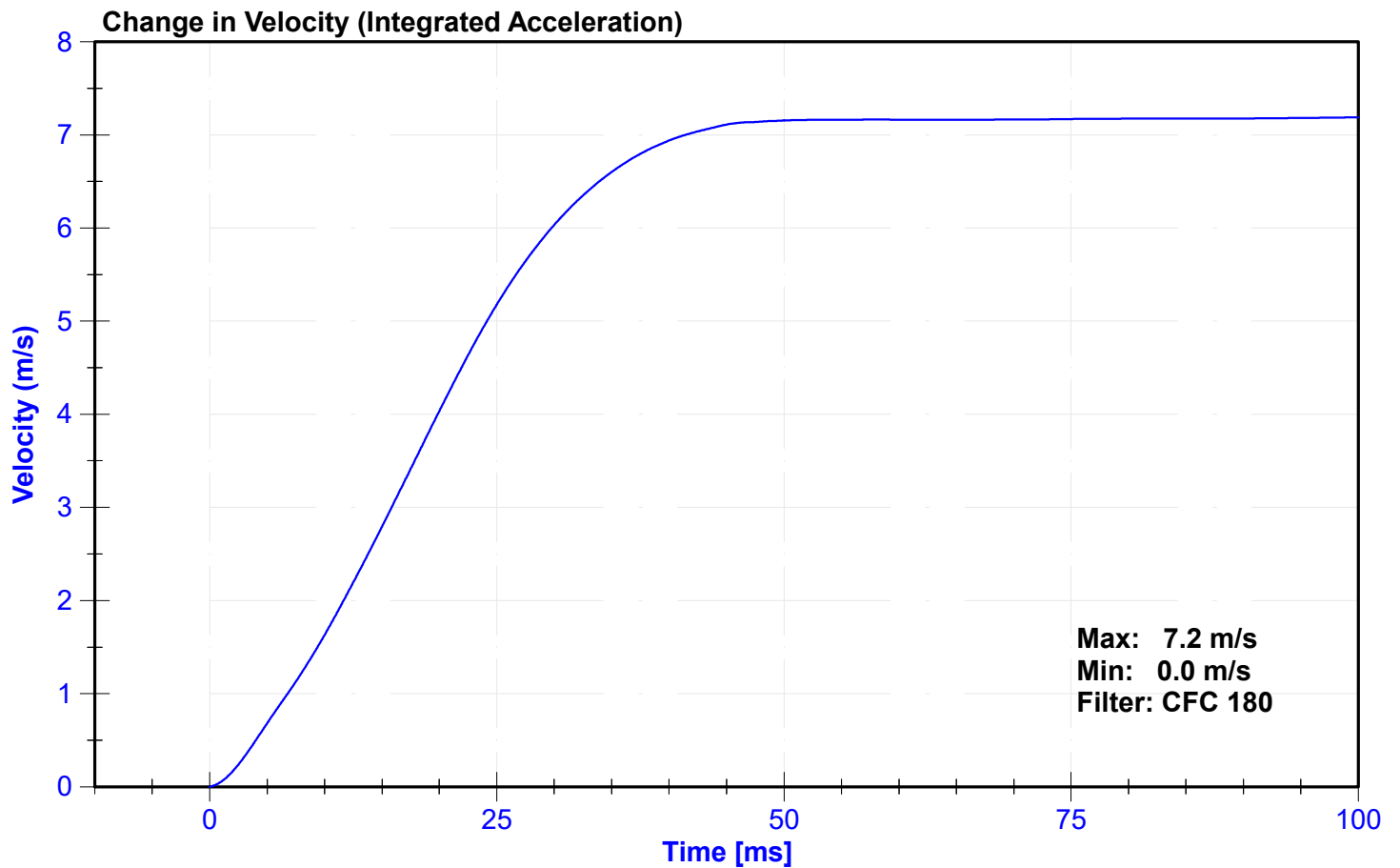
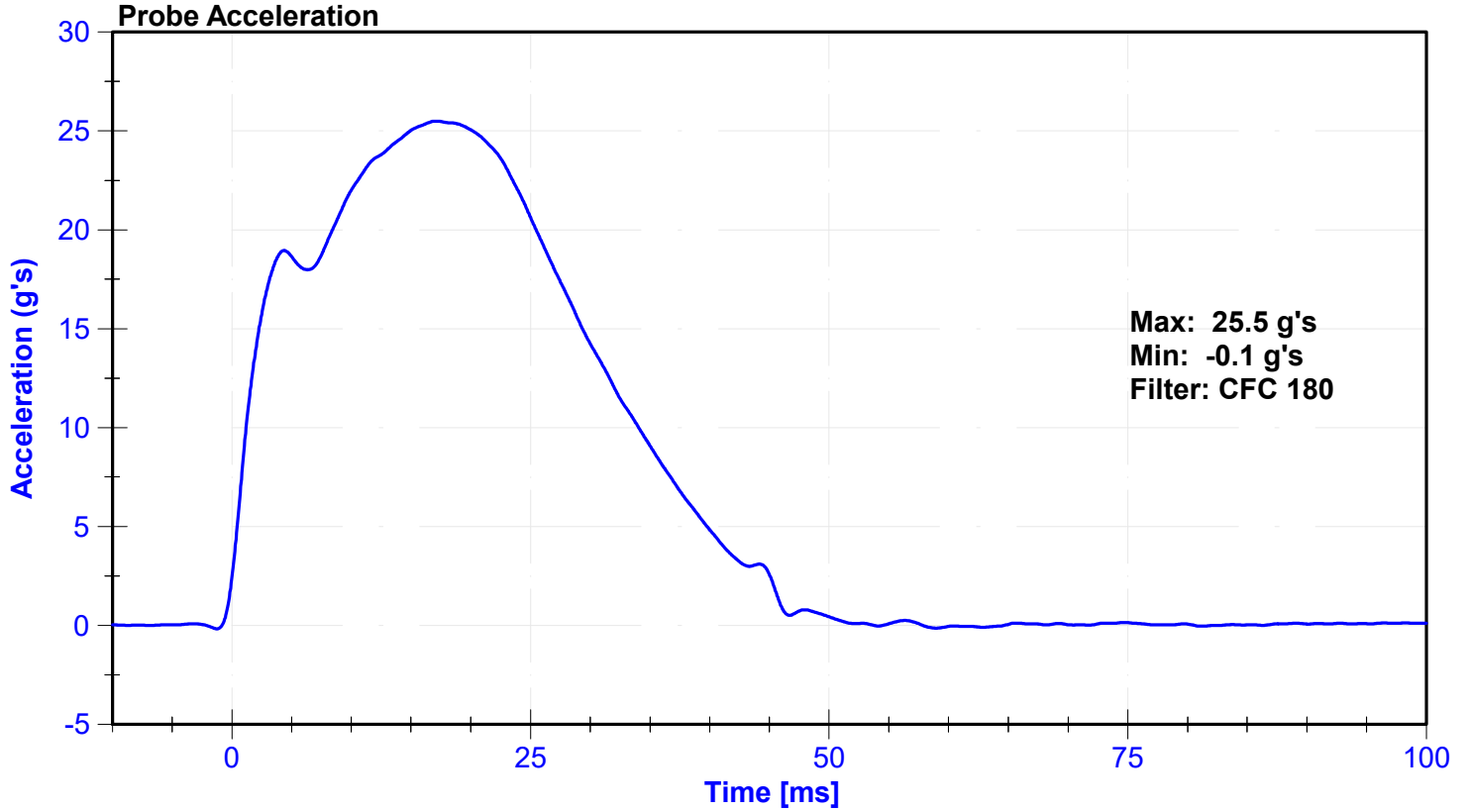
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	11/5/2025	5/4/2026
Chest Potentiometer	Servo	1046	12/9/2025	6/9/2026

Force vs. Displacement







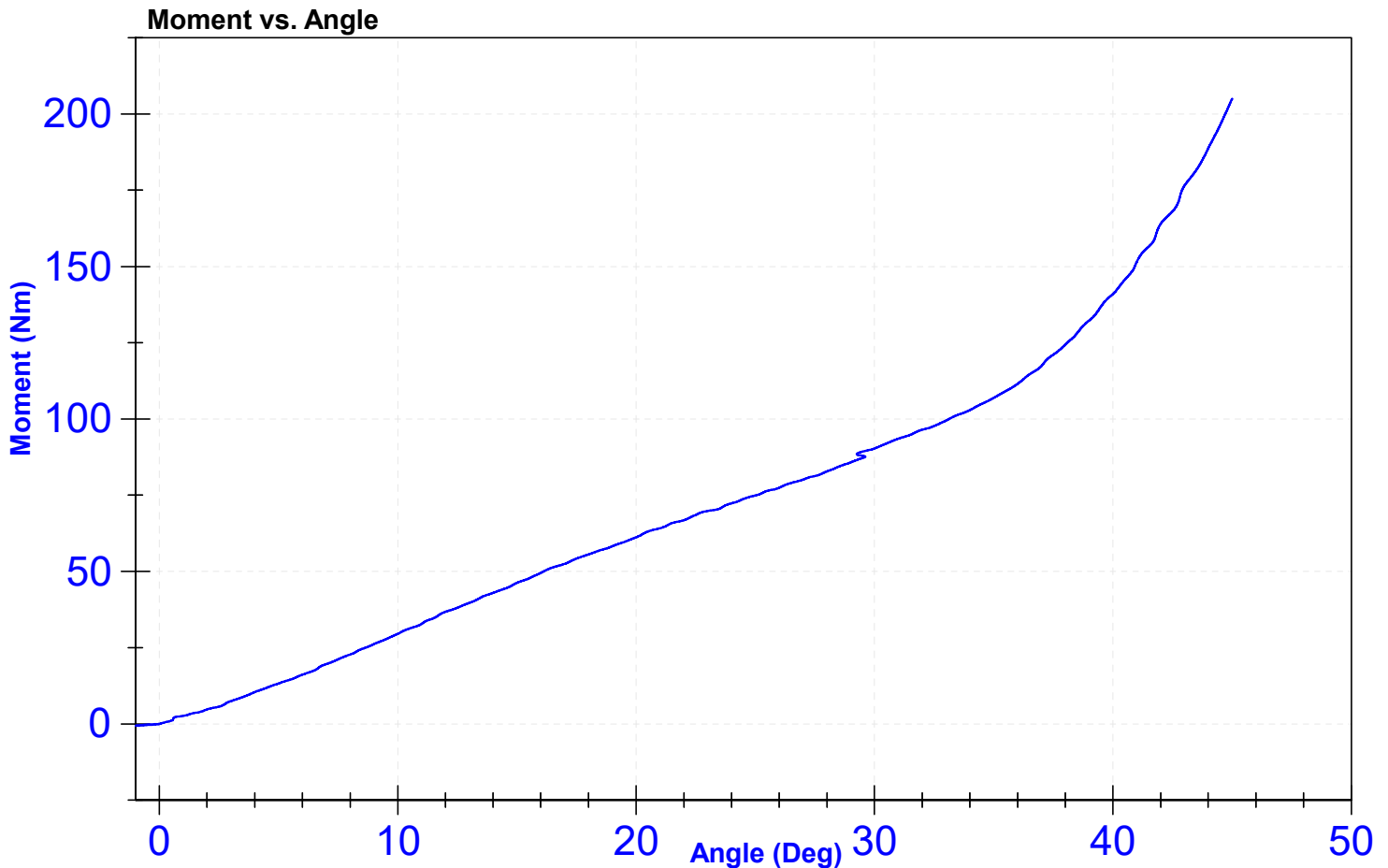
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Average Velocity	5	10	deg/s	7.5	Pass
Angle at 203Nm	40	50	deg	44.9	Pass
Moment at 30 degrees	0	94.9	Nm	90.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Potentiometer	ETI SP22	DS0008	9/29/2025	9/29/2026
Load Cell	PCB 2301-02A	694	2025-04-10	2026-04-10



ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

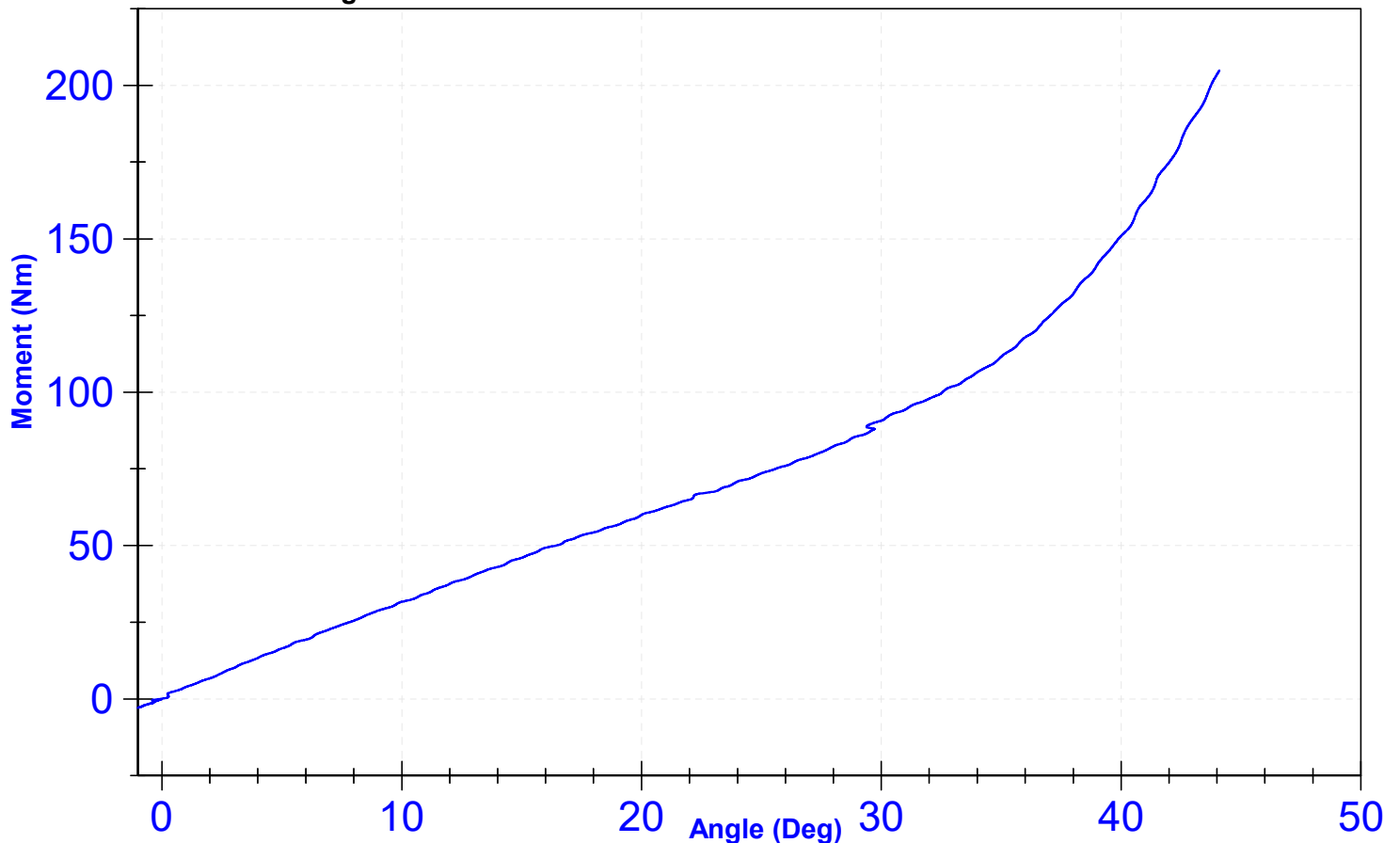
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Average Velocity	5	10	deg/s	7.4	Pass
Angle at 203Nm	40	50	deg	44.0	Pass
Moment at 30 degrees	0	94.9	Nm	90.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Potentiometer	ETI SP22	DS0008	9/29/2025	9/29/2026
Load Cell	PCB 2301-02A	694	2025-04-10	2026-04-10

Moment vs. Angle



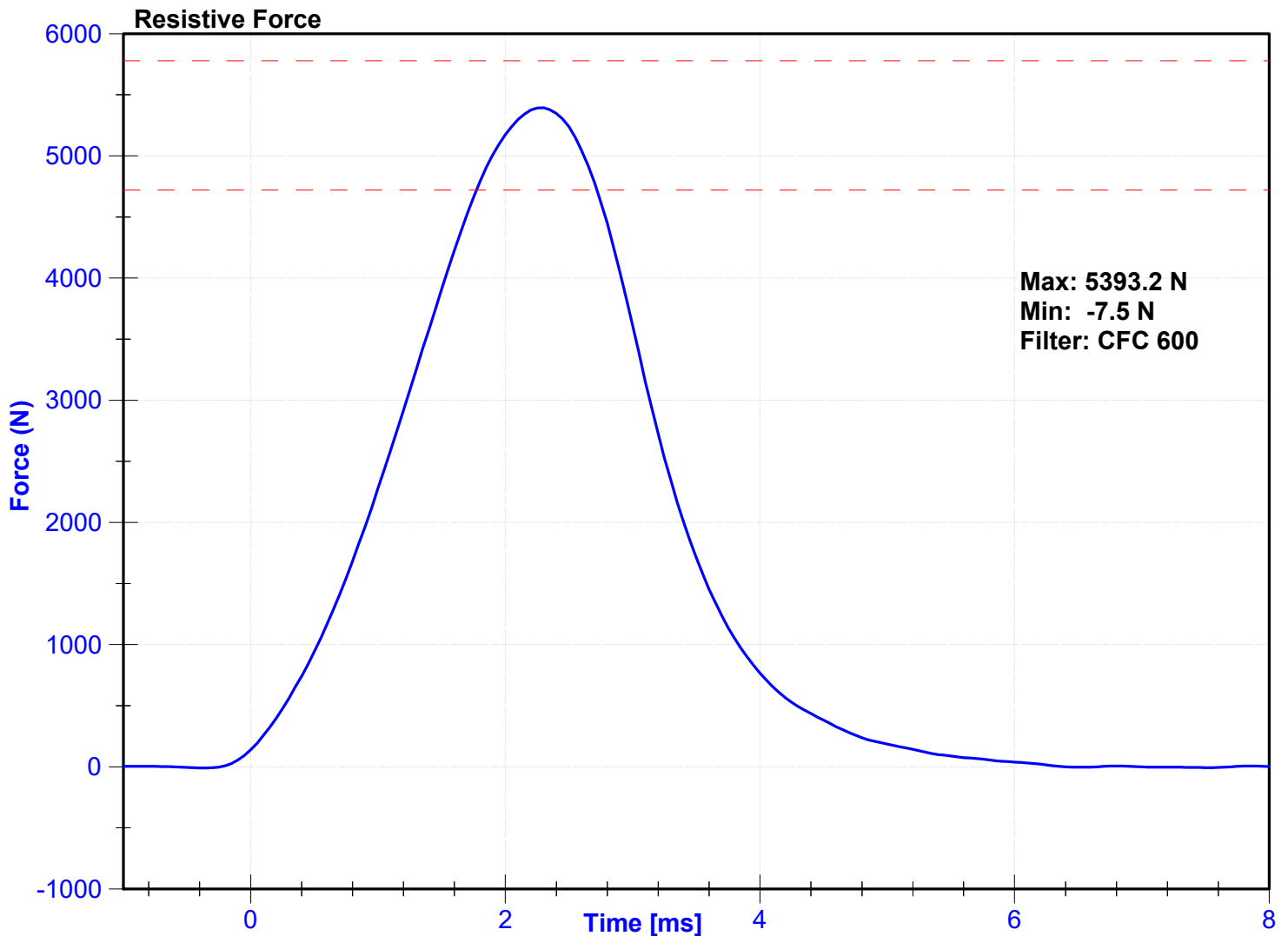
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ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

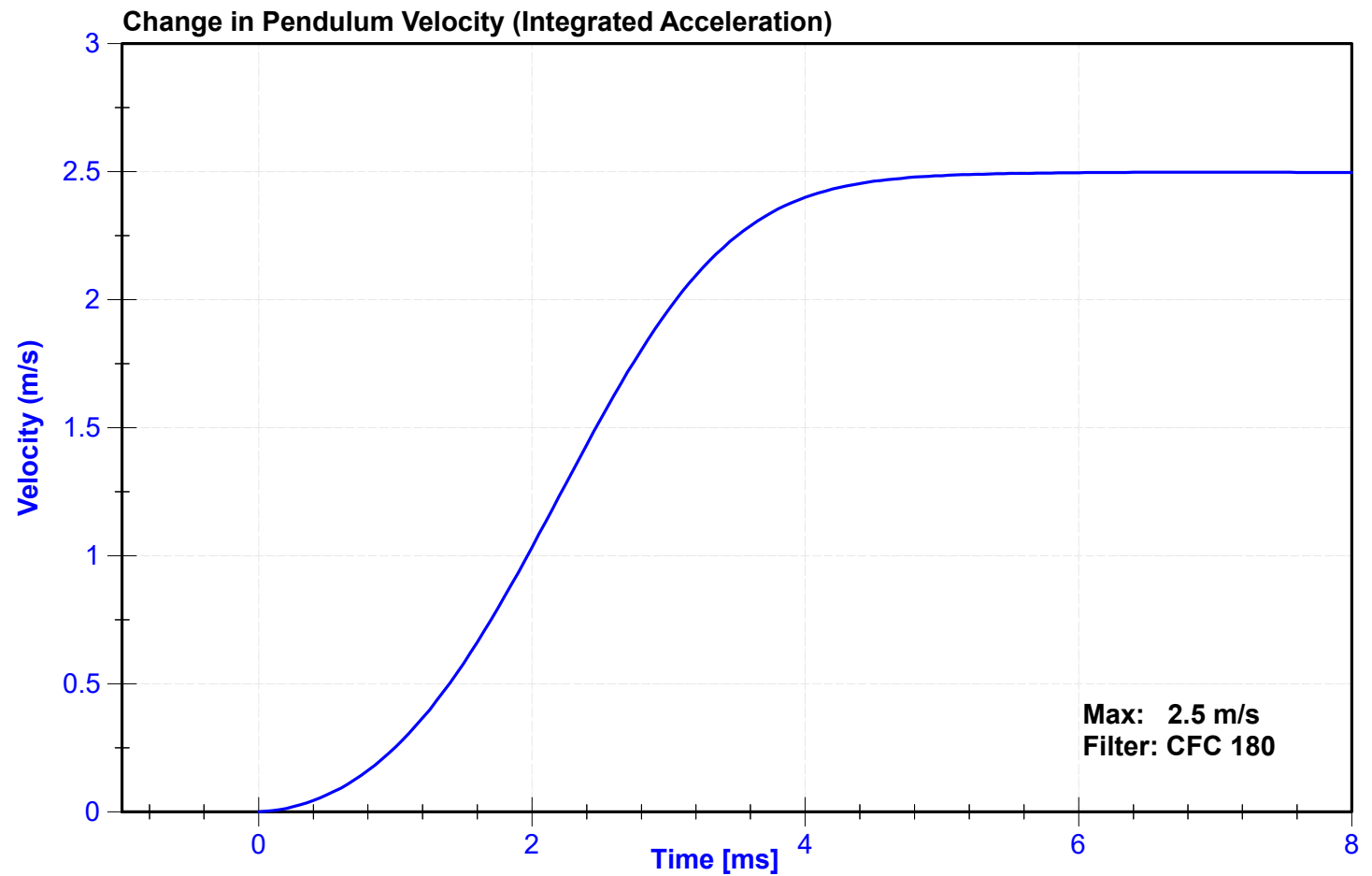
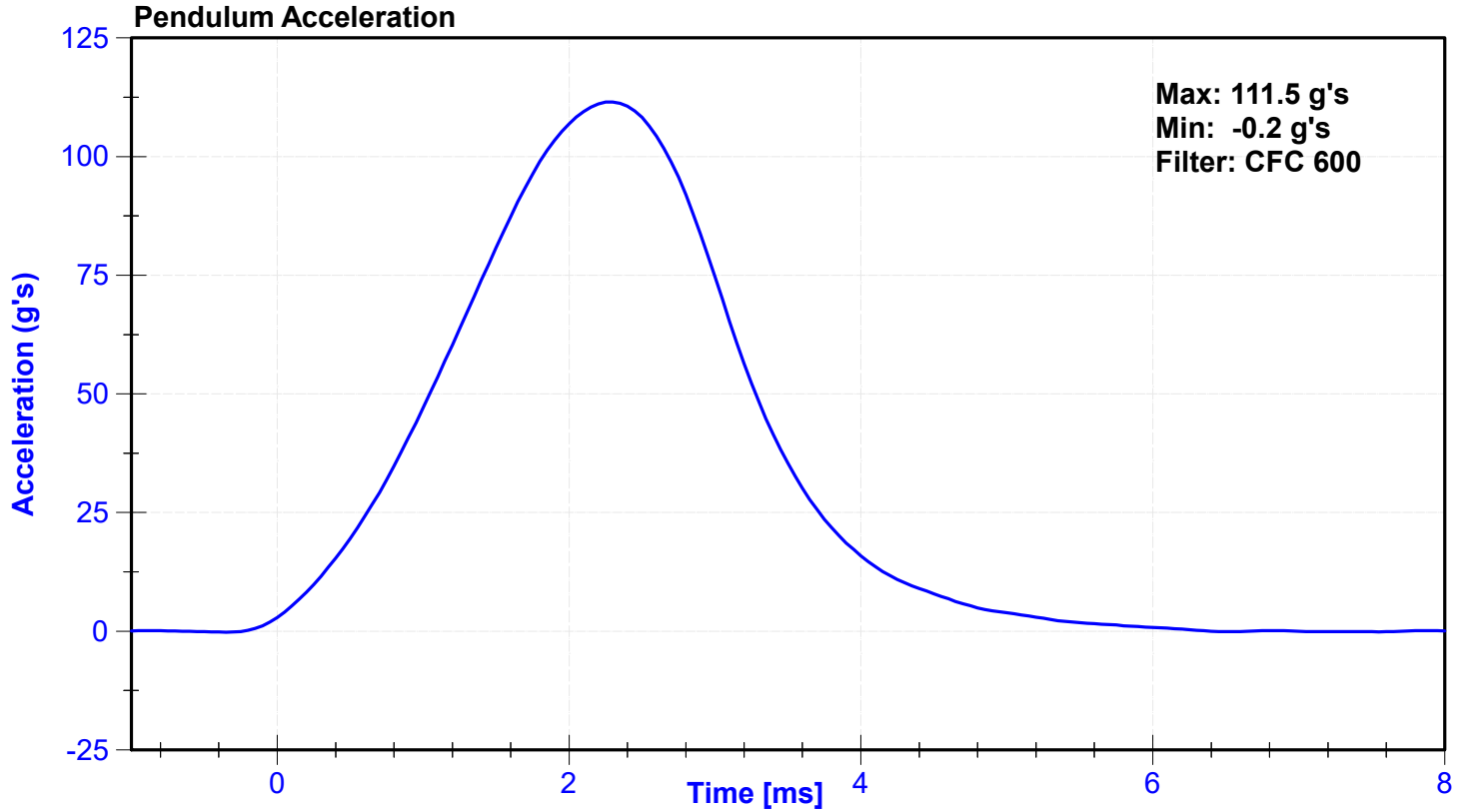
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	2.07	2.13	m/s	2.111	Pass
Maximum Resistive Force	4720	5780	N	5393.2	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	T25863	1/17/2025	1/17/2026





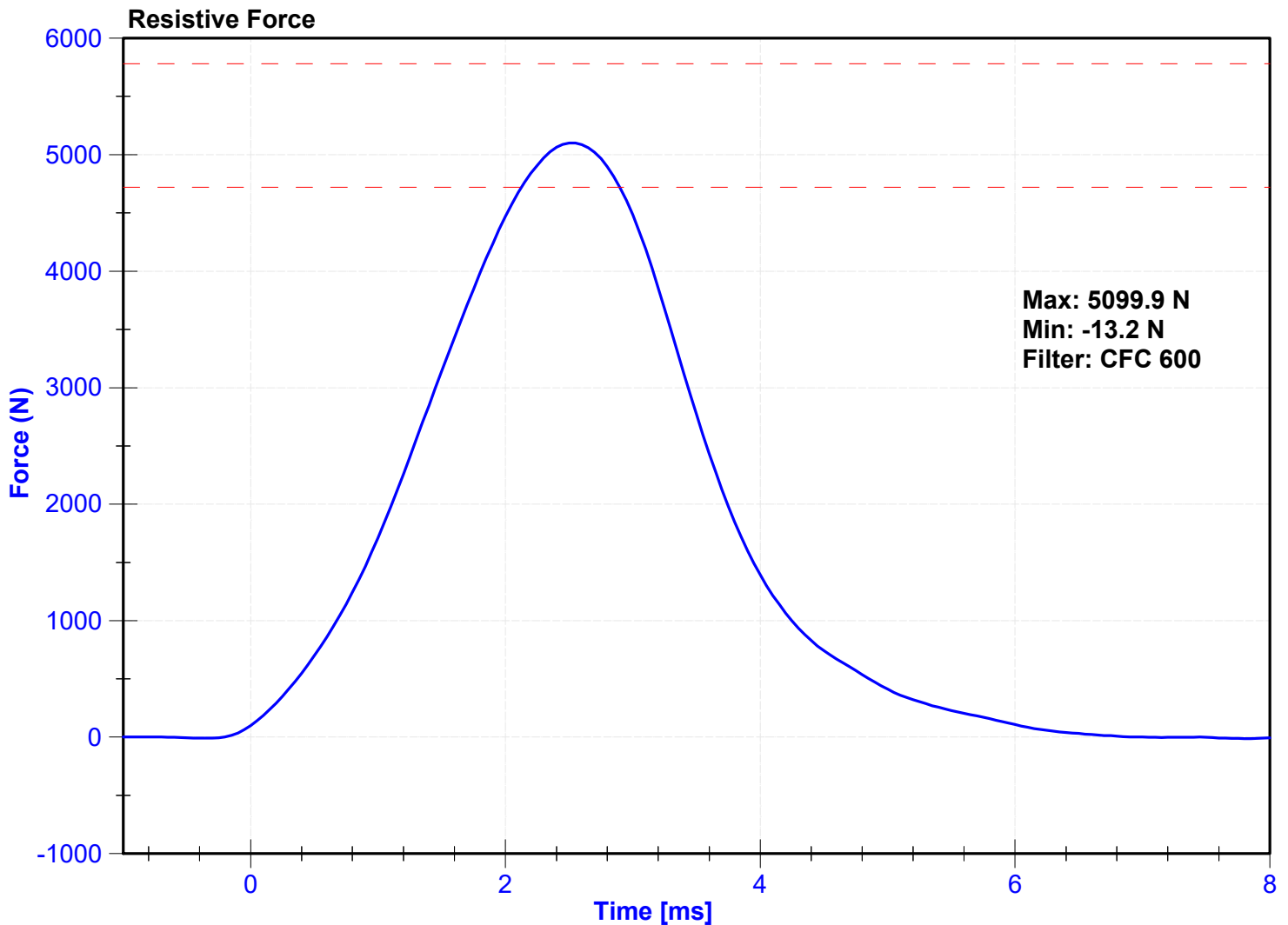
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

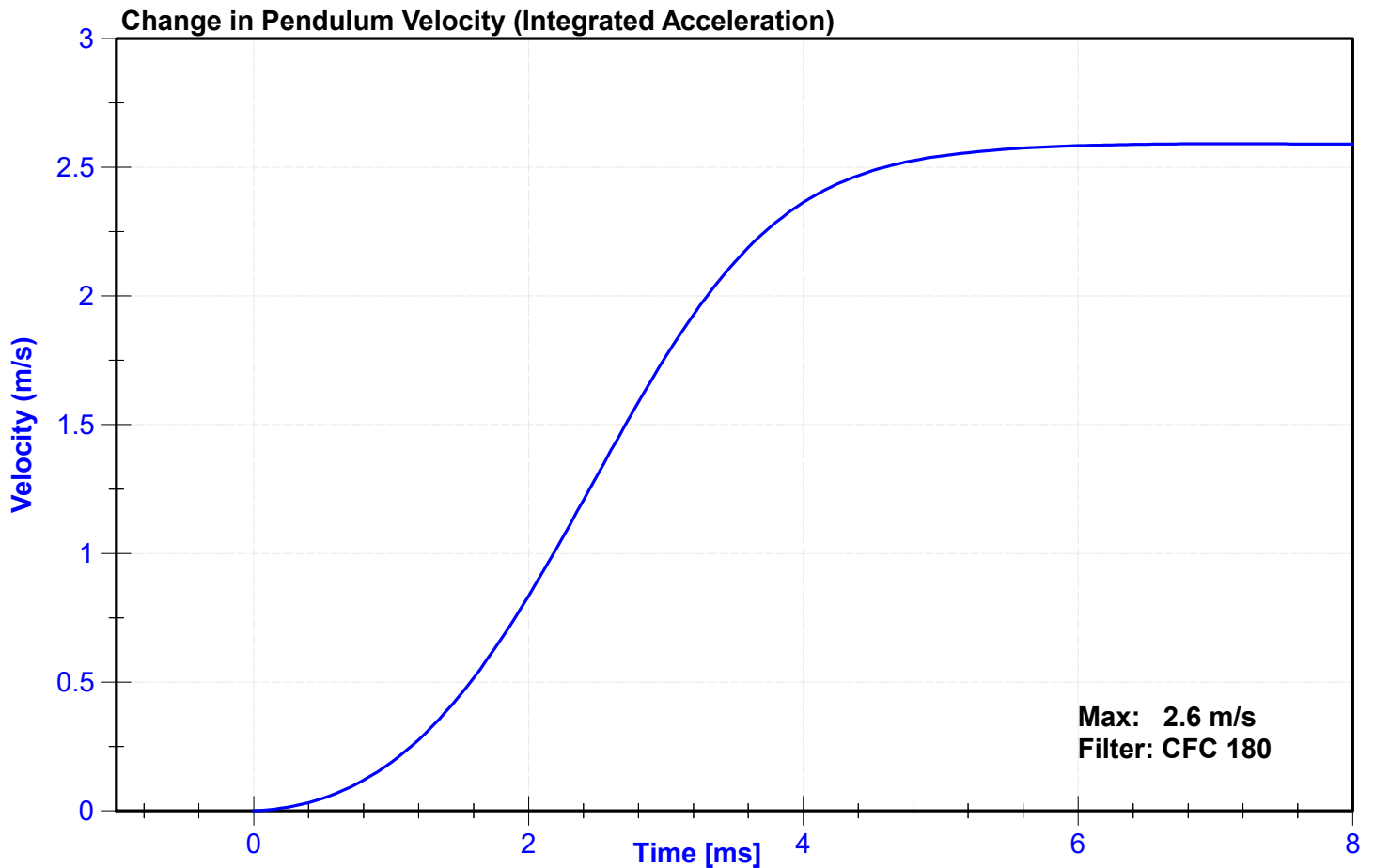
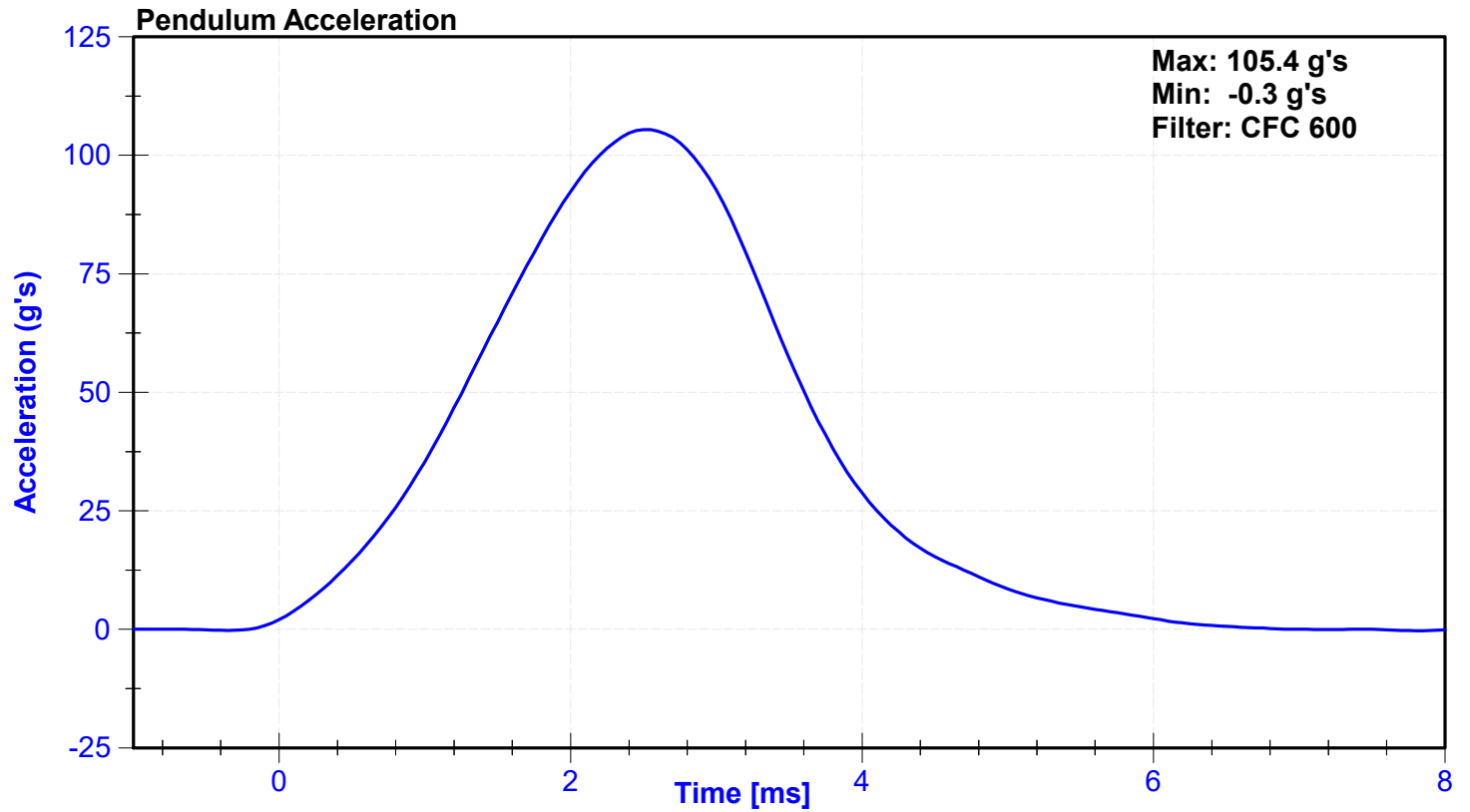
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	2.07	2.13	m/s	2.110	Pass
Maximum Resistive Force	4720	5780	N	5099.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	T25863	1/17/2025	1/17/2026





CALIBRATION TEST RESULTS

PRE-TEST

HYBRID III 5TH PERCENTILE - PASSENGER ATD

SERIAL NO: 137

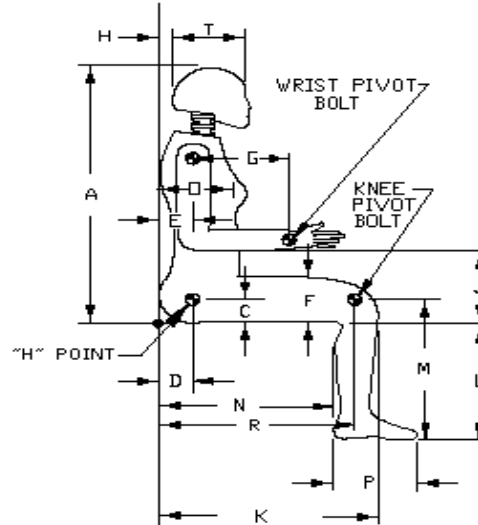
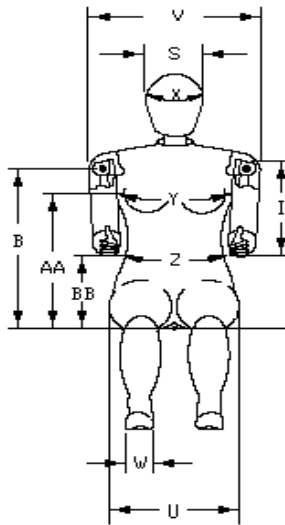


External Measurements - Hybrid 3 - 5th Female

Technician: **J. Rios**

Date: **12/15/2025**

Dummy Serial Number: **137**



Symbol	Description	Specification (mm)		Result (mm)	Pass/Fail
A	Sitting Height	775	800	790	Pass
B	Shoulder Pivot Height	432	457	442	Pass
C	H-Point Height	81	86	84	Pass
D	H-Point from Backline	145	150	147	Pass
E	Shoulder Pivot from Backline	69	84	78	Pass
F	Thigh Clearance	119	135	127	Pass
G	Back of Elbow to Wrist Pivot	244	259	255	Pass
H	Head Back to Backline	43	48	45	Pass
I	Shoulder to Elbow Length	277	297	282	Pass
J	Elbow Rest Height	183	203	194	Pass
K	Buttock to Knee Length	521	546	539	Pass
L	Popliteal Height	356	376	361	Pass
M	Knee Pivot Height	394	419	414	Pass
N	Buttock Popliteal Length	414	439	425	Pass
O	Chest Depth without Jacket	175	191	182	Pass
P	Foot Length (right)	219	234	225	Pass
R	Buttock To Knee Pivot Length	457	483	472	Pass
S	Head Breadth	137	147	142	Pass
T	Head Depth	178	188	182	Pass
U	Hip Breadth	300	315	306	Pass
V	Shoulder Breadth	351	366	362	Pass
W	Foot Breadth	79	94	88	Pass
X	Head Circumference	528	549	538	Pass
Y	Chest Circumference with Jacket	851	881	861	Pass
Z	Waist Circumference	460	790	641	Pass
AA	Reference Location (Chest Circumference)	333	358	345	Pass
BB	Reference Location (Waist Circumference)	160	170	163	Pass

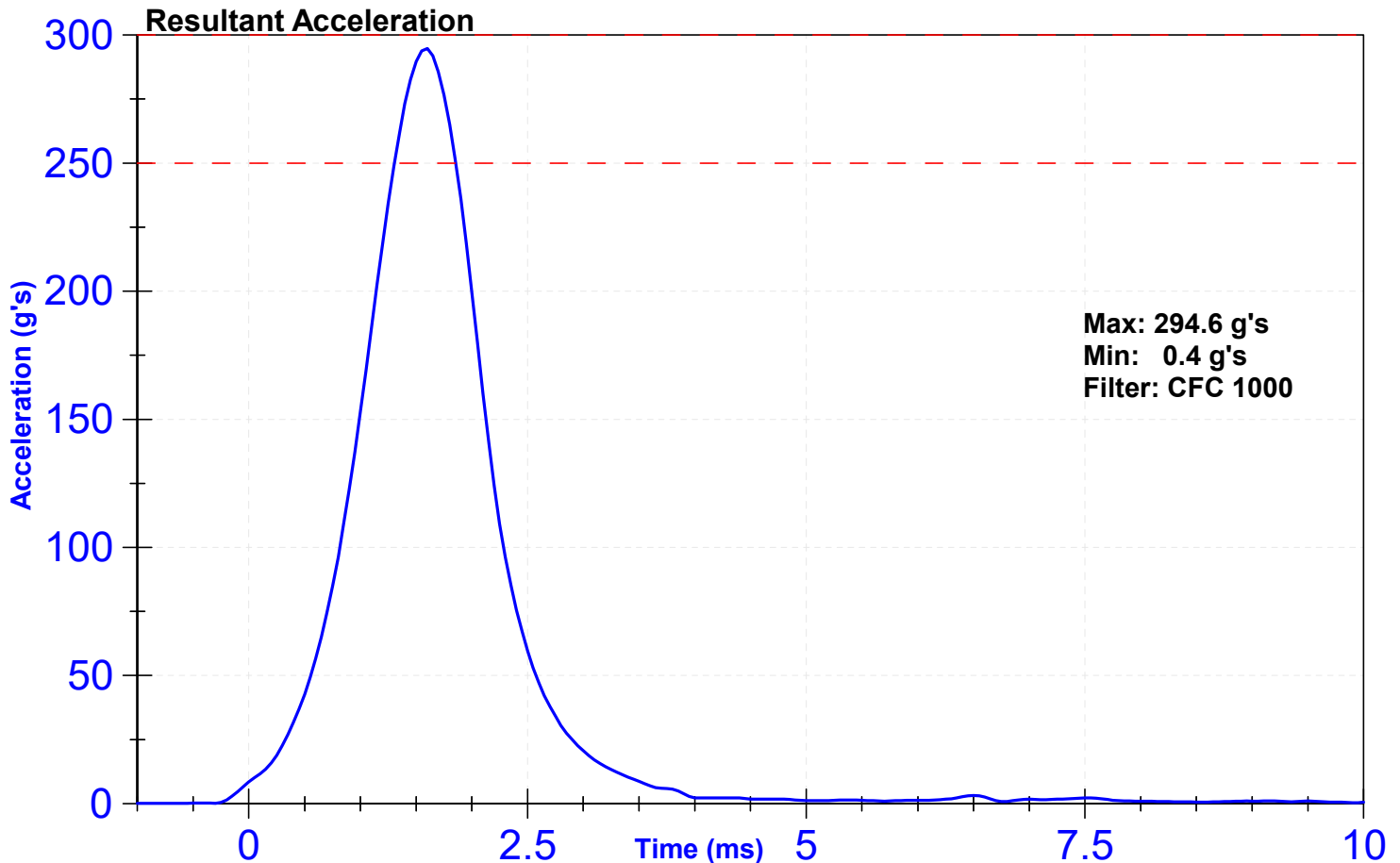
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

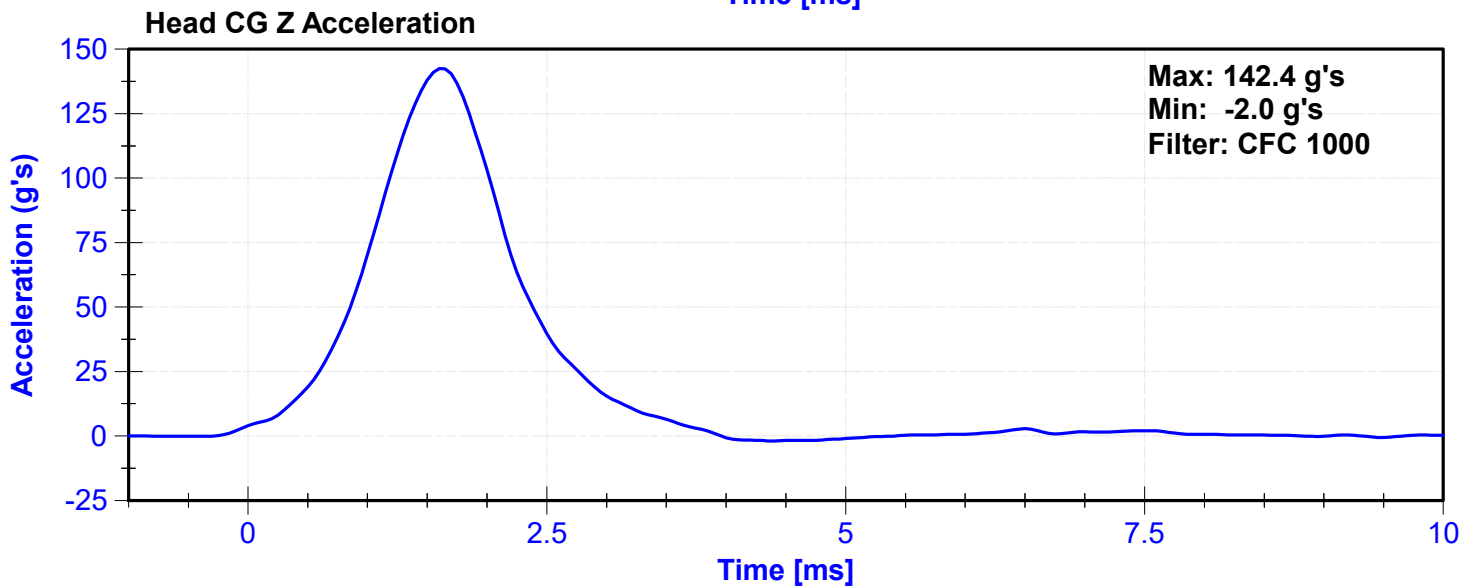
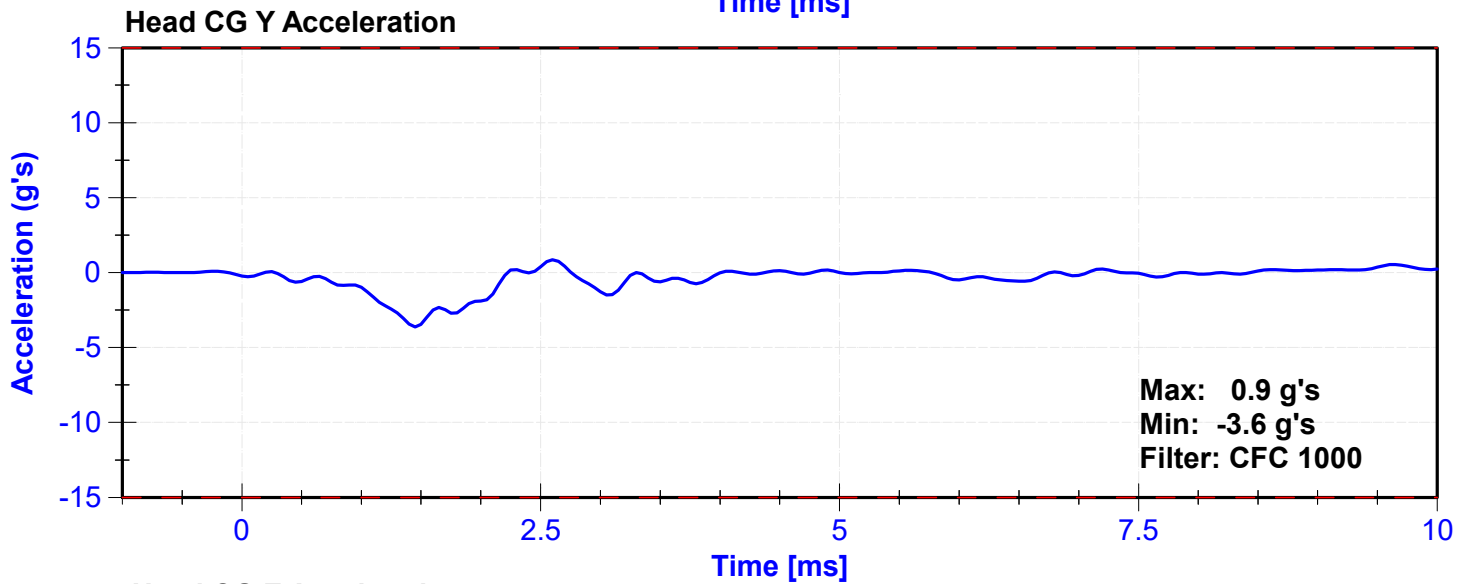
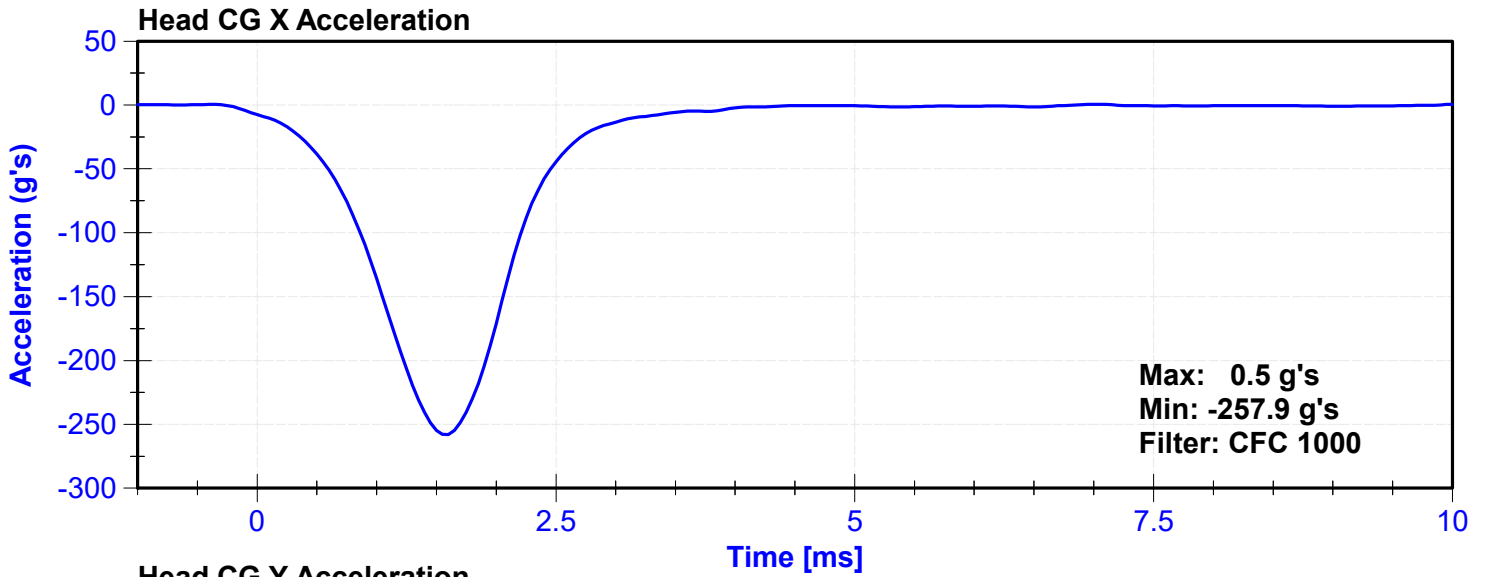
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	16	Pass
Resultant Acceleration	250	300	g's	294.6	Pass
Oscillation	0	10	%	1.2	Pass
Lateral Acceleration	-15	15	g's	-3.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	Endevco	P79417	12/11/2025	6/9/2026
Y Accelerometer	Endevco	P83335	12/11/2025	6/9/2026
Z Accelerometer	Endevco	P64149	12/11/2025	6/9/2026





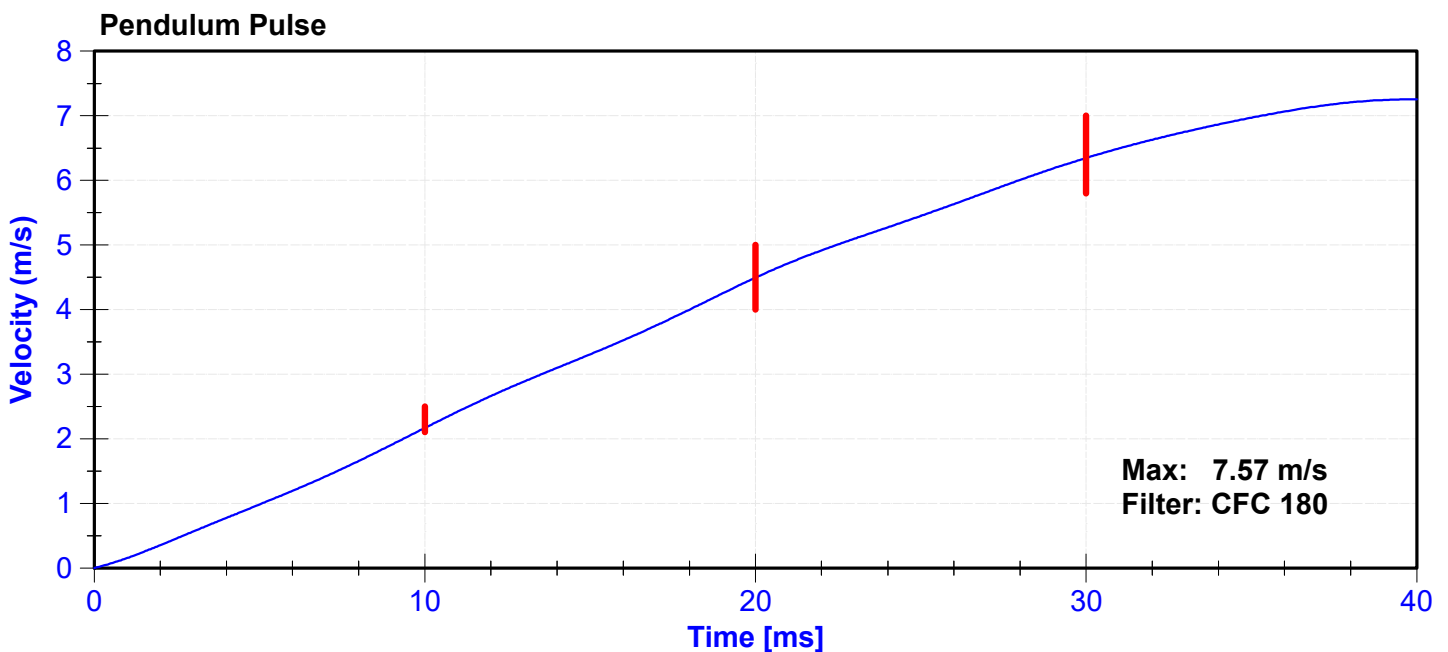
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

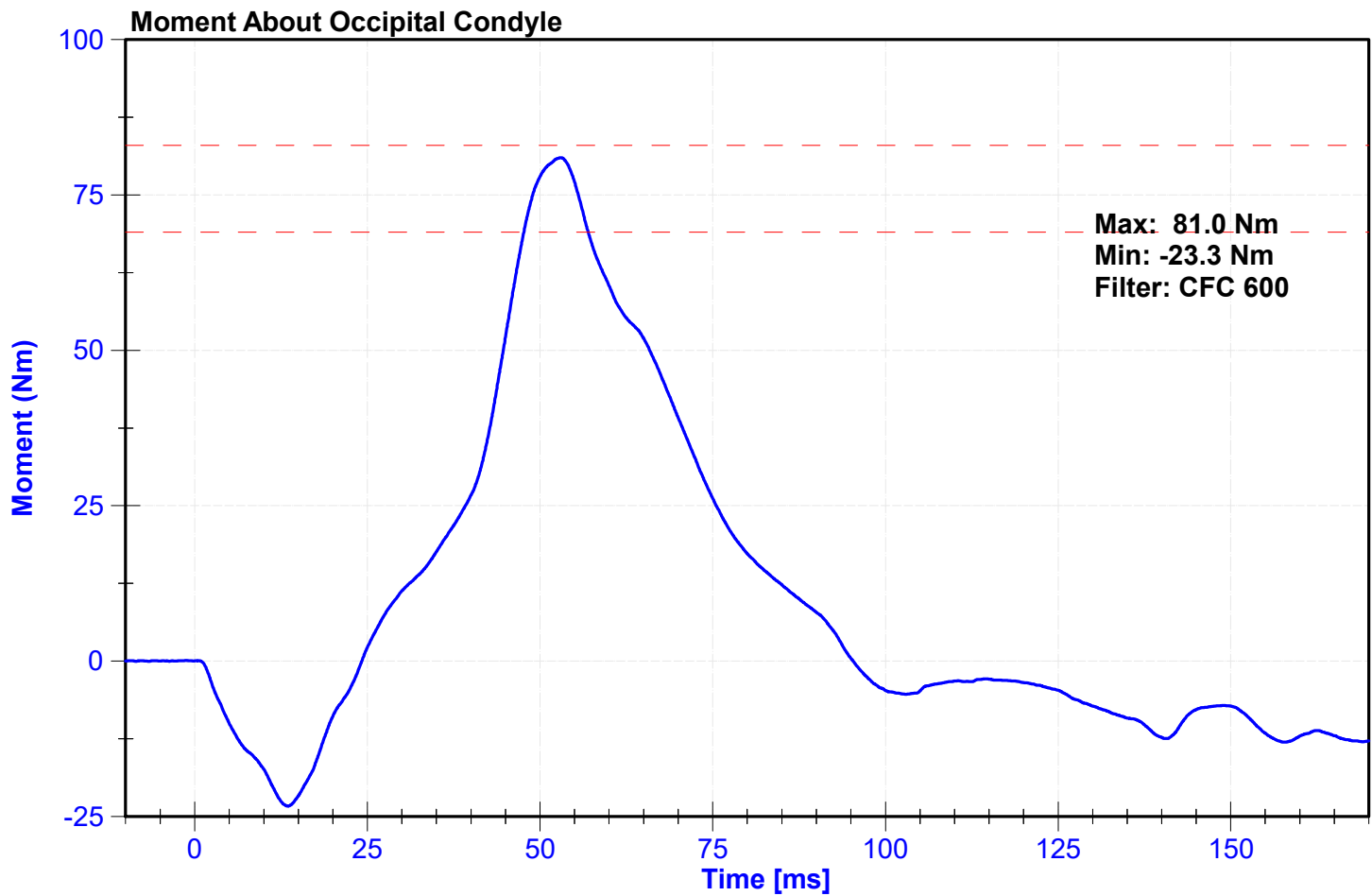
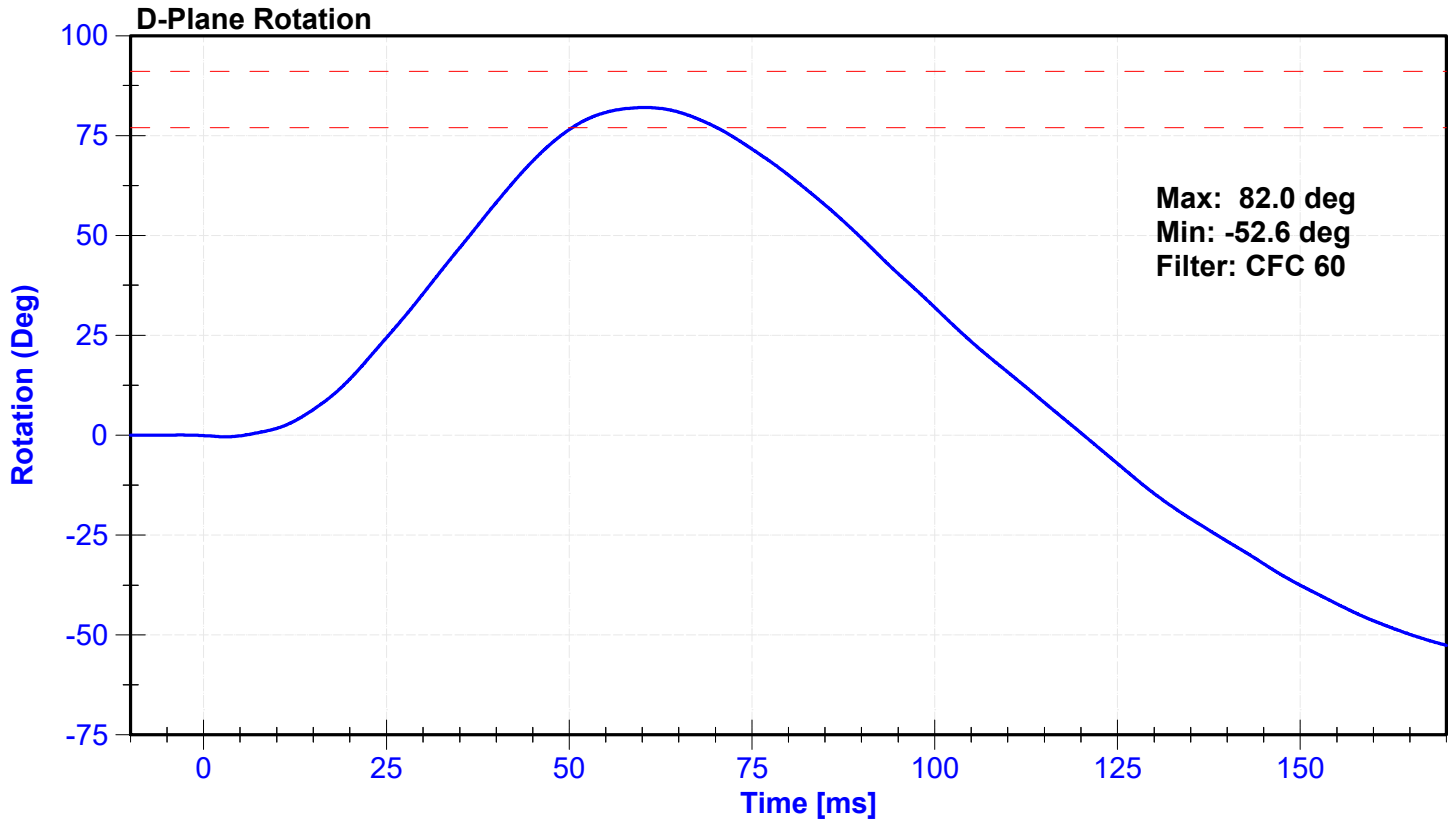
Results

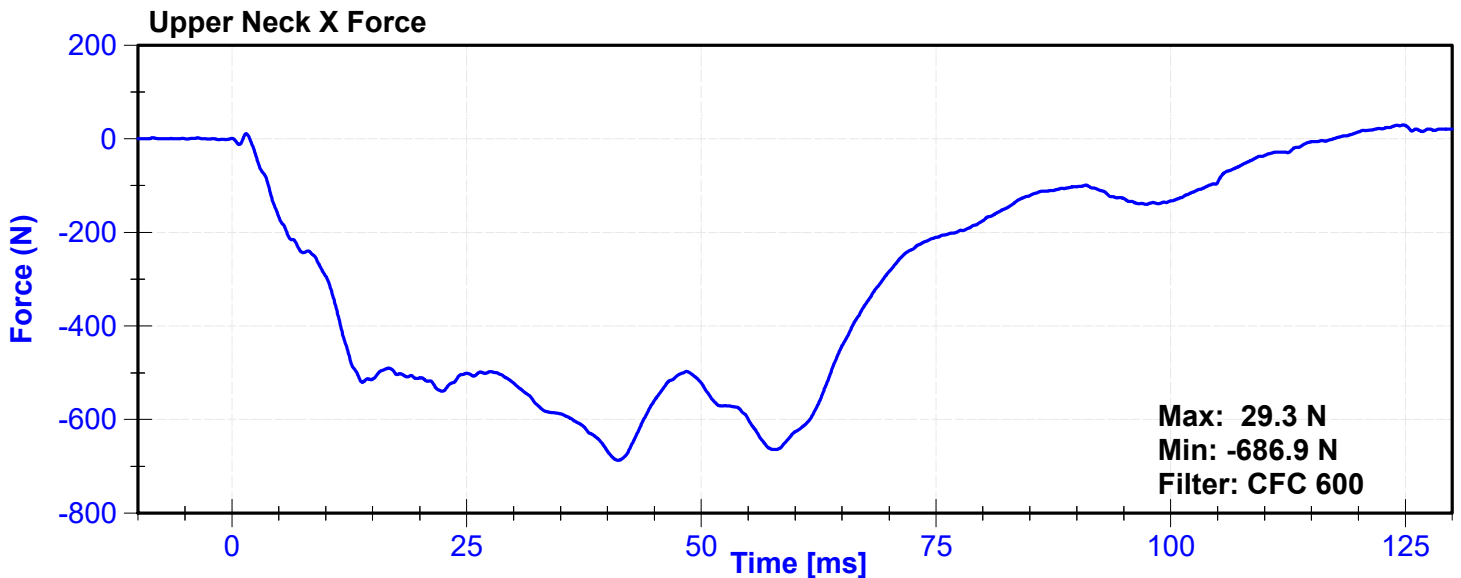
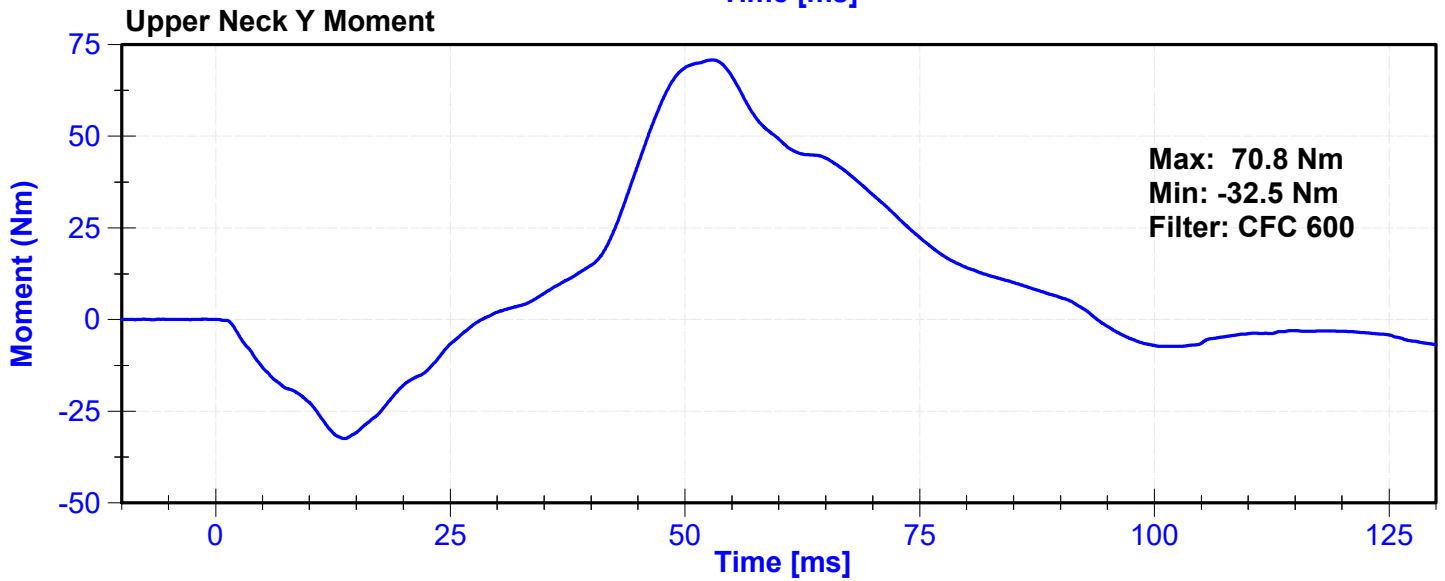
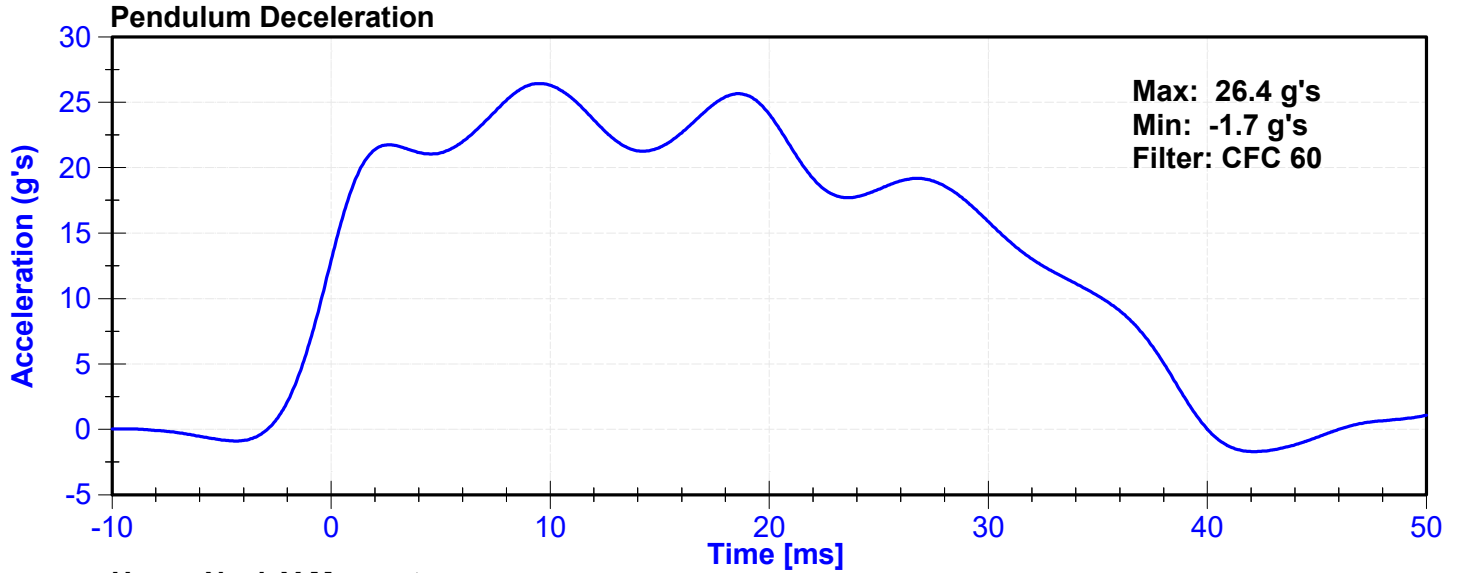
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	16	Pass
Velocity	6.89	7.13	m/s	7.059	Pass
Pendulum Impulse at 10ms	2.1	2.5	m/s	2.17	Pass
Pendulum Impulse at 20ms	4.0	5.0	m/s	4.49	Pass
Pendulum Impulse at 30ms	5.8	7.0	m/s	6.35	Pass
Max D Plane Rotation	77	91	deg	82.0	Pass
Max Moment During Rotation Interval	69	83	Nm	81.0	Pass
Moment Decay to 10.0 Nm	80	100	ms	87.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/21/2025	10/21/2026
Pendulum Potentiometer	ETI	SP22G_LABPOT1	5/14/2025	5/14/2026
Condyle Potentiometer	ETI	SP22G_LABPOT2	5/14/2025	5/14/2026
Upper Neck Load Cell	Humanetics	1872-FX	7/7/2025	7/7/2026







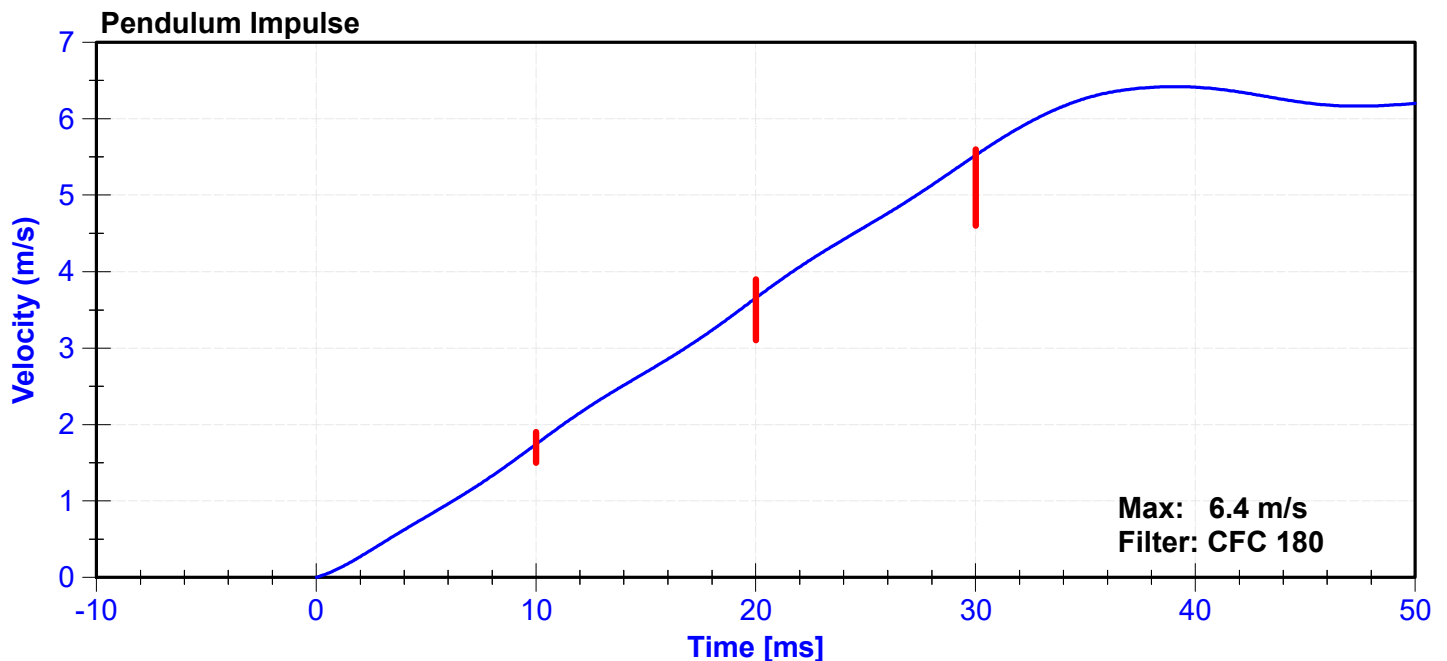
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

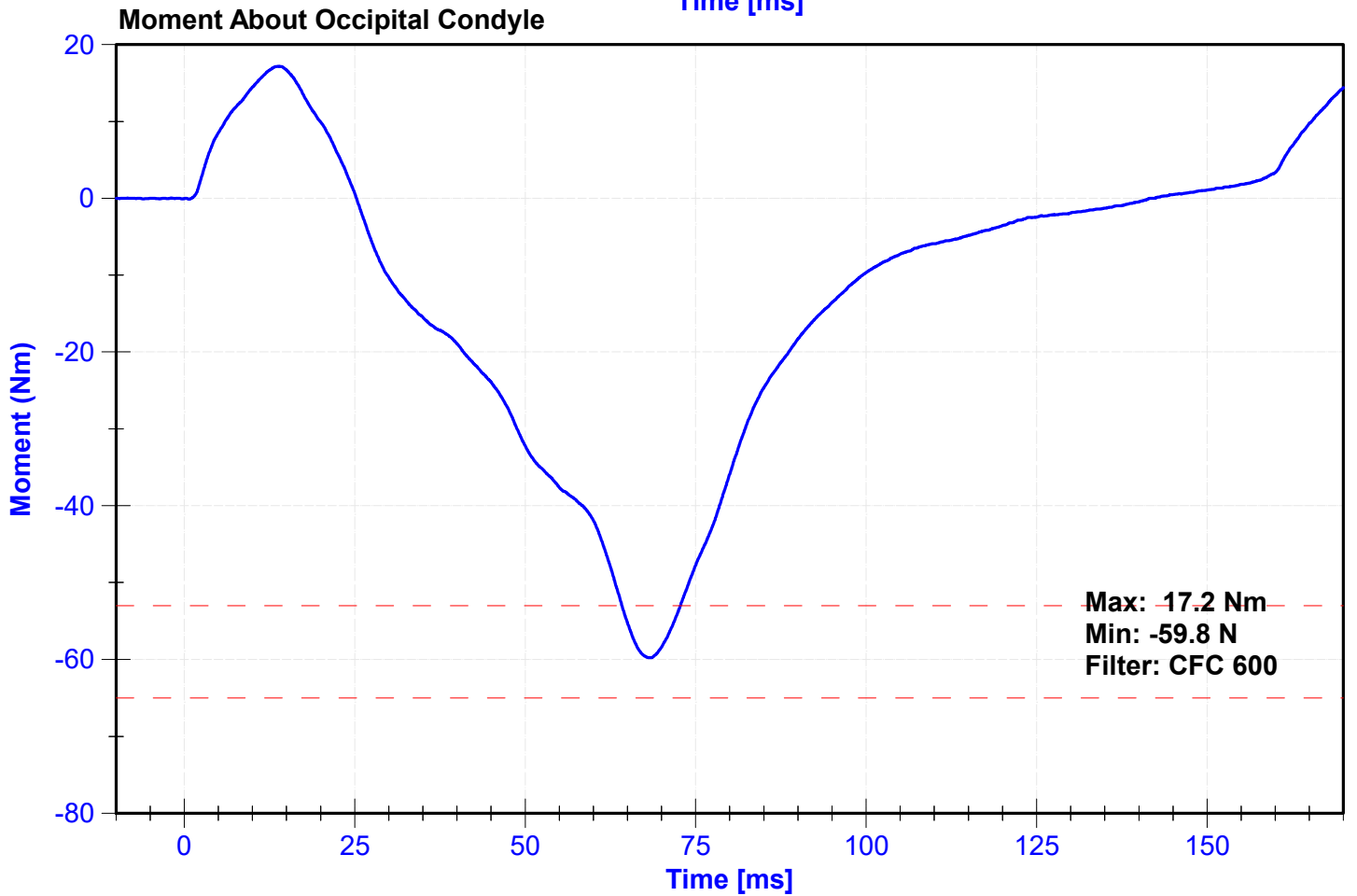
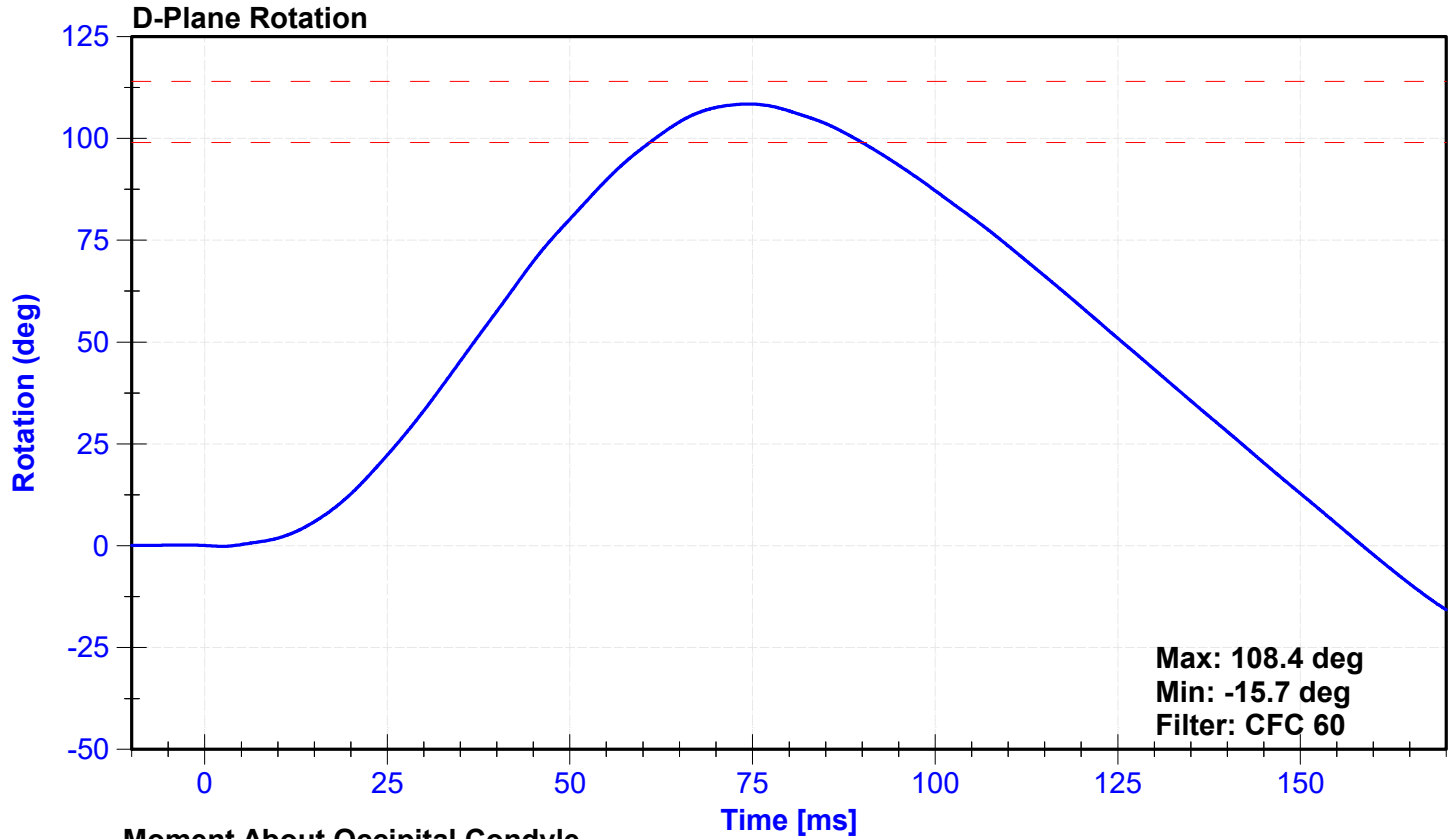
Results

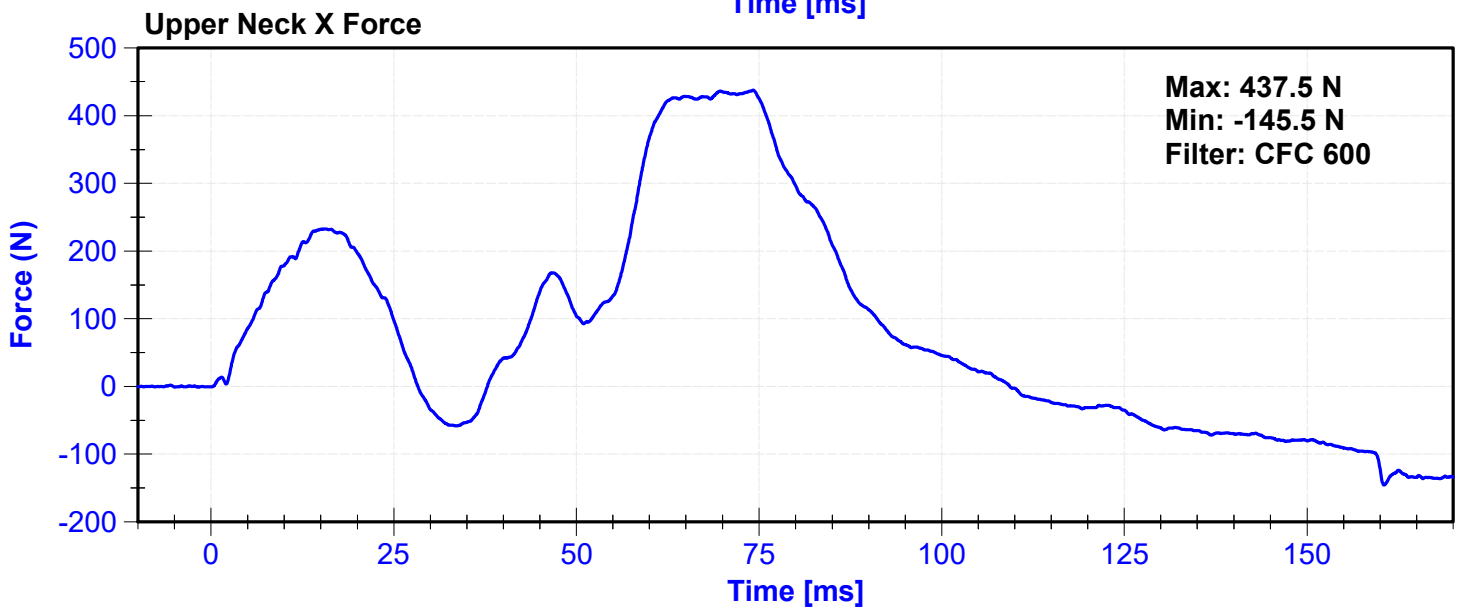
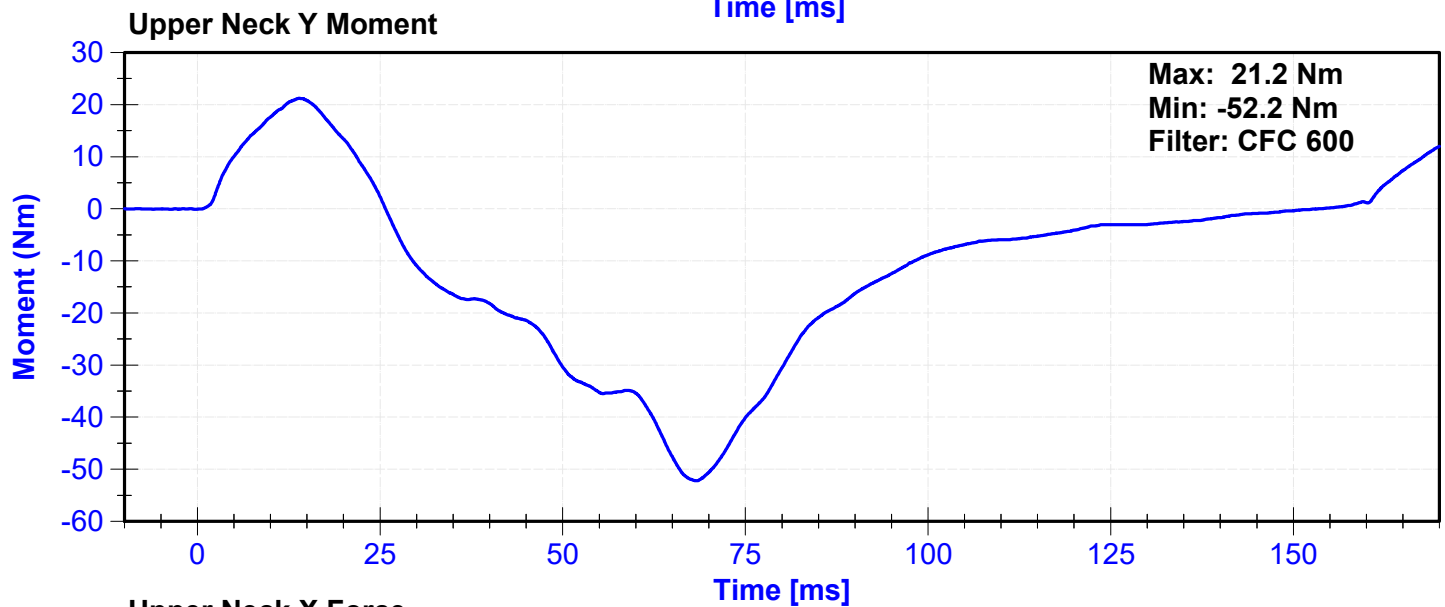
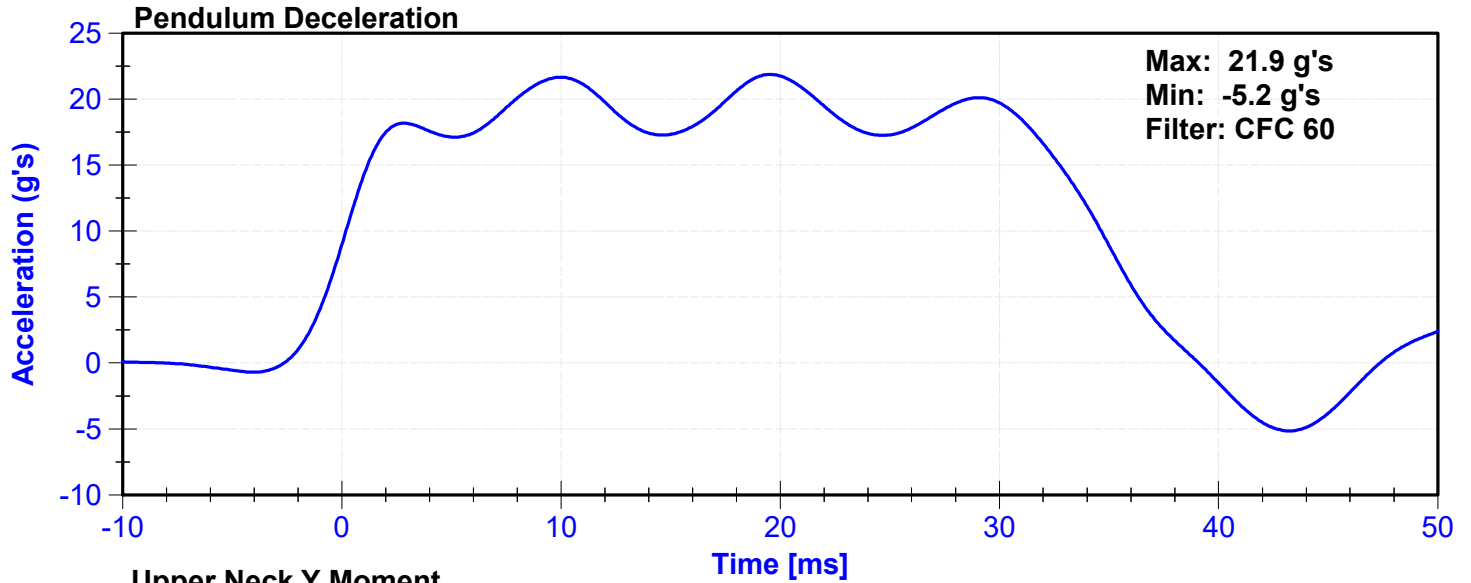
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	16	Pass
Velocity	5.95	6.19	m/s	6.011	Pass
Pendulum Impulse at 10ms	1.5	1.9	m/s	1.74	Pass
Pendulum Impulse at 20ms	3.1	3.9	m/s	3.66	Pass
Pendulum Impulse at 30ms	4.6	5.6	m/s	5.52	Pass
D Plane Rotation	99	114	deg	108.4	Pass
Moment During Rotation Interval	-65	-53	Nm	-59.8	Pass
Moment Decay to -10Nm	94	114	ms	99.5	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/21/2025	10/21/2026
Pendulum Potentiometer	ETI	SP22G_LABPOT1	5/14/2025	5/14/2026
Condyle Potentiometer	ETI	SP22G_LABPOT2	5/14/2025	5/14/2026
Upper Neck Load Cell	Humanetics	1716A	7/7/2025	7/7/2026







ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

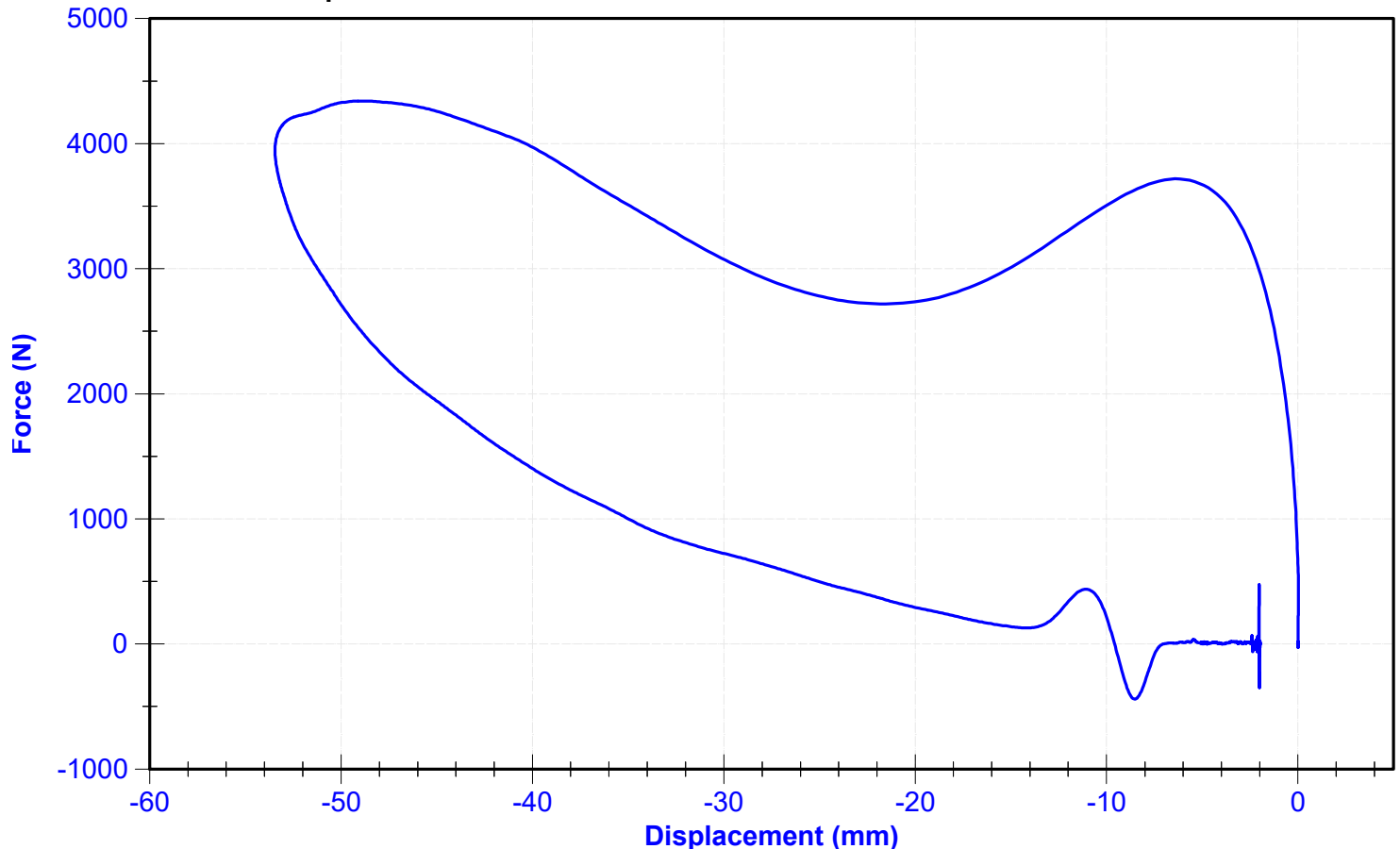
Results

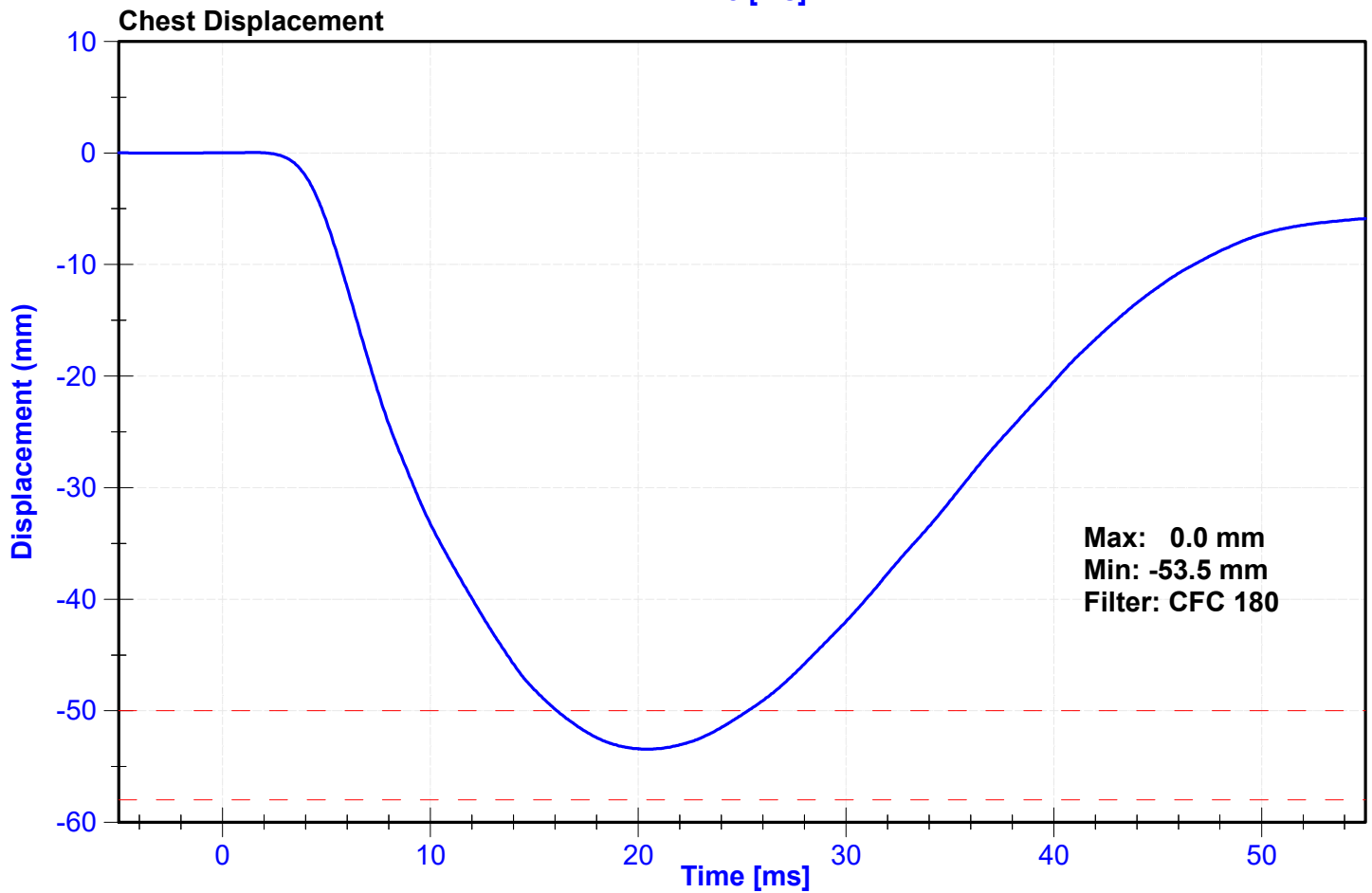
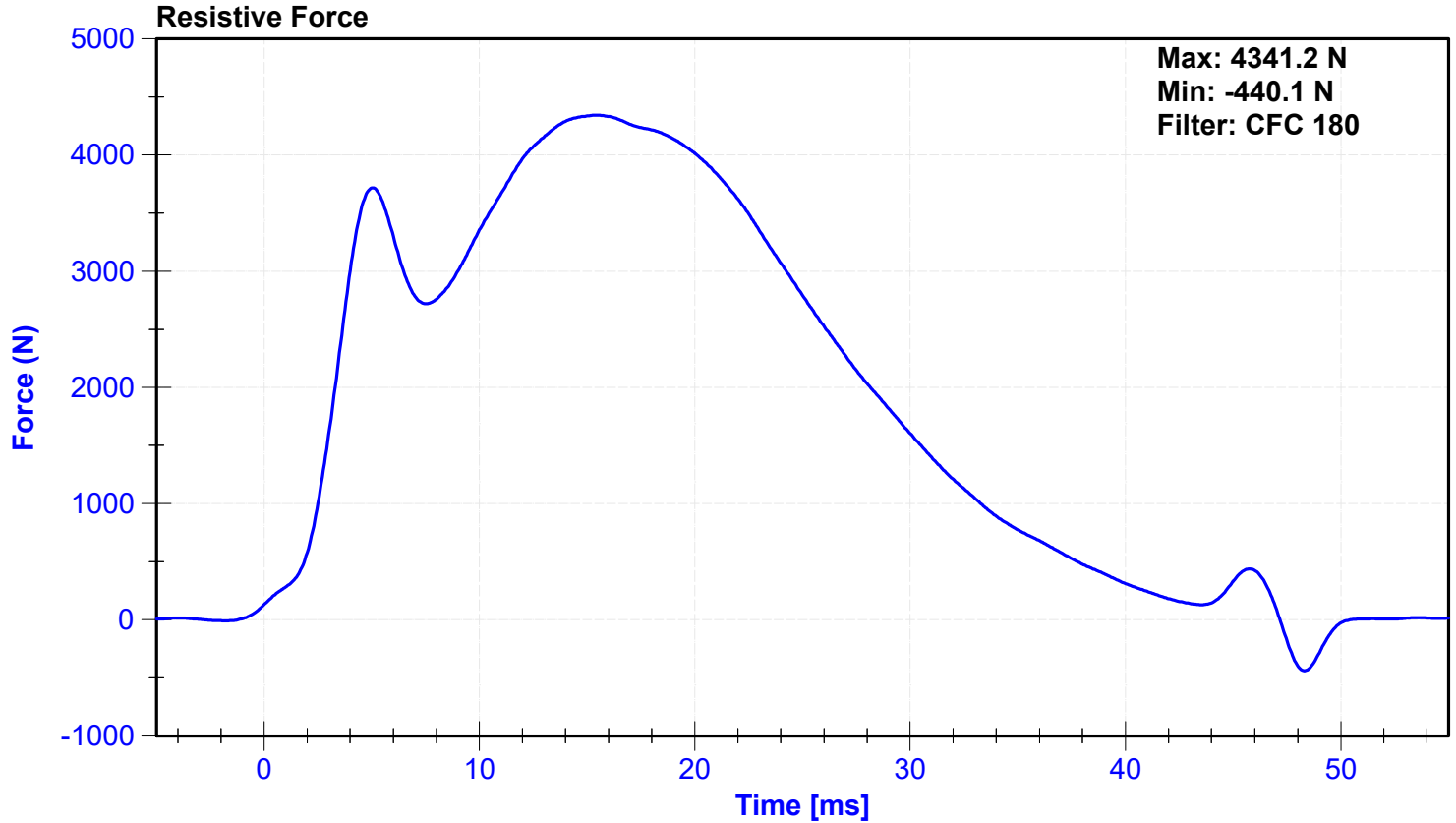
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	6.59	6.83	m/s	6.636	Pass
Chest Deflection	-58	-50	mm	-53.5	Pass
Maximum Resistive Force (50 to 58mm)	3900	4400	N	4328.6	Pass
Maximum Resistive Force (18 to 50mm)	0	4600	N	4341.2	Pass
Hysteresis	69	85	%	73.7	Pass

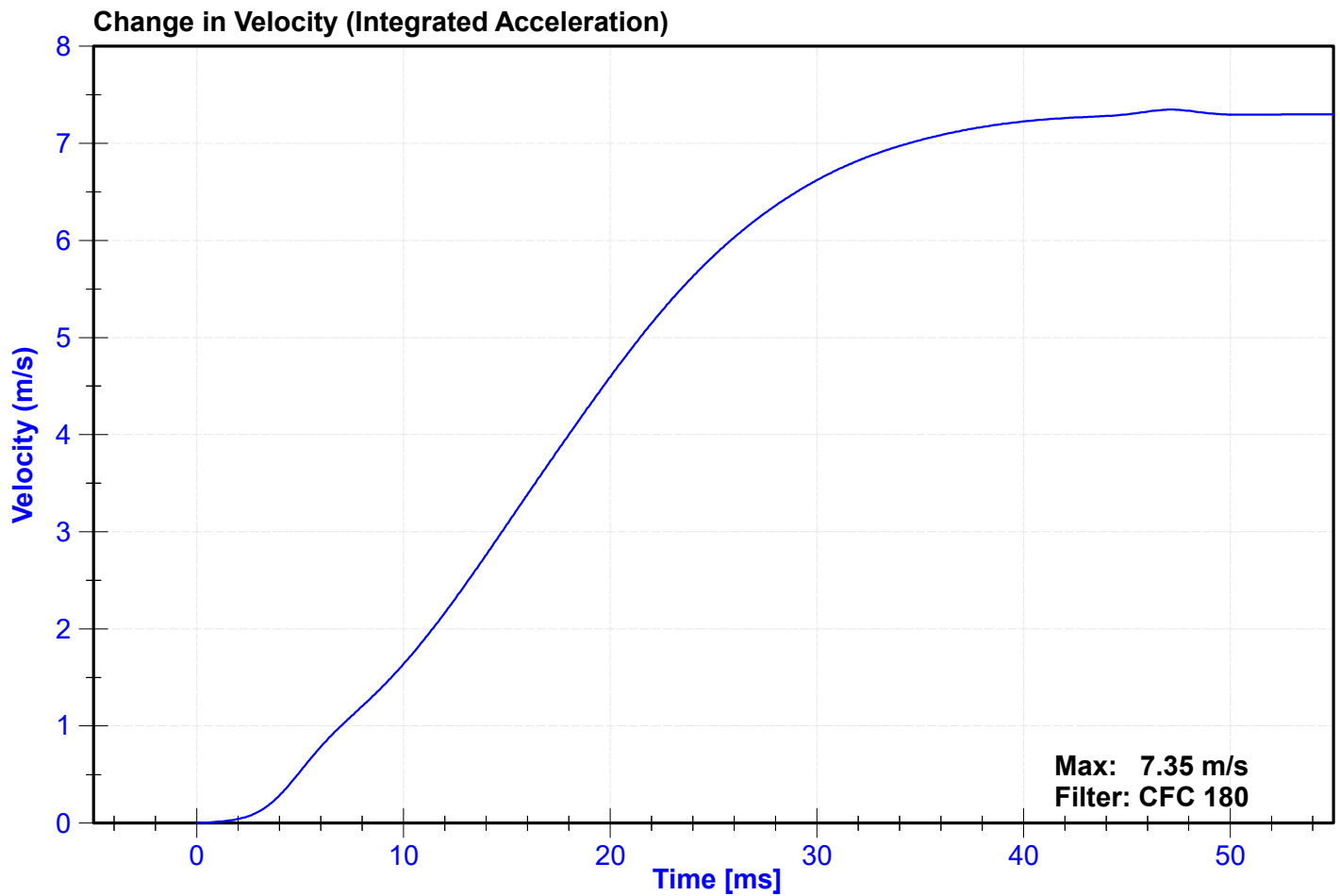
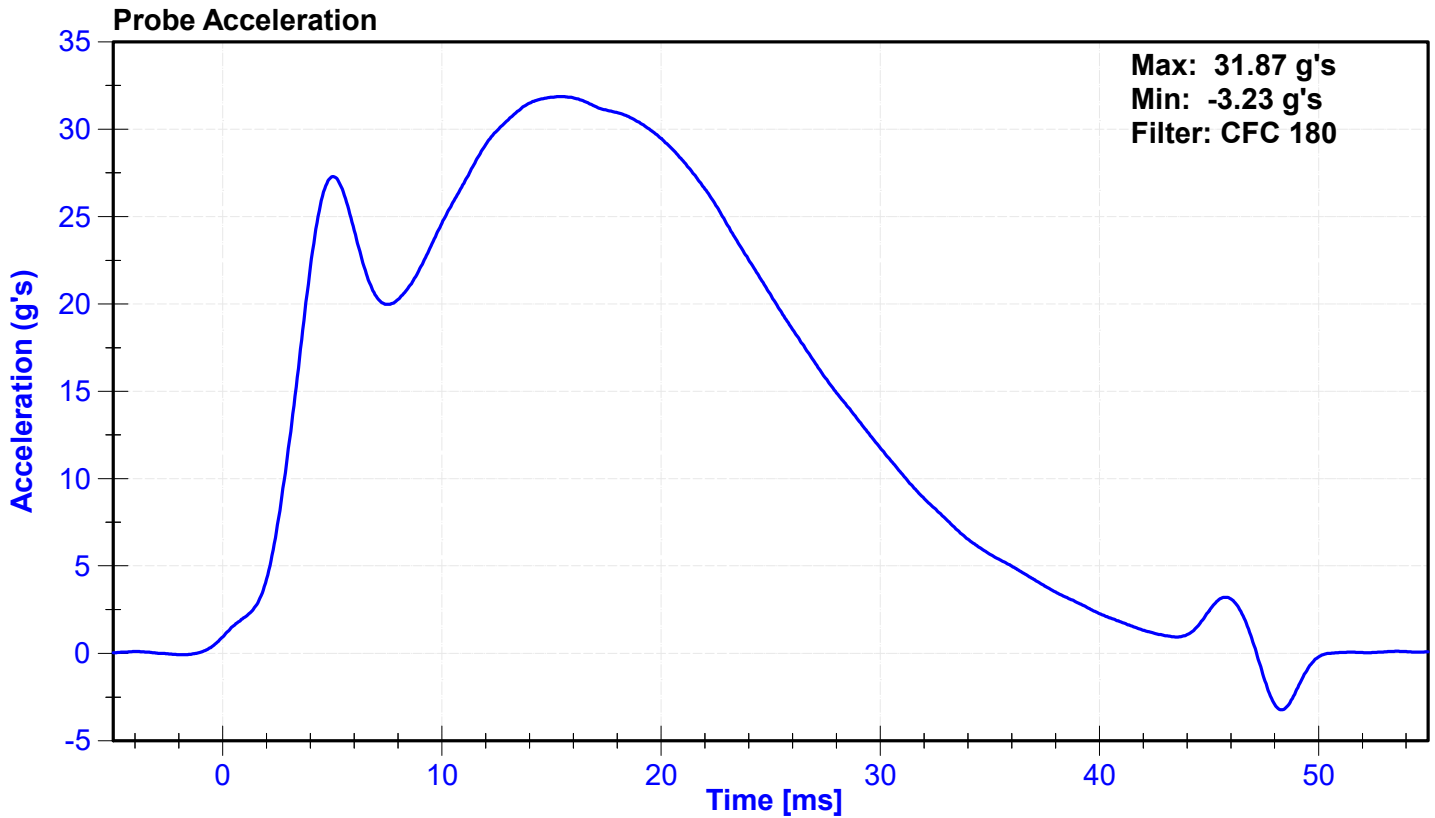
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	11/5/2025	5/4/2026
Chest Potentiometer	Servo	0720	12/11/2025	6/11/2026

Force vs. Displacement







ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

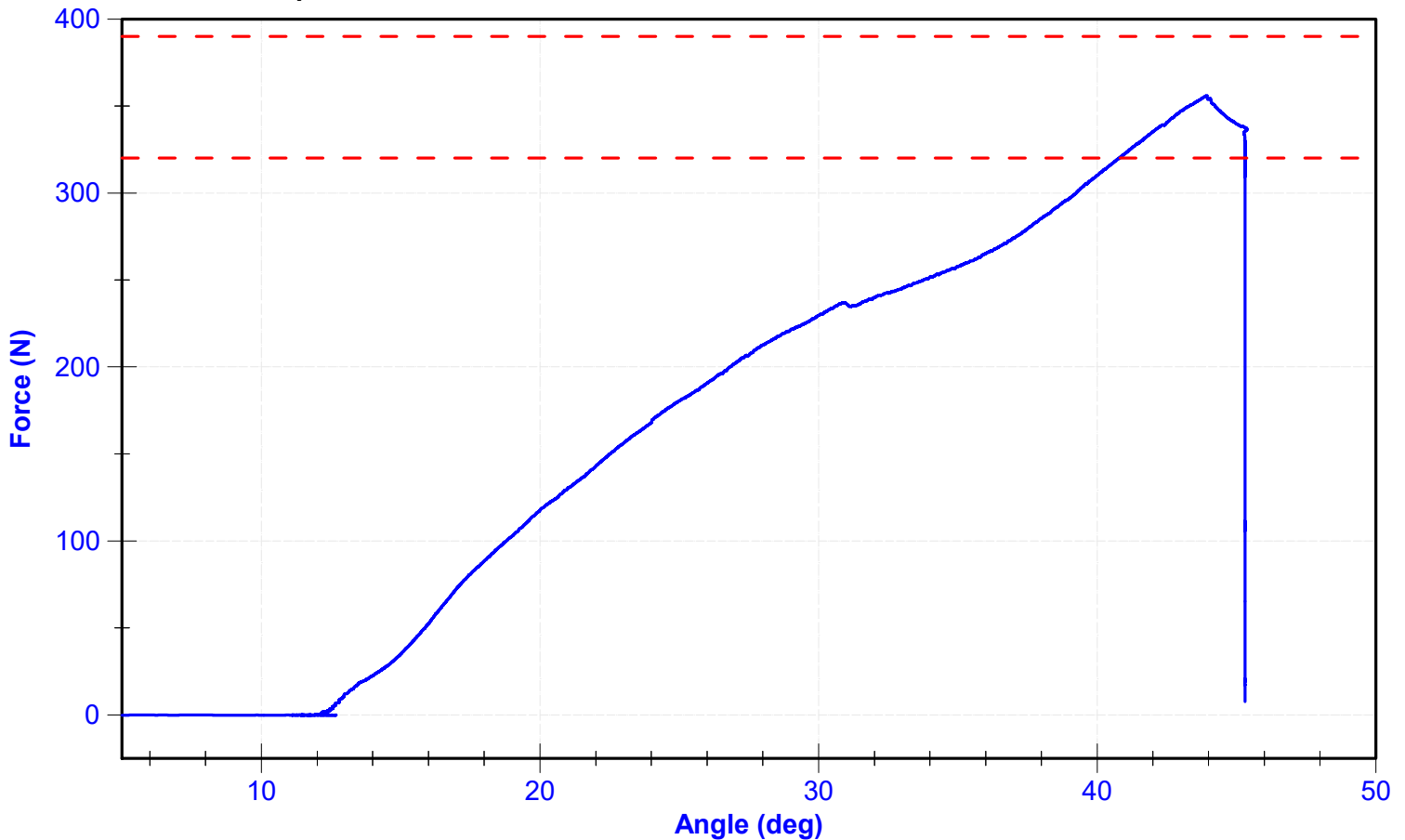
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.6	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Initial Angle	0	20	deg	11.8	Pass
Force at 45 Degrees	320	390	N	356.1	Pass
Return Angle Relative to Initial	0	8	deg	2.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Potentiometer	Rieker	DS-1905226	2025-08-08	2026-08-08
Load Cell	Interface	1134516	2025-02-26	2026-02-26

Force vs. Displacement



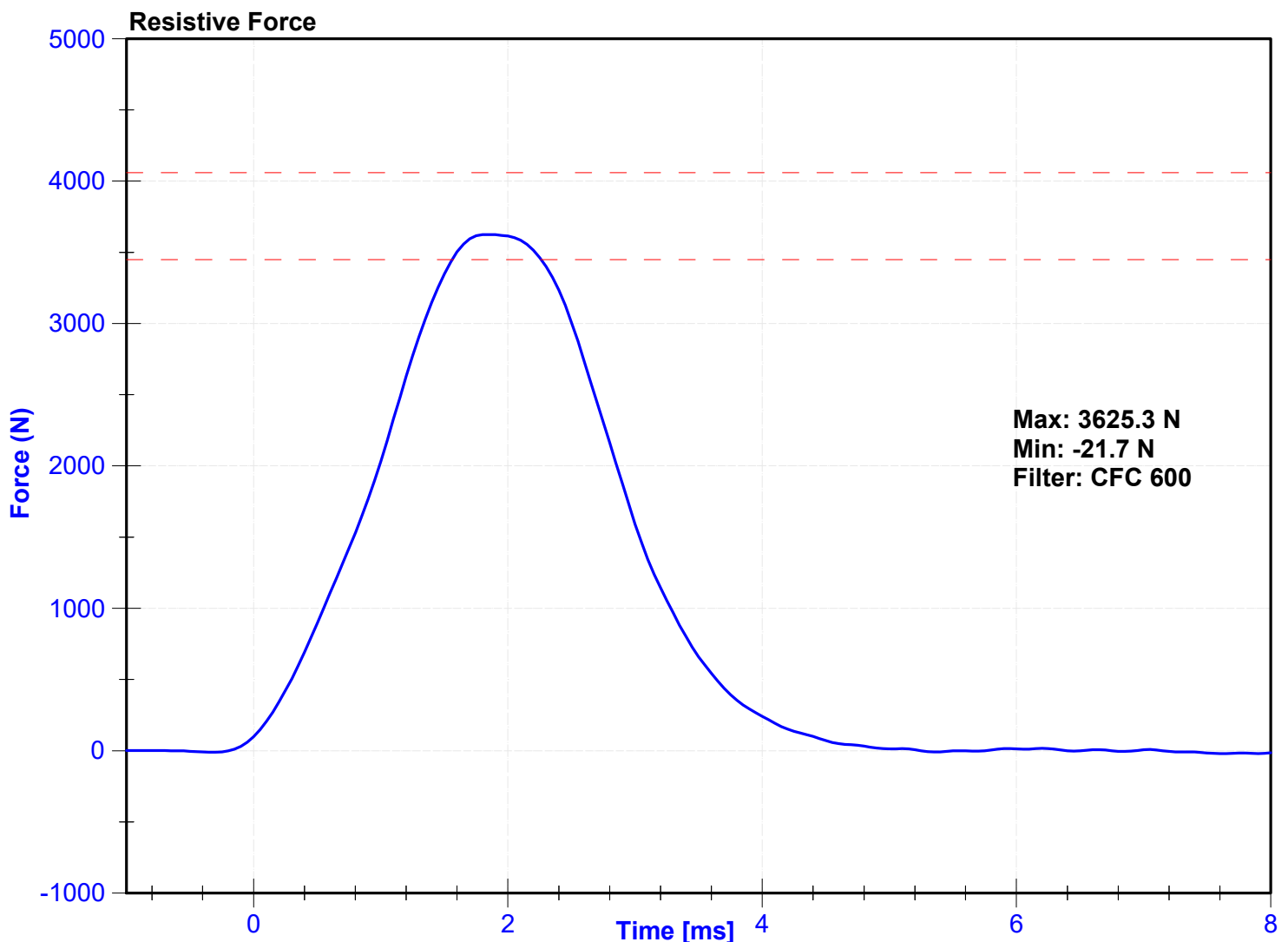
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

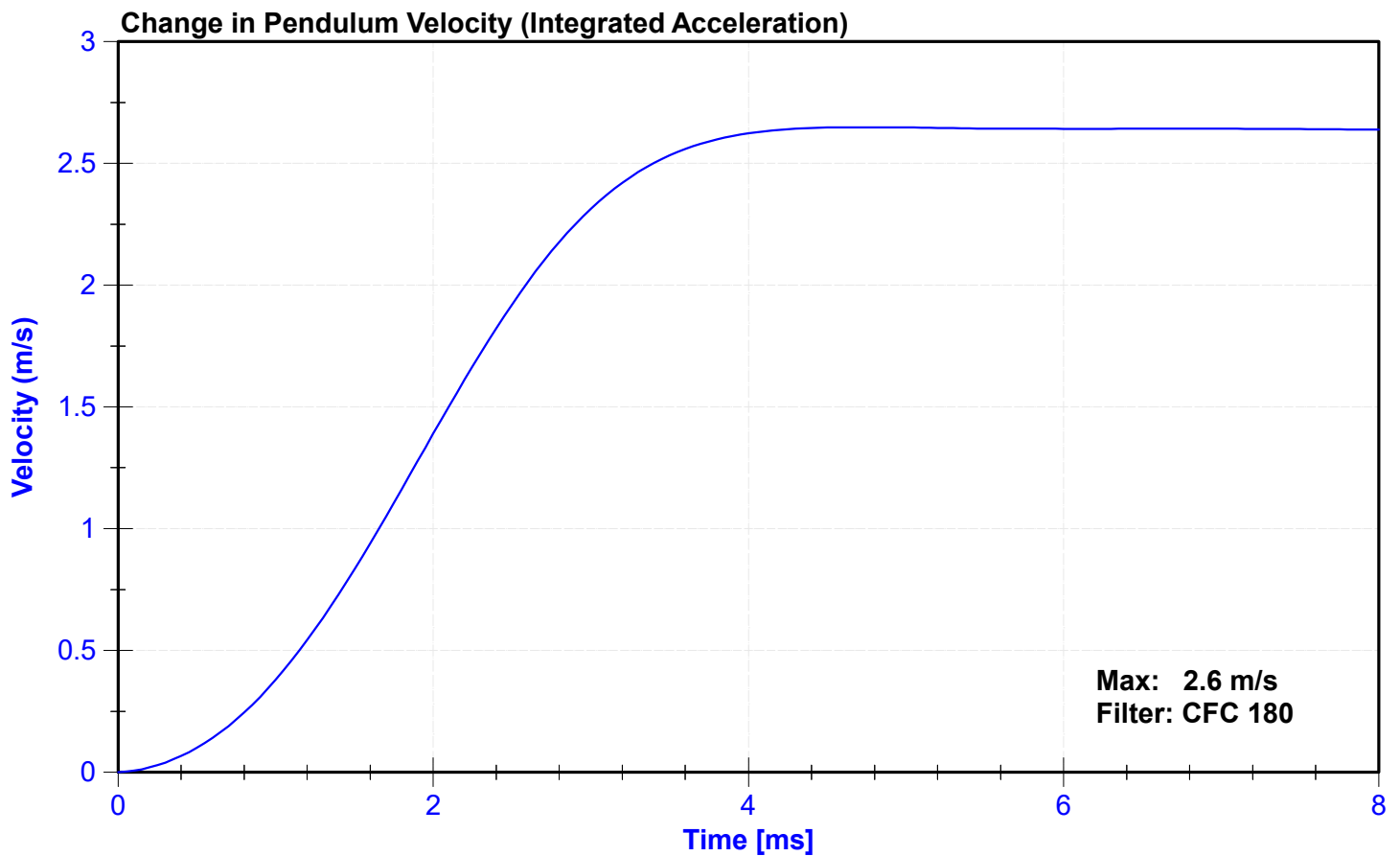
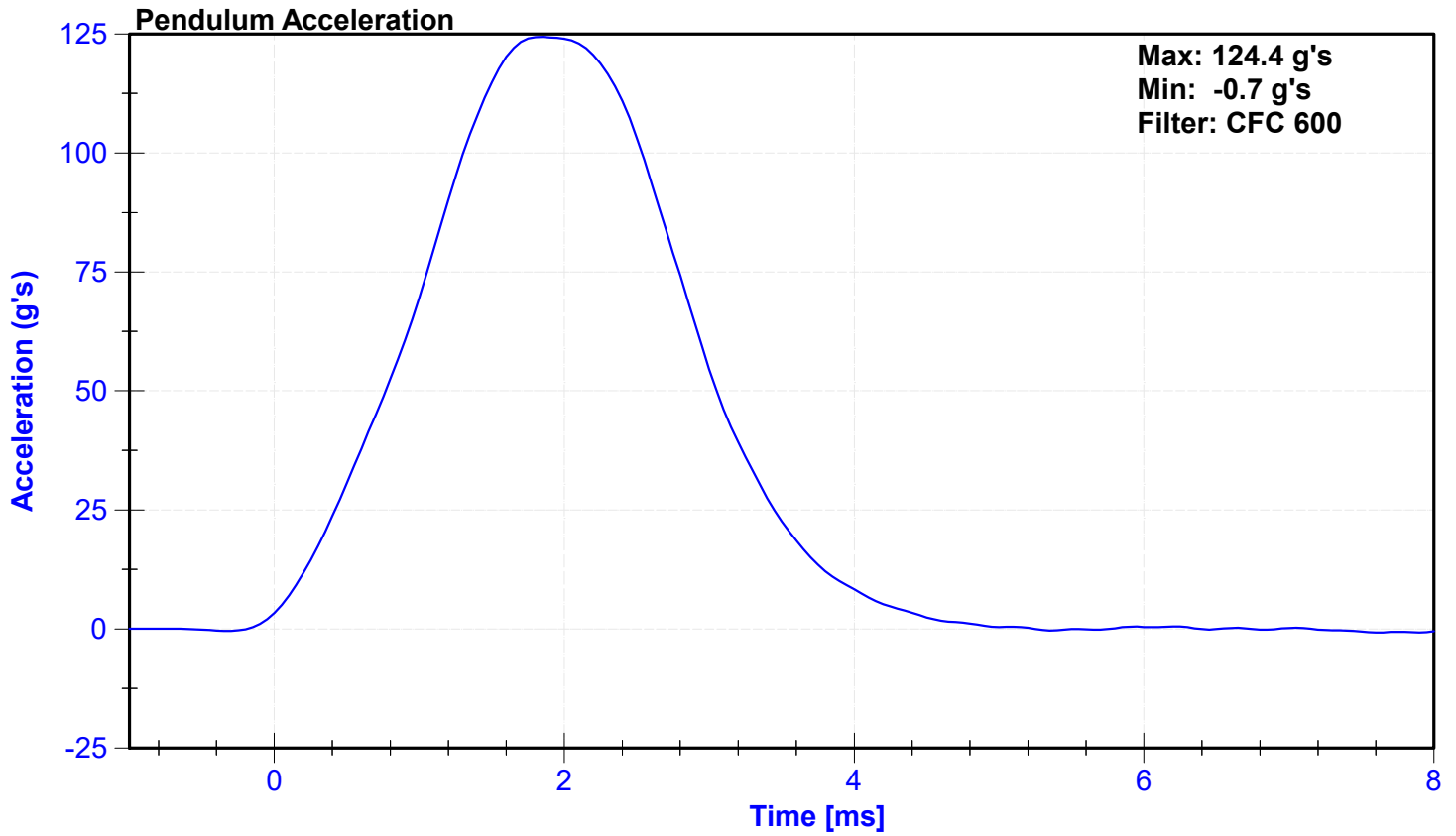
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	2.07	2.13	m/s	2.108	Pass
Resistive Force	3450	4060	N	3625.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	T25863	1/17/2025	1/17/2026





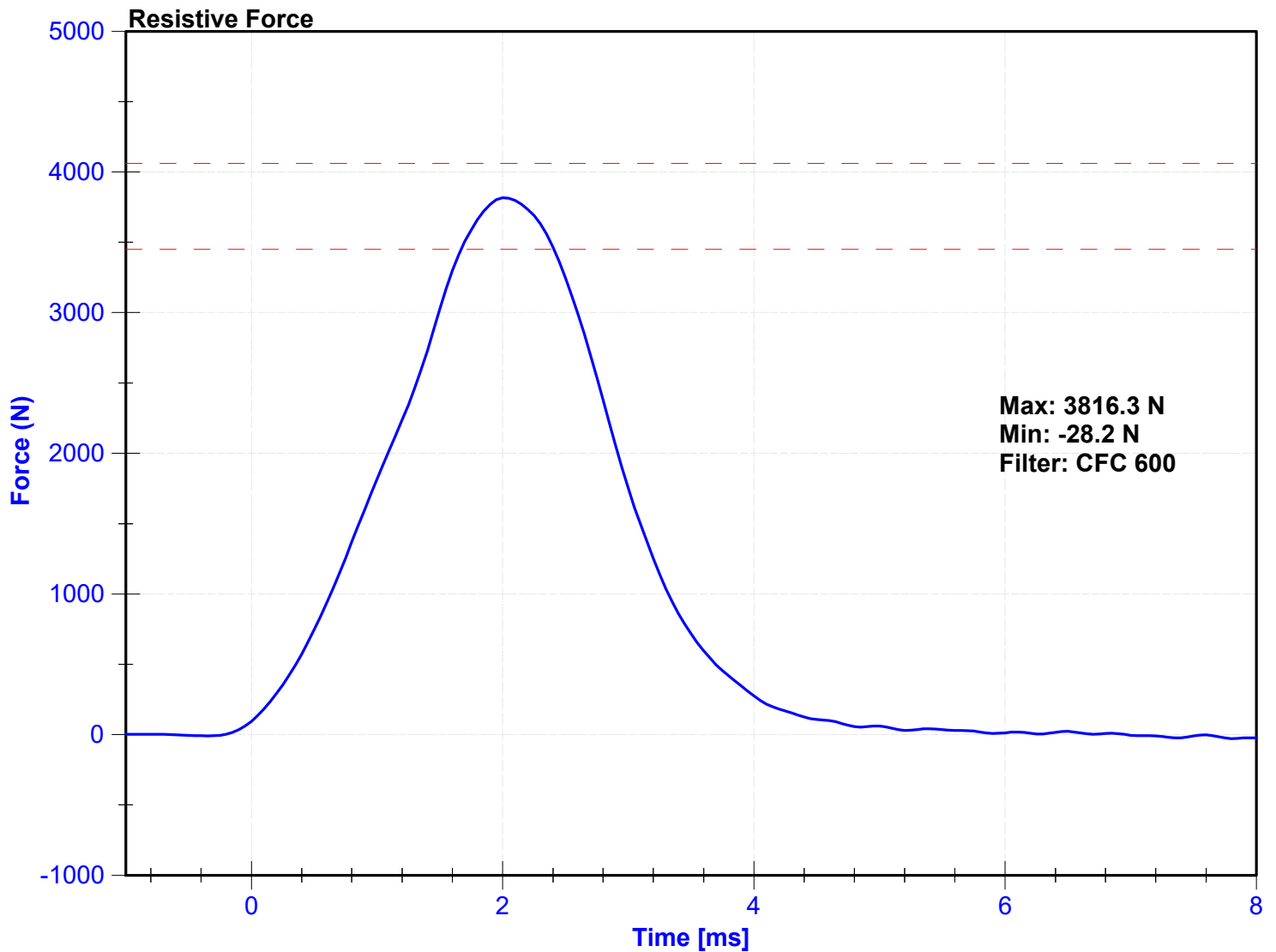
ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

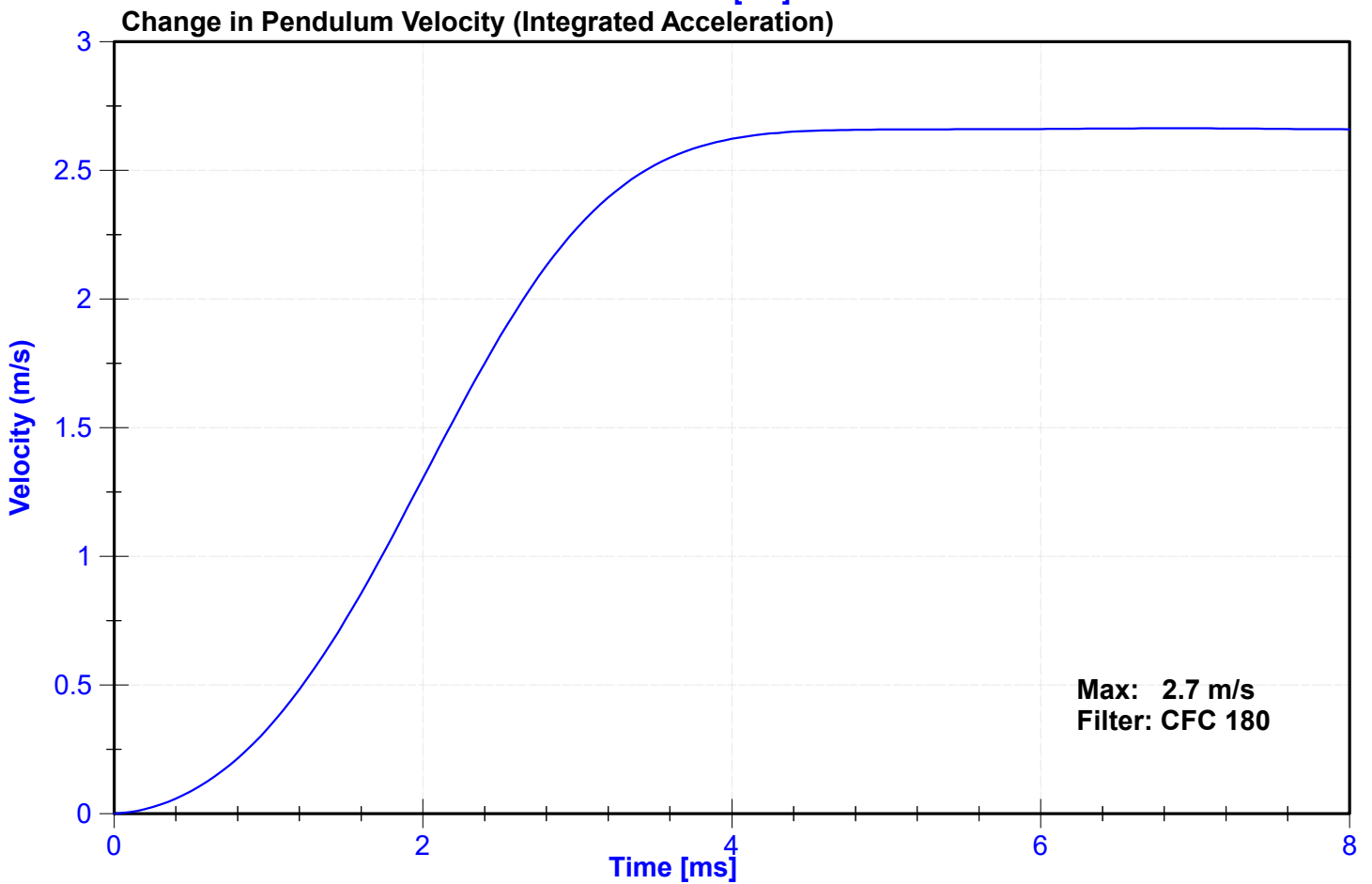
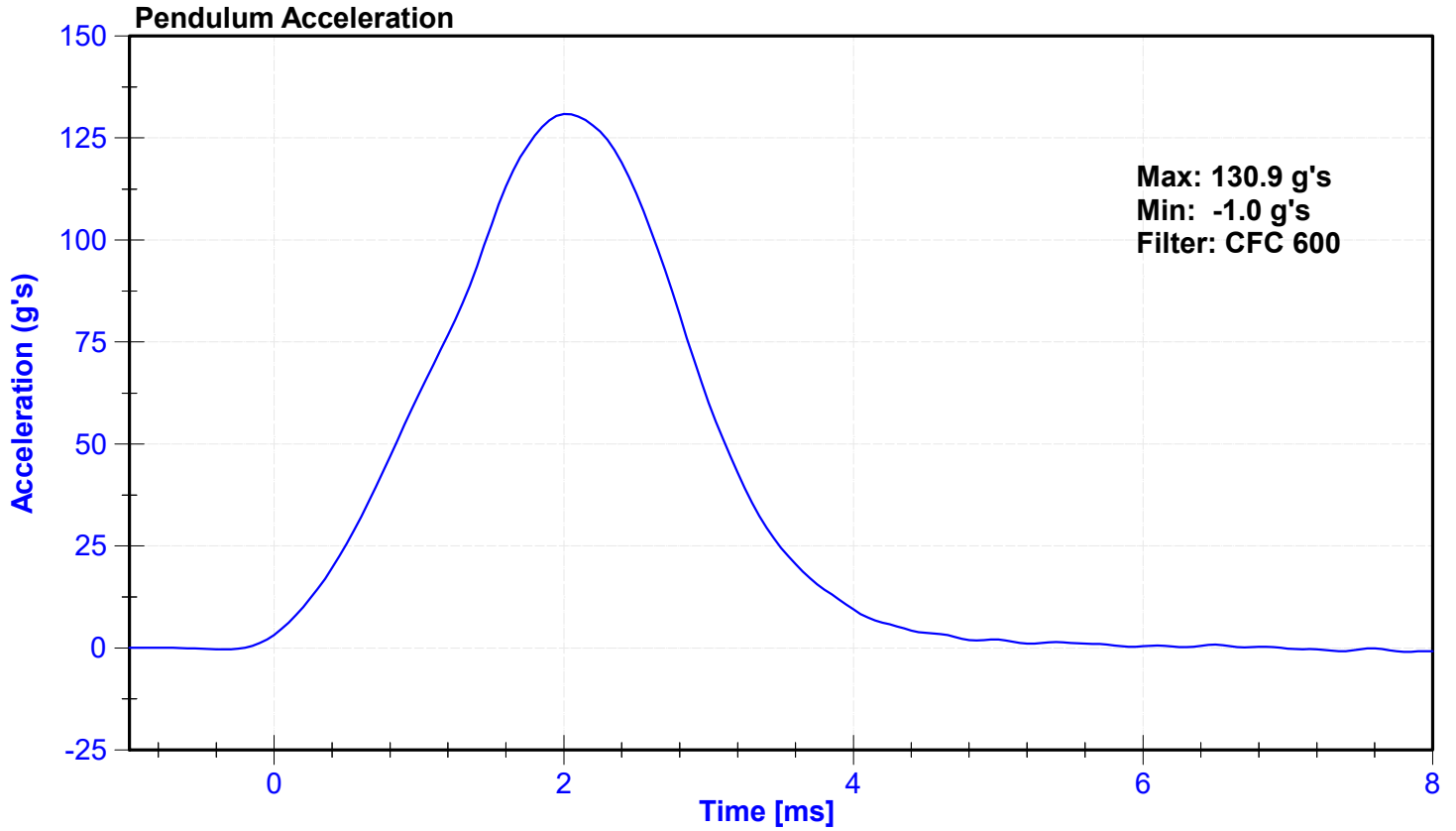
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	2.07	2.13	m/s	2.109	Pass
Resistive Force	3450	4060	N	3816.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	T25863	1/17/2025	1/17/2026





CALIBRATION TEST RESULTS

POST-TEST

HYBRID III 50TH PERCENTILE MALE - DRIVER ATD

SERIAL NO: 065

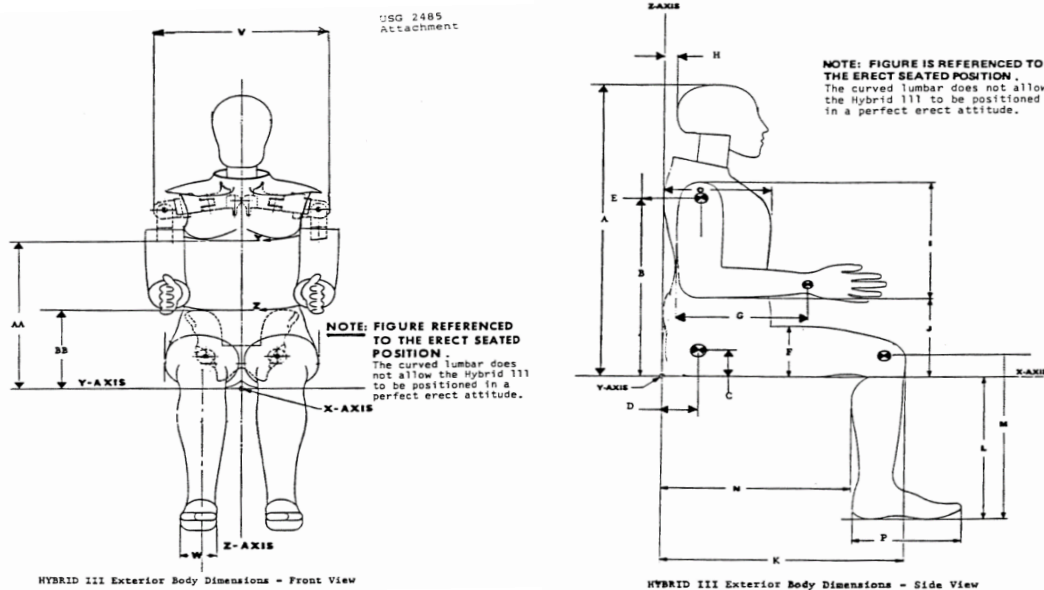


External Measurements - Hybrid 3 - 50th Male

Technician: J. Rios

Date: 12/29/2025

Dummy Serial Number: 065



Symbol	Description	Specification (in)		Result (in)	Pass/Fail
A	Sitting Height	34.6	35.0	34.8	Pass
B	Shoulder Pivot Height	19.9	20.5	20.3	Pass
C	H-Point Height	3.3	3.5	3.5	Pass
D	H-Point from Backline	5.3	5.5	5.4	Pass
E	Shoulder Pivot from Backline	3.3	3.7	3.6	Pass
F	Thigh Clearance	5.5	6.1	5.8	Pass
G	Back of Elbow to Wrist Pivot	11.4	12.0	11.6	Pass
H	Head Back to Backline	1.6	1.8	1.6	Pass
I	Shoulder to Elbow Length	13.0	13.6	13.3	Pass
J	Elbow Rest Height	7.5	8.3	7.9	Pass
K	Buttock to Knee Length	22.8	23.8	23.1	Pass
L	Popliteal Height	16.9	17.9	17.3	Pass
M	Knee Pivot Height	19.1	19.7	19.4	Pass
N	Buttock Popliteal Length	17.8	18.8	18.2	Pass
O	Chest Depth without Jacket	8.4	9.0	8.6	Pass
P	Foot Length (right)	9.9	10.5	10.1	Pass
V	Shoulder Breadth	16.3	17.2	16.6	Pass
W	Foot Breadth	3.6	4.2	3.8	Pass
Y	Chest Circumference with Jacket	38.2	39.4	38.9	Pass
Z	Waist Circumference	32.9	34.1	33.7	Pass
AA	Reference Location (Chest Circumference)	16.9	17.1	17.0	Pass
BB	Reference Location (Waist Circumference)	8.9	9.1	9.0	Pass

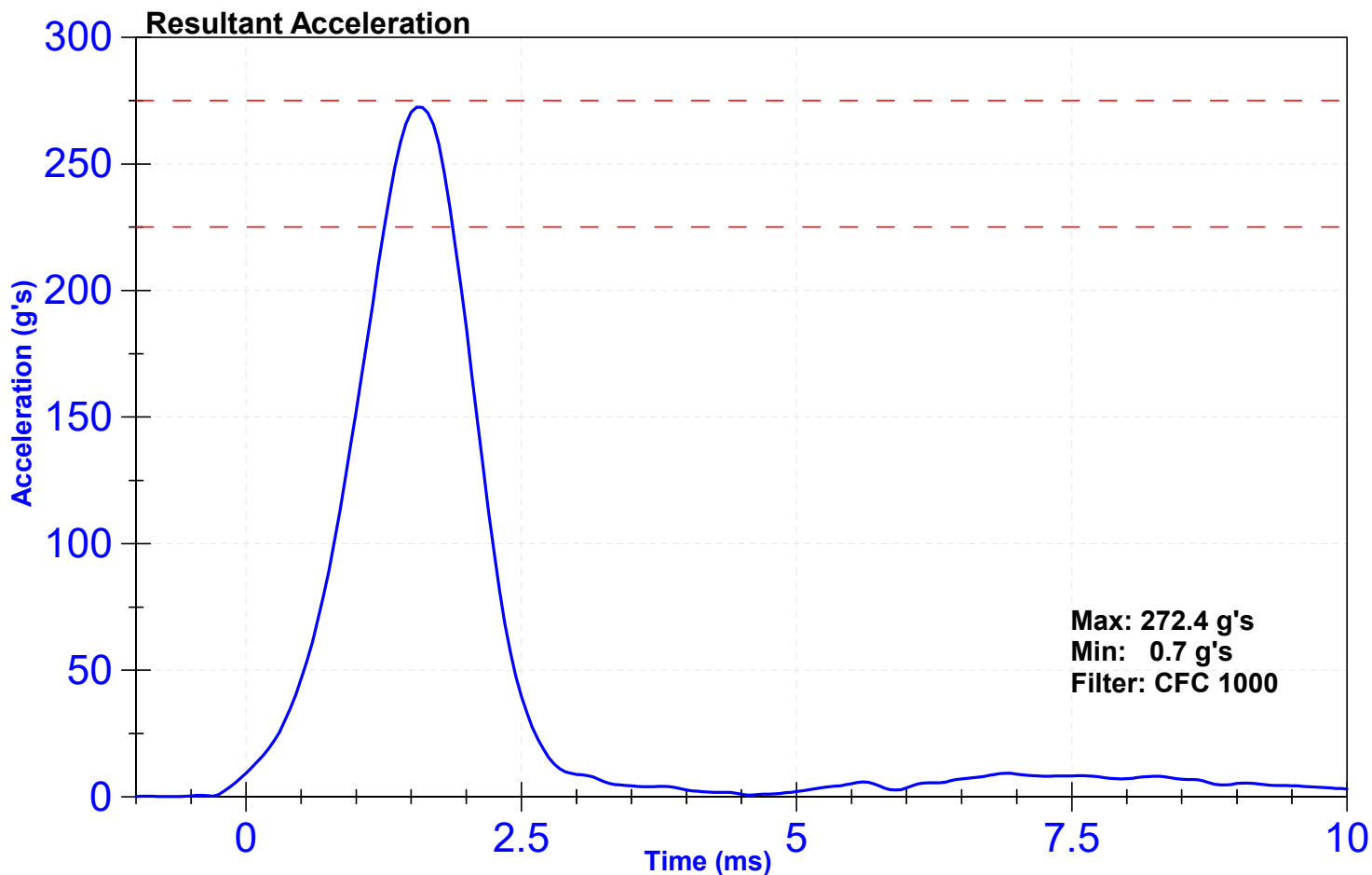
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

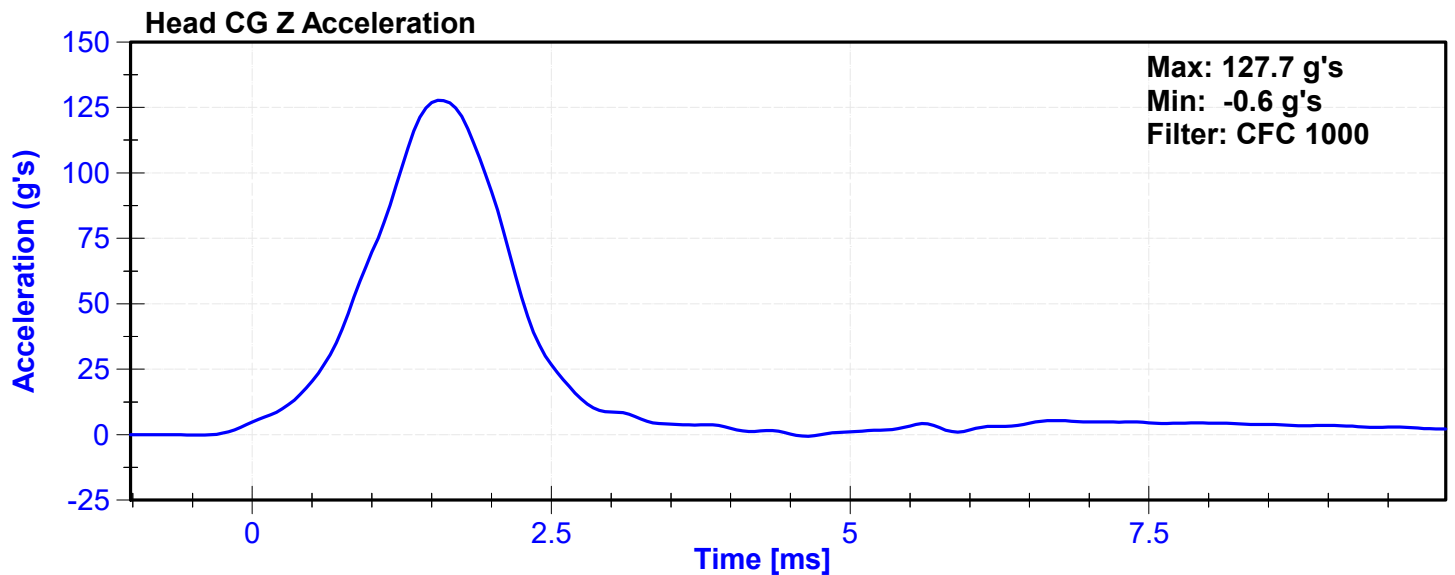
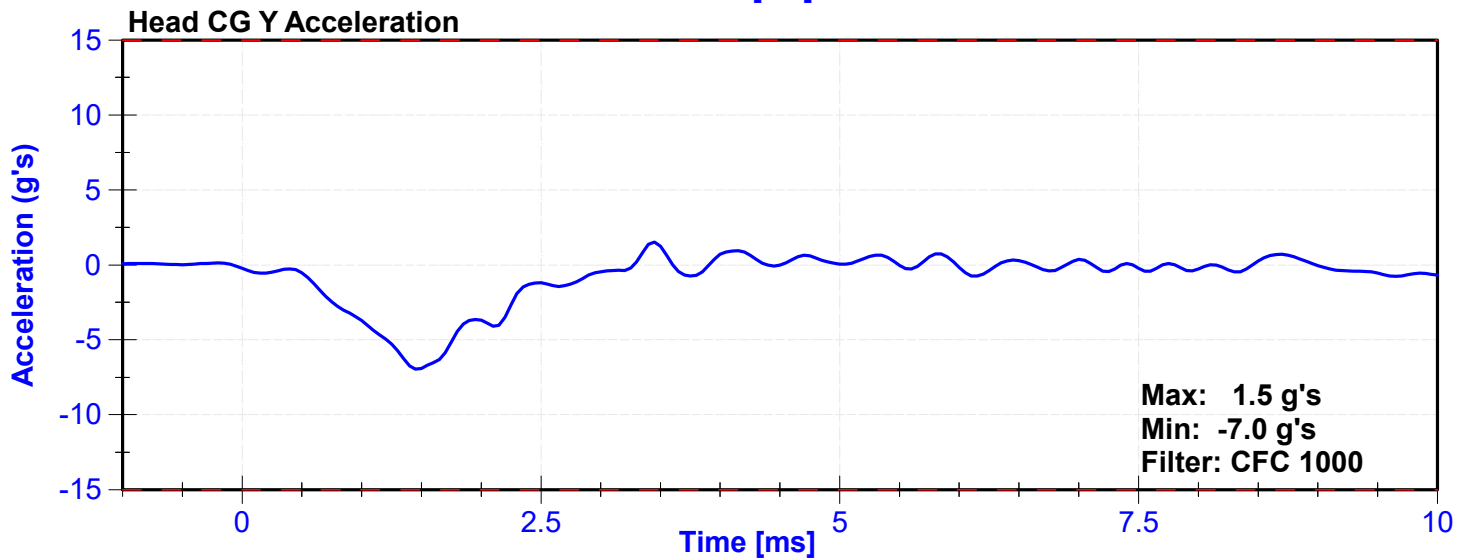
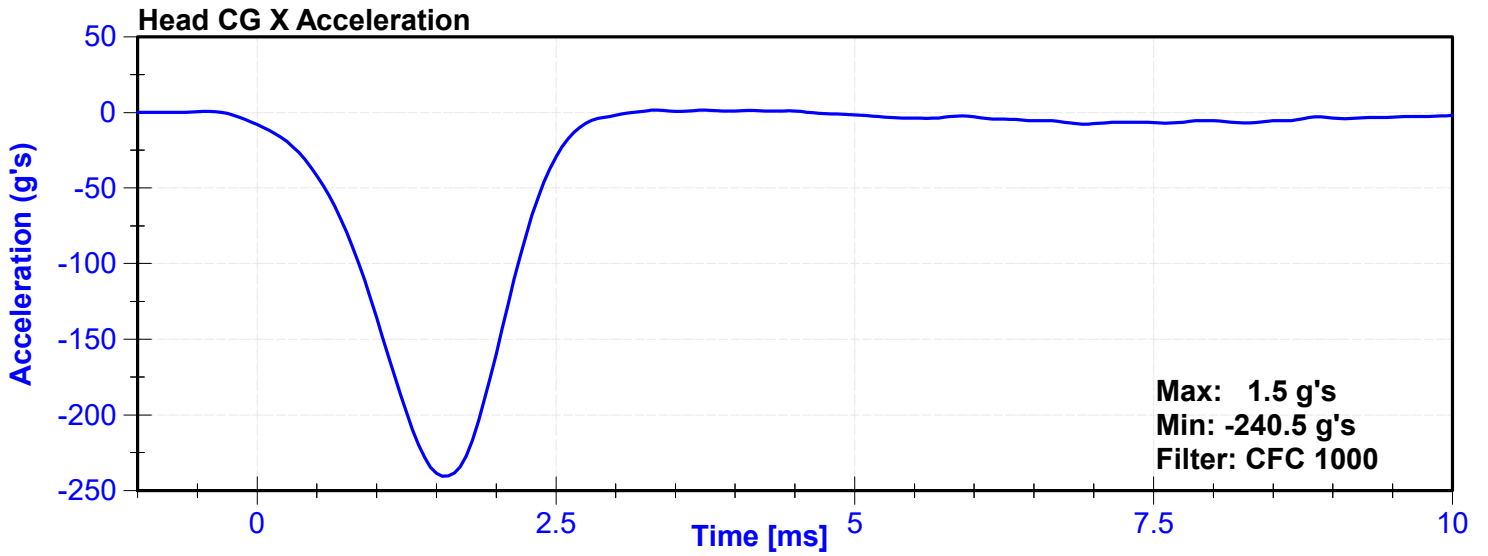
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Resultant Acceleration	225	275	g's	272.4	Pass
Oscillation	0	10	%	3.4	Pass
Lateral Acceleration	-15	15	g's	-7.0	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	Endevco	P52152	12/9/2025	6/7/2026
Y Accelerometer	Endevco	P58888	12/9/2025	6/7/2026
Z Accelerometer	Endevco	P58911	12/9/2025	6/7/2026





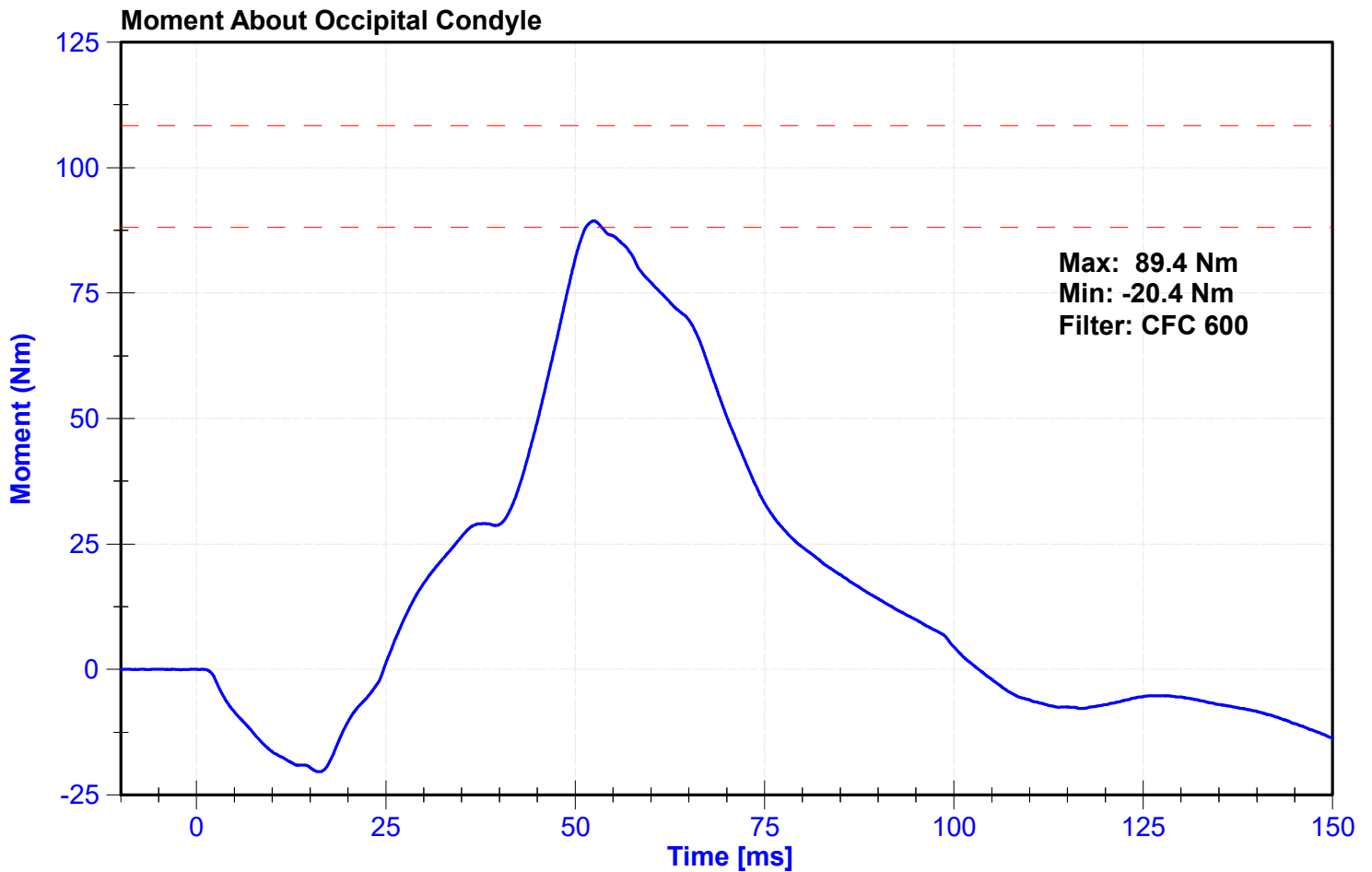
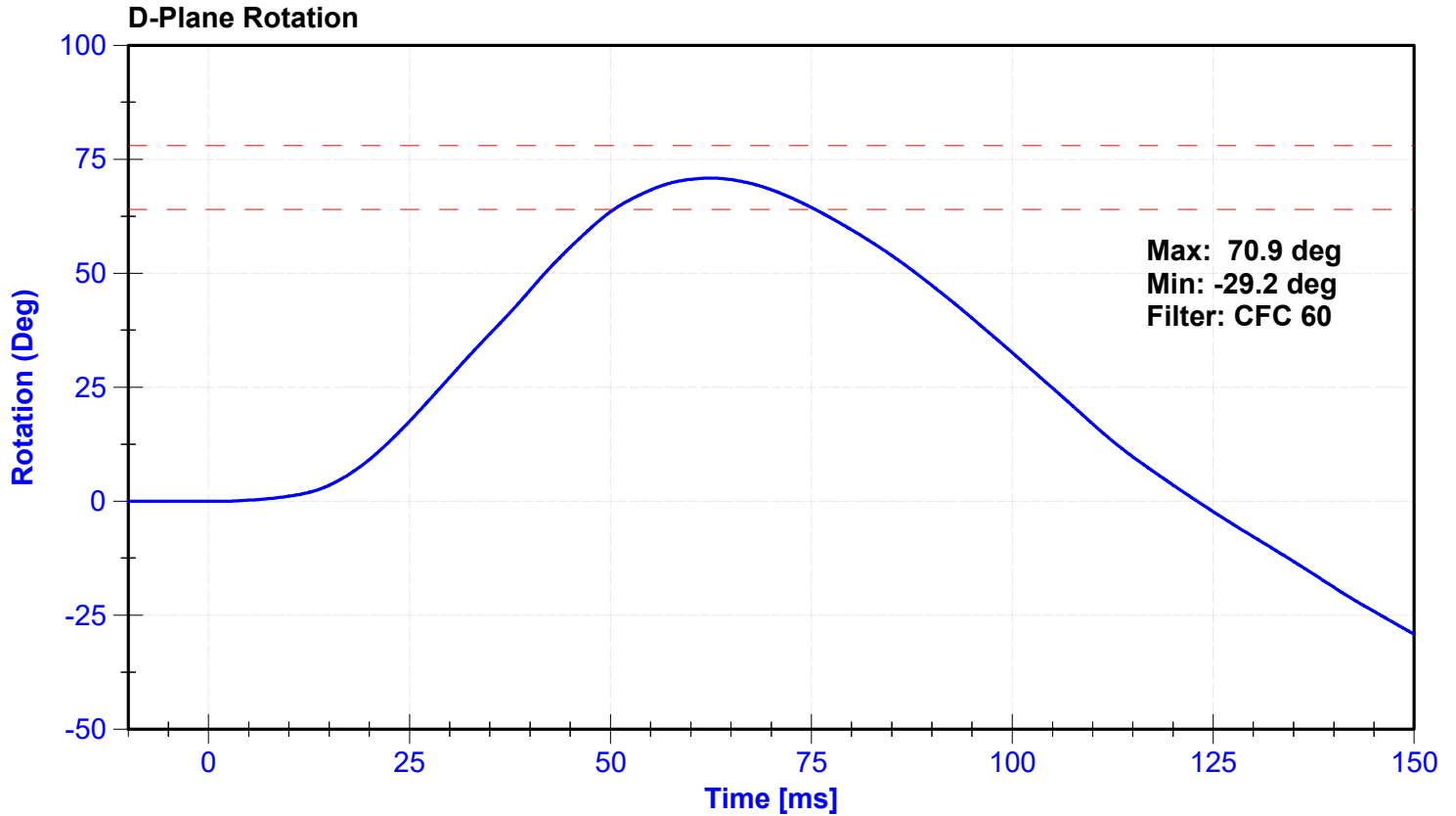
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

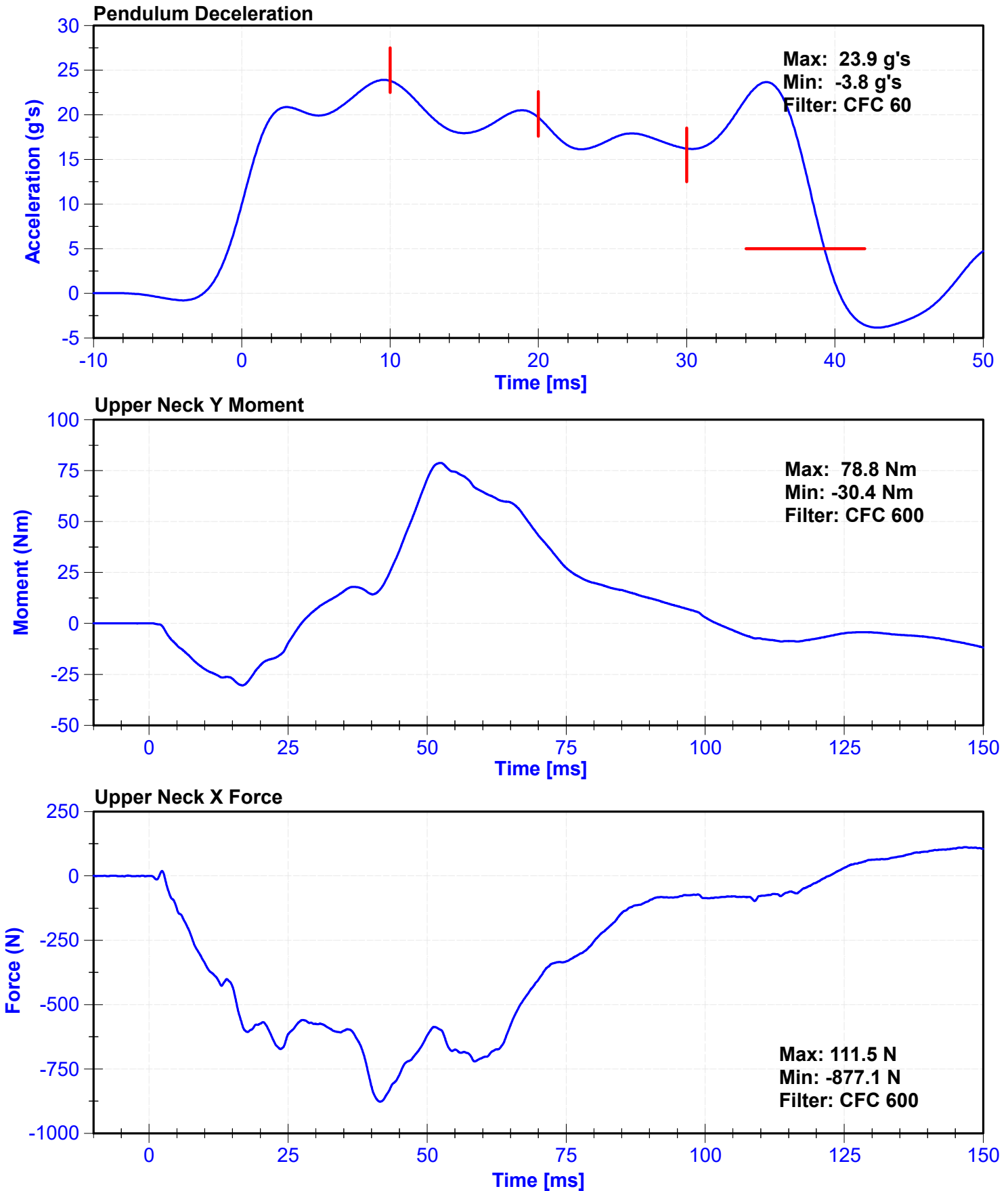
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	22	Pass
Velocity	6.89	7.13	m/s	6.960	Pass
Pendulum Deceleration at 10ms	22.5	27.5	g's	23.80	Pass
Pendulum Deceleration at 20ms	17.6	22.6	g's	19.69	Pass
Pendulum Deceleration at 30ms	12.5	18.5	g's	16.22	Pass
Max. Pendulum Deceleration After 30ms	0	29	g's	23.9	Pass
Pendulum Deceleration Time to 5 g's	34	42	ms	39.3	Pass
Maximum D Plane Rotation	64	78	deg	70.9	Pass
Time to Maximum Rotation	57	64	ms	62.5	Pass
Rotation Decay to Zero	113	127	ms	123.1	Pass
Moment About Occipital Condyle	88.1	108.4	Nm	89.40	Pass
Time to Maximum Moment	47	58	ms	52.5	Pass
Moment Decay to Zero	97	107	ms	103.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/21/2025	10/21/2026
Pendulum Potentiometer	ETI	LABPOT1	5/14/2025	5/14/2026
Condyle Potentiometer	ETI	LABPOT2	5/14/2025	5/14/2026
Upper Neck Load Cell	Denton	2207-FX	7/7/2025	7/7/2026





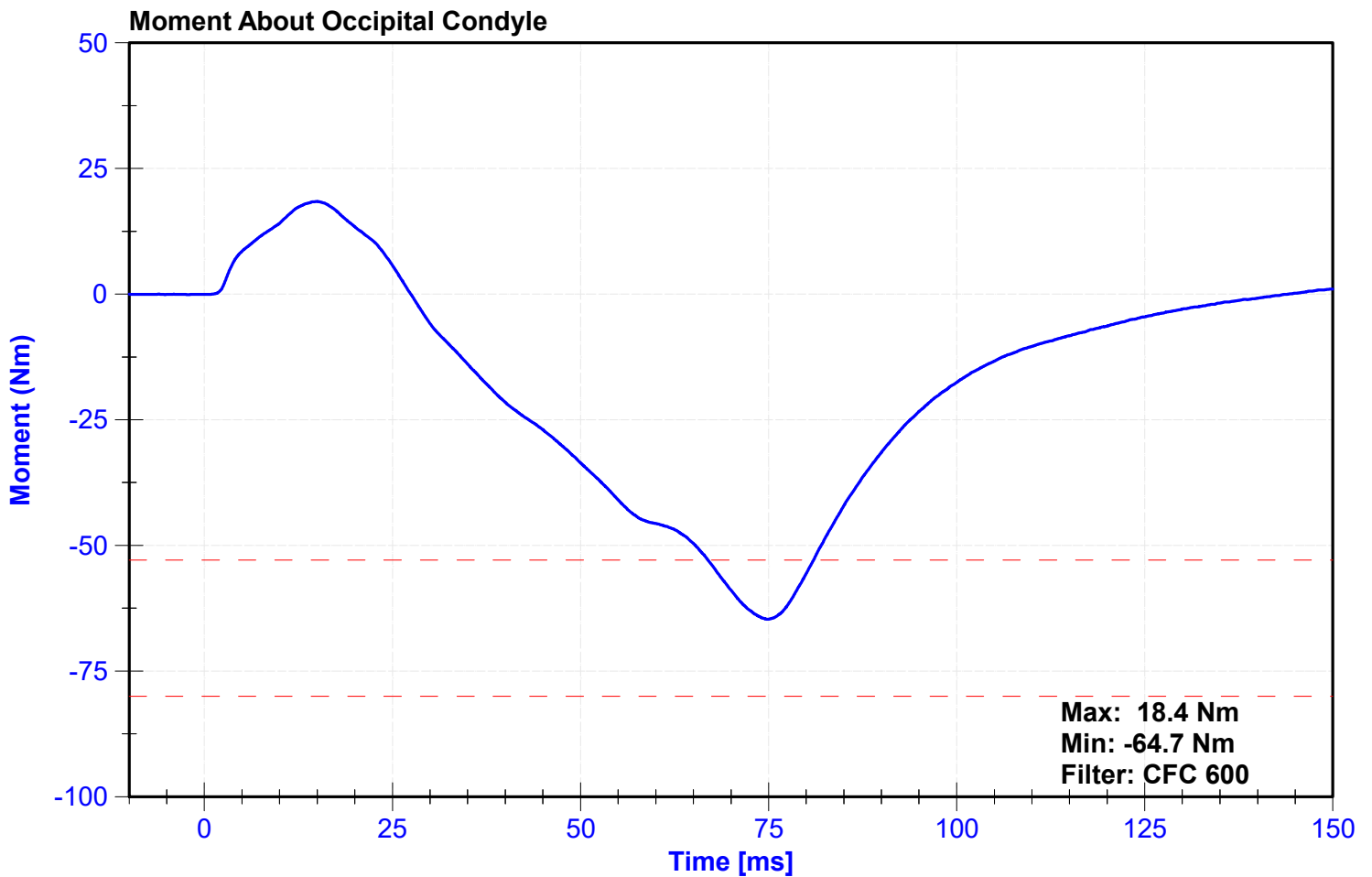
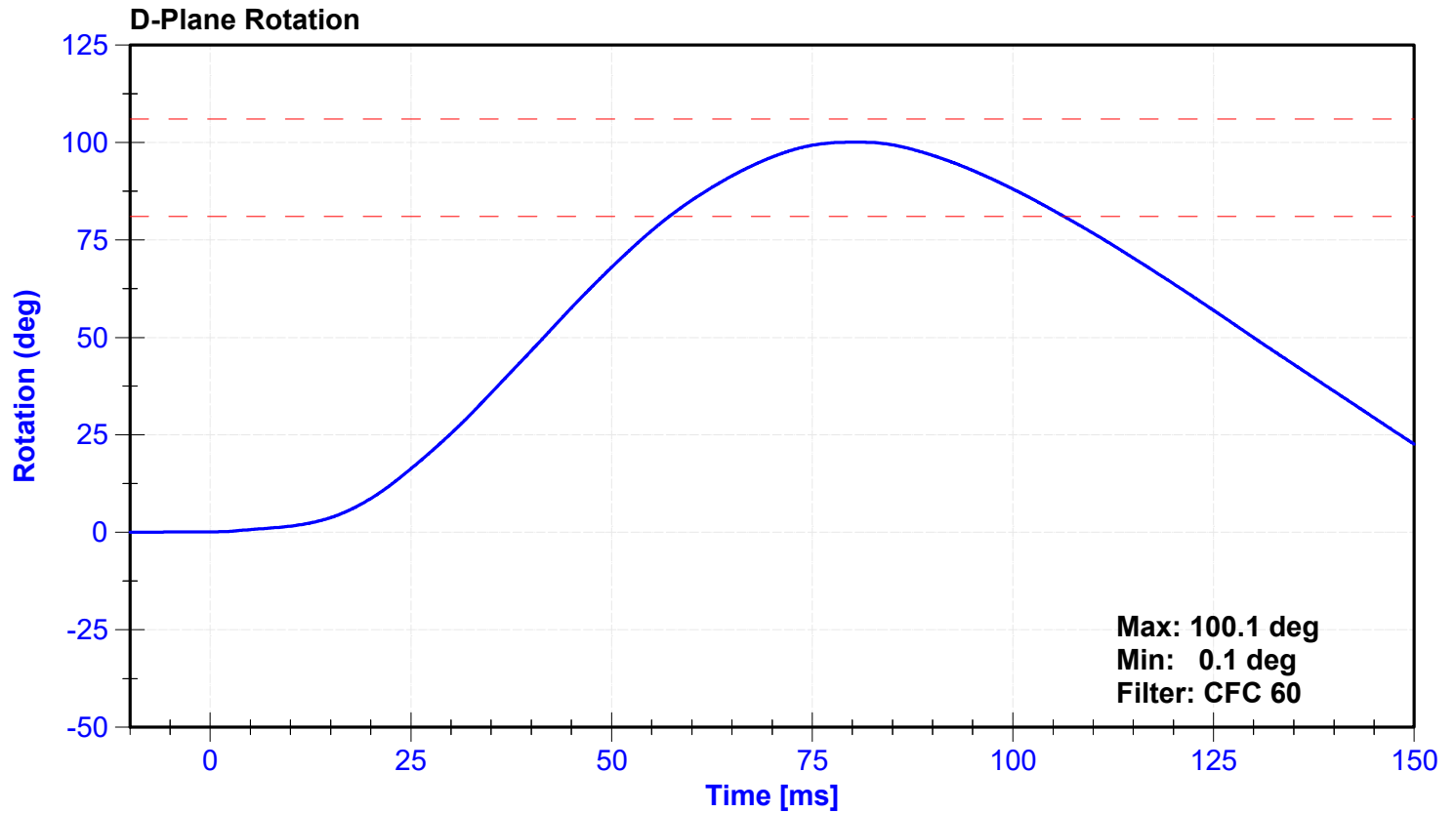
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

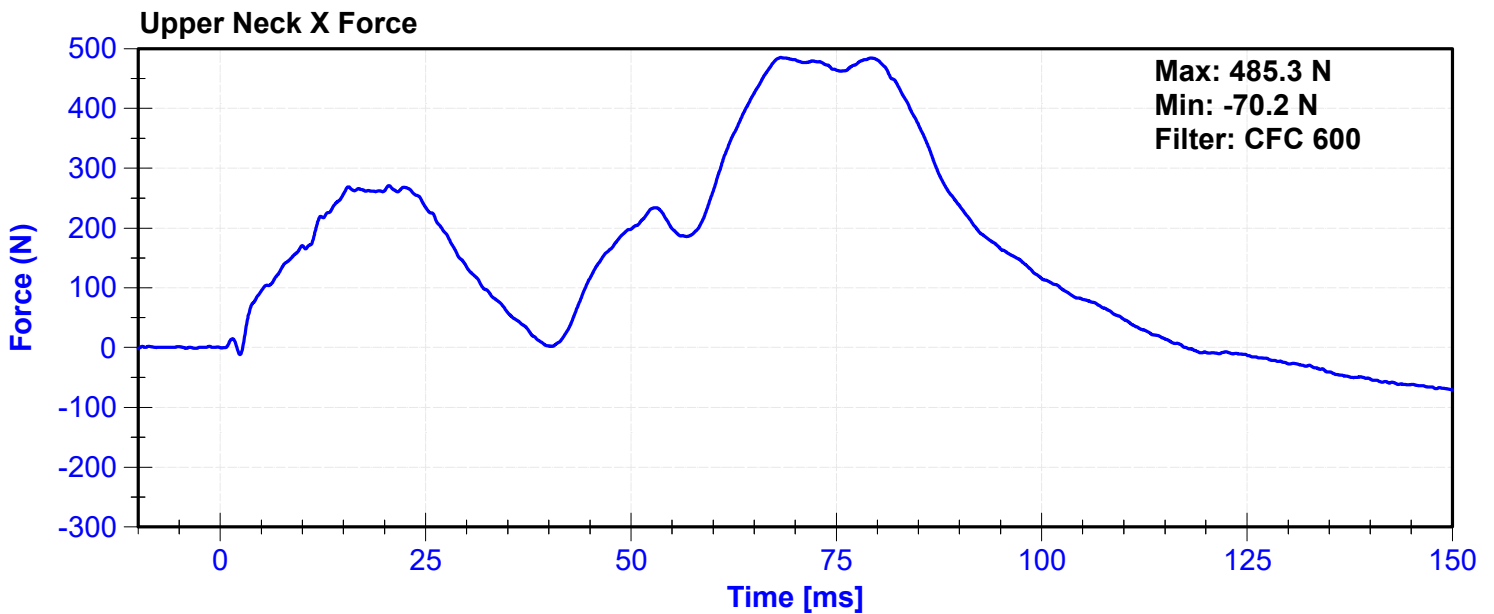
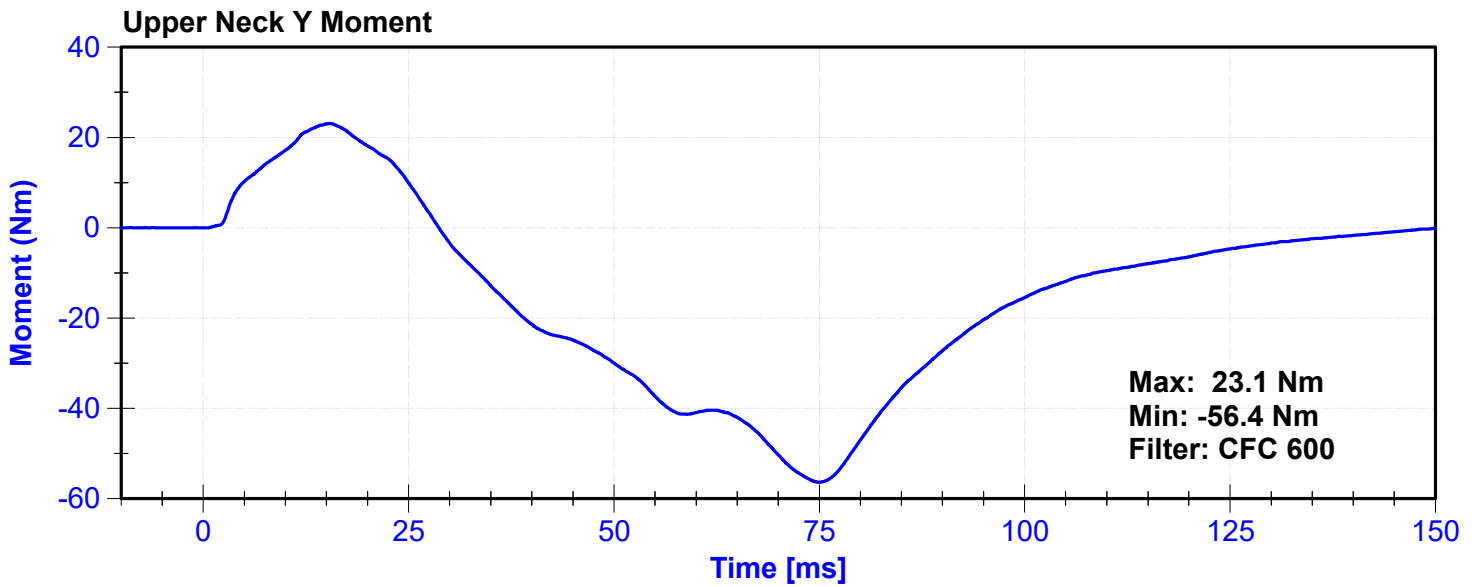
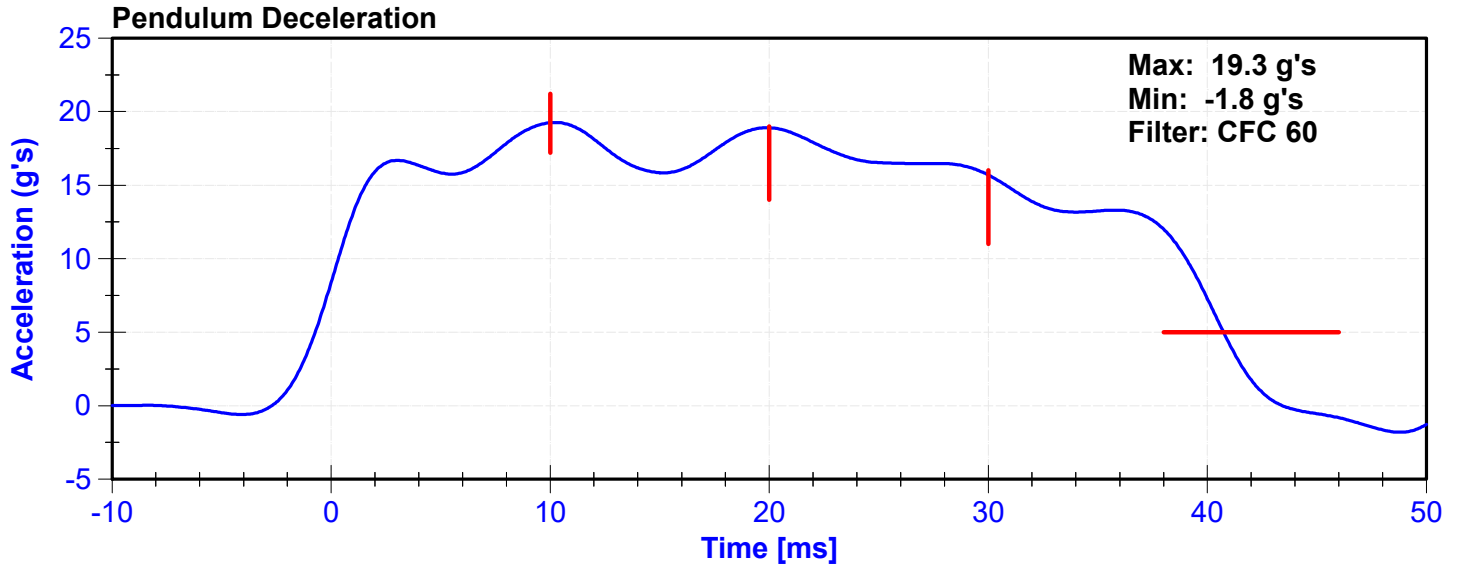
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	22	Pass
Velocity	5.94	6.19	m/s	6.005	Pass
Pendulum Deceleration at 10ms	17.2	21.2	g's	19.25	Pass
Pendulum Deceleration at 20ms	14	19	g's	18.9	Pass
Pendulum Deceleration at 30ms	11	16	g's	15.7	Pass
Max. Pendulum Deceleration After 30ms	0	22	g's	19.3	Pass
Pendulum Deceleration Time to 5 g's	38	46	ms	40.7	Pass
Maximum D Plane Rotation	81	106	deg	100.1	Pass
Time to Maximum Rotation	72	82	ms	80.4	Pass
Rotation Decay to Zero	147	174	ms	166.9	Pass
Minimum Moment About OC	-80	-52.9	Nm	-64.66	Pass
Time to Minimum Moment	65	79	ms	74.9	Pass
Moment Decay to Zero	120	148	ms	143.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/21/2025	10/21/2026
Pendulum Potentiometer	ETI	SP22G_LABPOT1	5/14/2025	5/14/2026
Condyle Potentiometer	ETI	SP22G_LABPOT2	5/14/2025	5/14/2026
Upper Neck Load Cell	Denton	2207-FX	7/7/2025	7/7/2026





ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

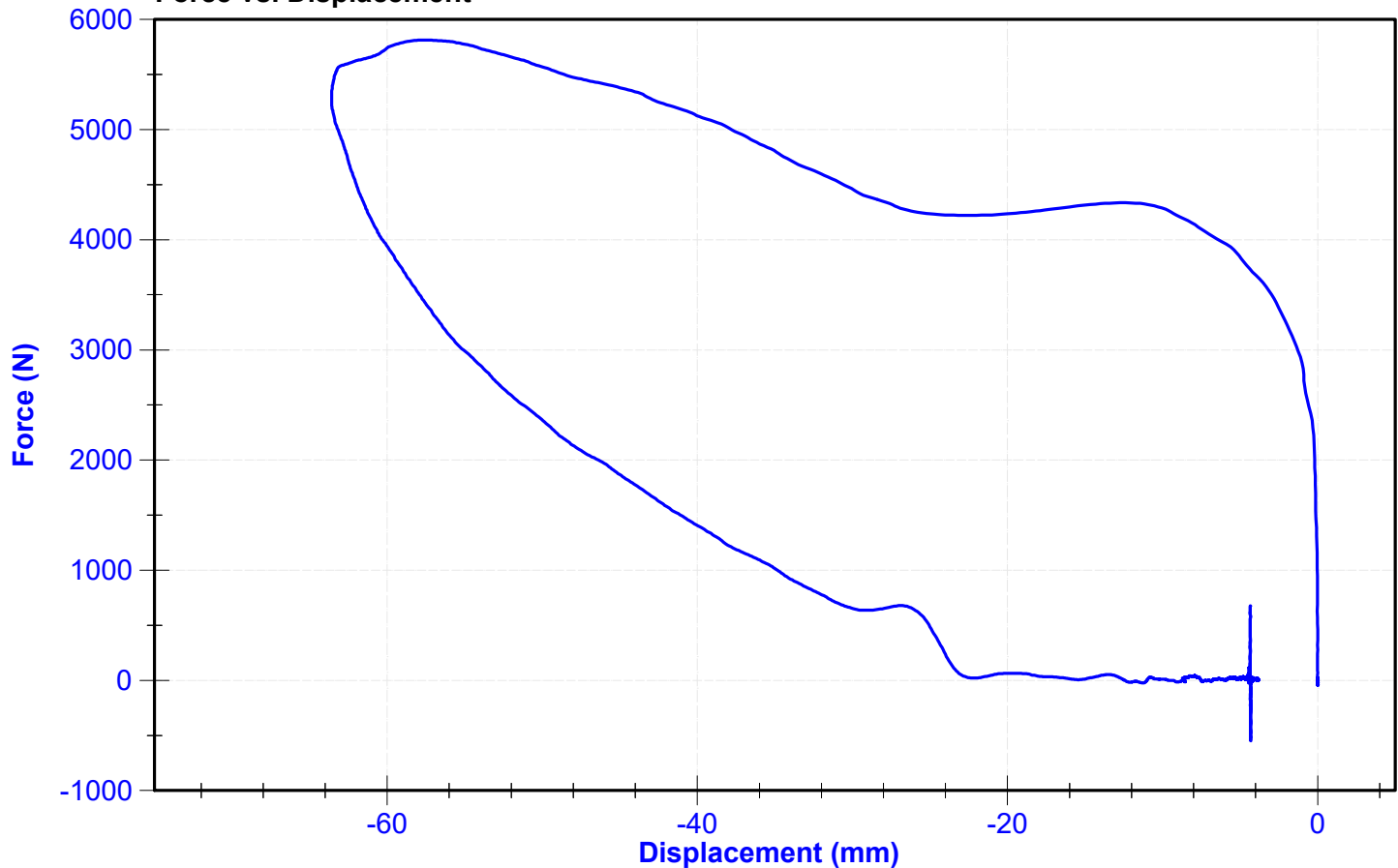
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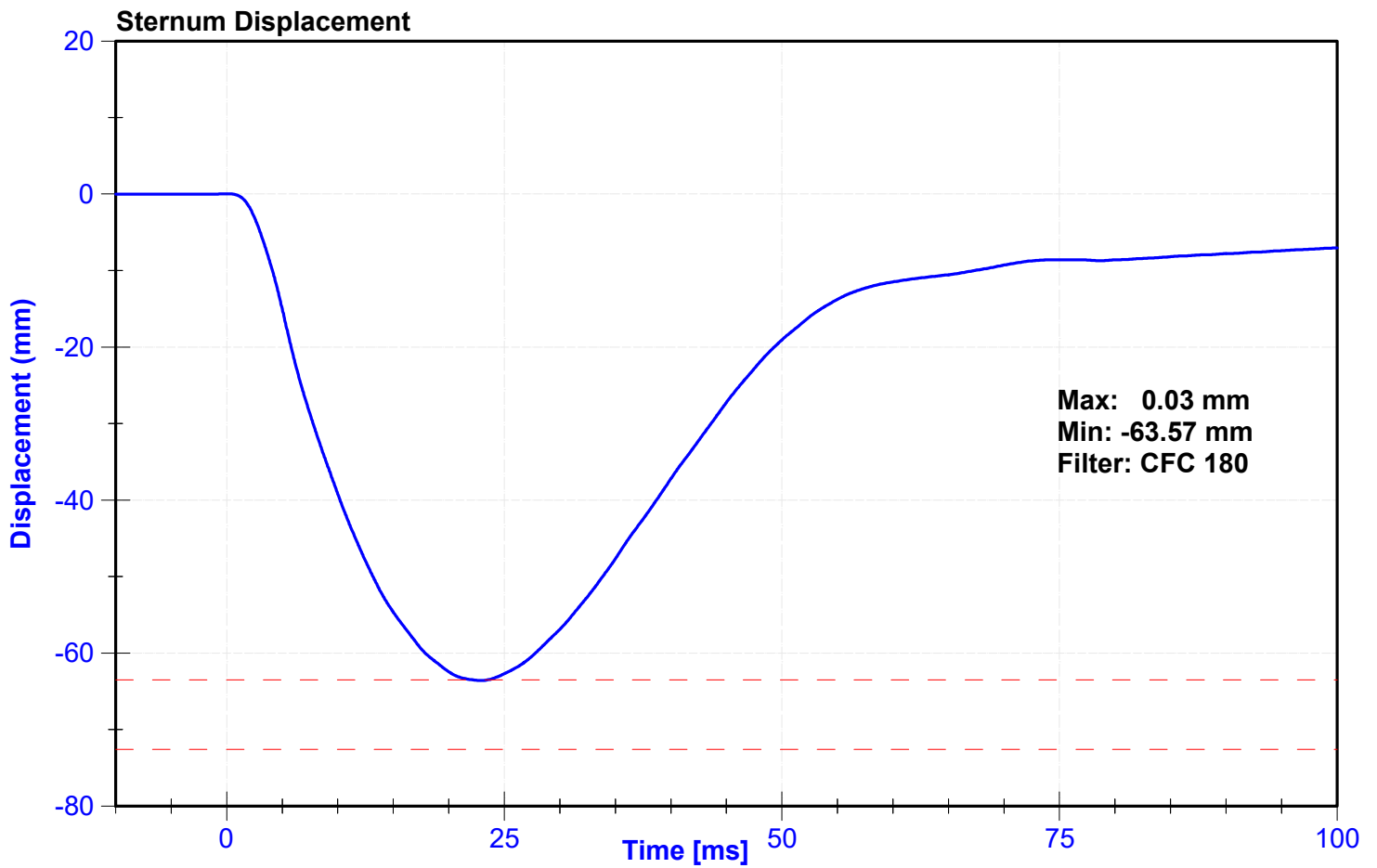
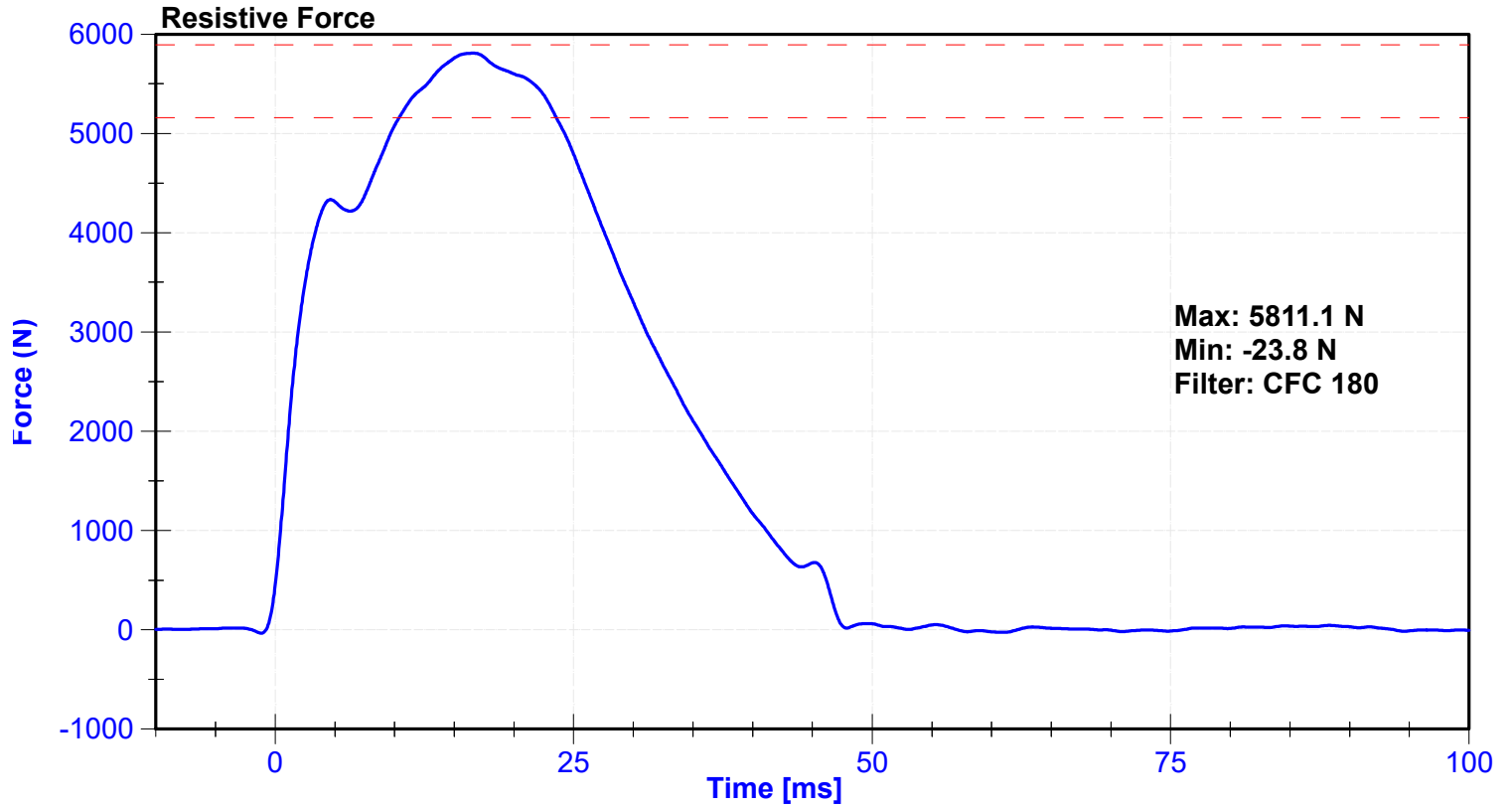
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	31	Pass
Velocity	6.59	6.83	m/s	6.717	Pass
Chest Displacement	-72.6	-63.5	mm	-63.57	Pass
Resistive Force	5160	5894	N	5811.1	Pass
Hysteresis	69	85	%	73.7	Pass

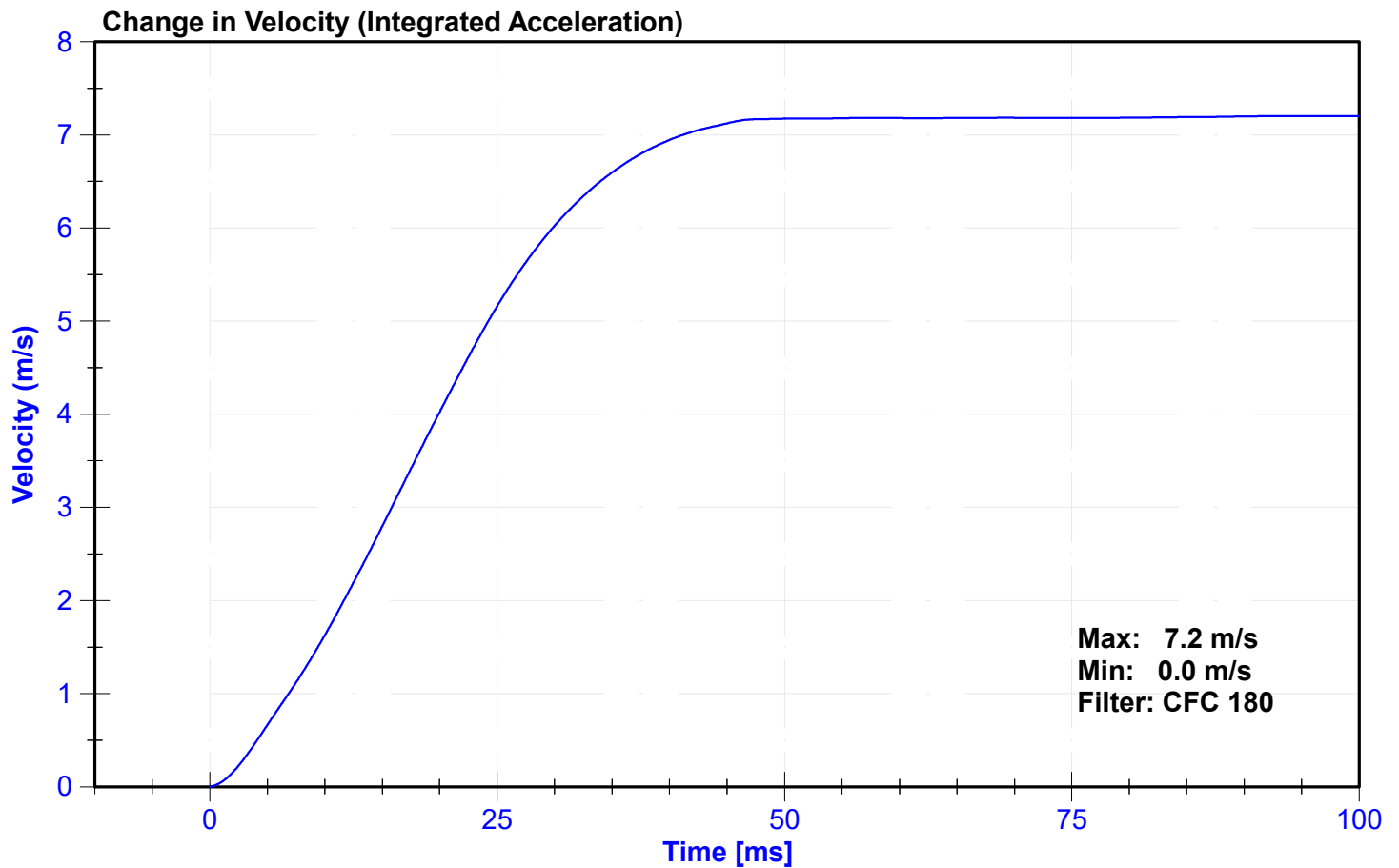
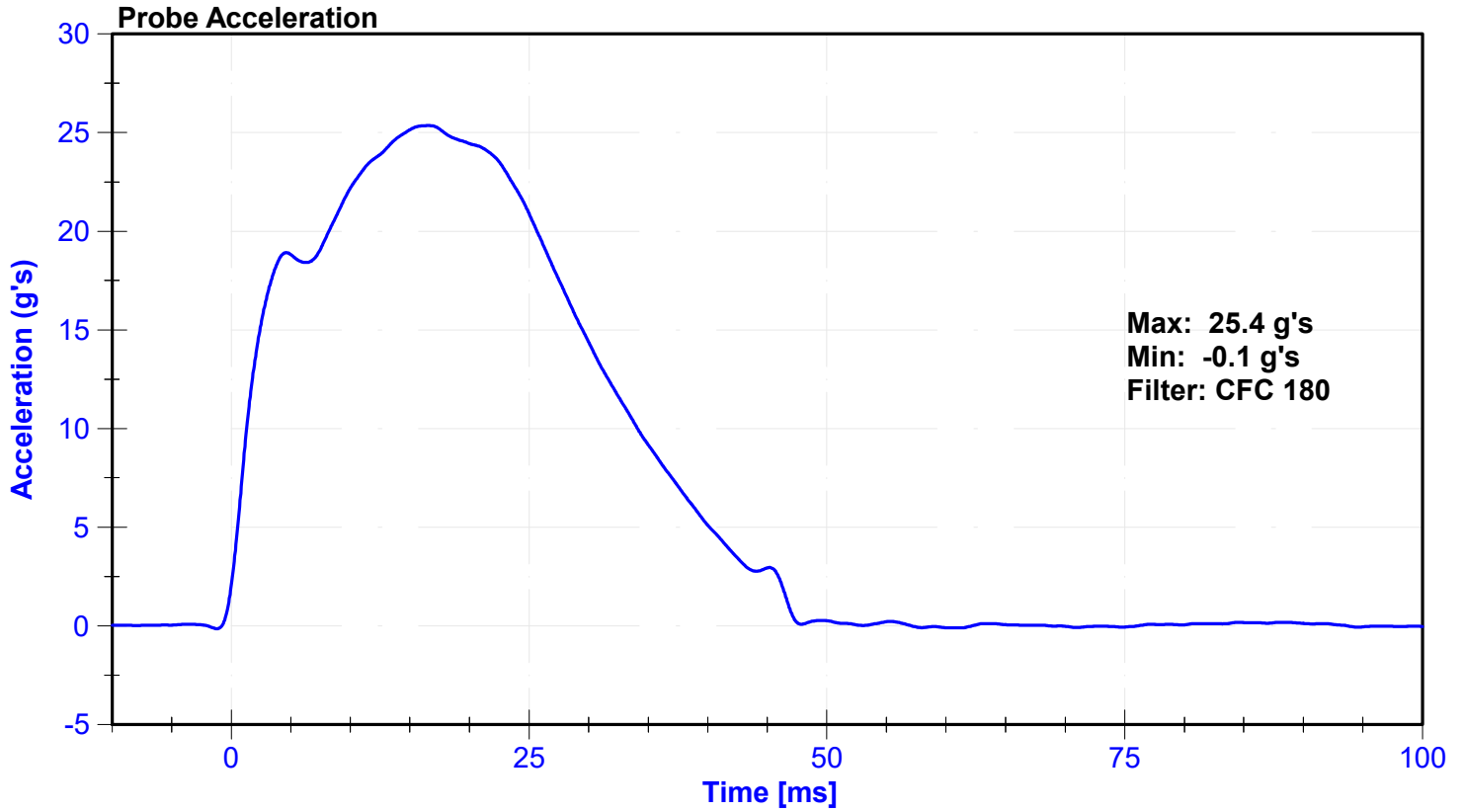
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	11/5/2025	5/4/2026
Chest Potentiometer	Servo	1046	12/9/2025	6/9/2026

Force vs. Displacement







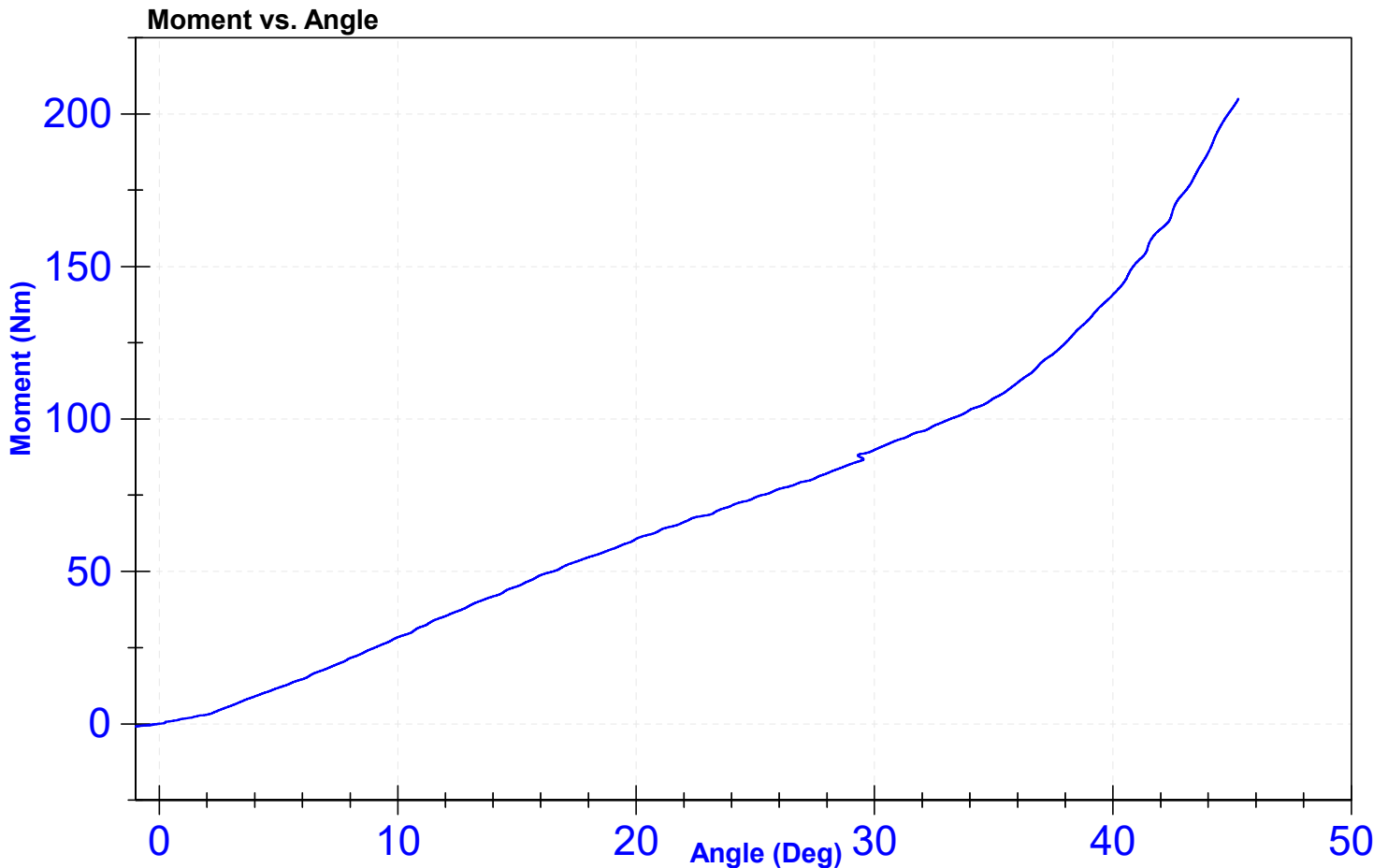
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.1	Pass
Humidity	10	70	%	21	Pass
Average Velocity	5	10	deg/s	7.4	Pass
Angle at 203Nm	40	50	deg	45.1	Pass
Moment at 30 degrees	0	94.9	Nm	89.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Potentiometer	ETI SP22	DS0008	9/29/2025	9/29/2026
Load Cell	PCB 2301-02A	694	2025-04-10	2026-04-10



ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

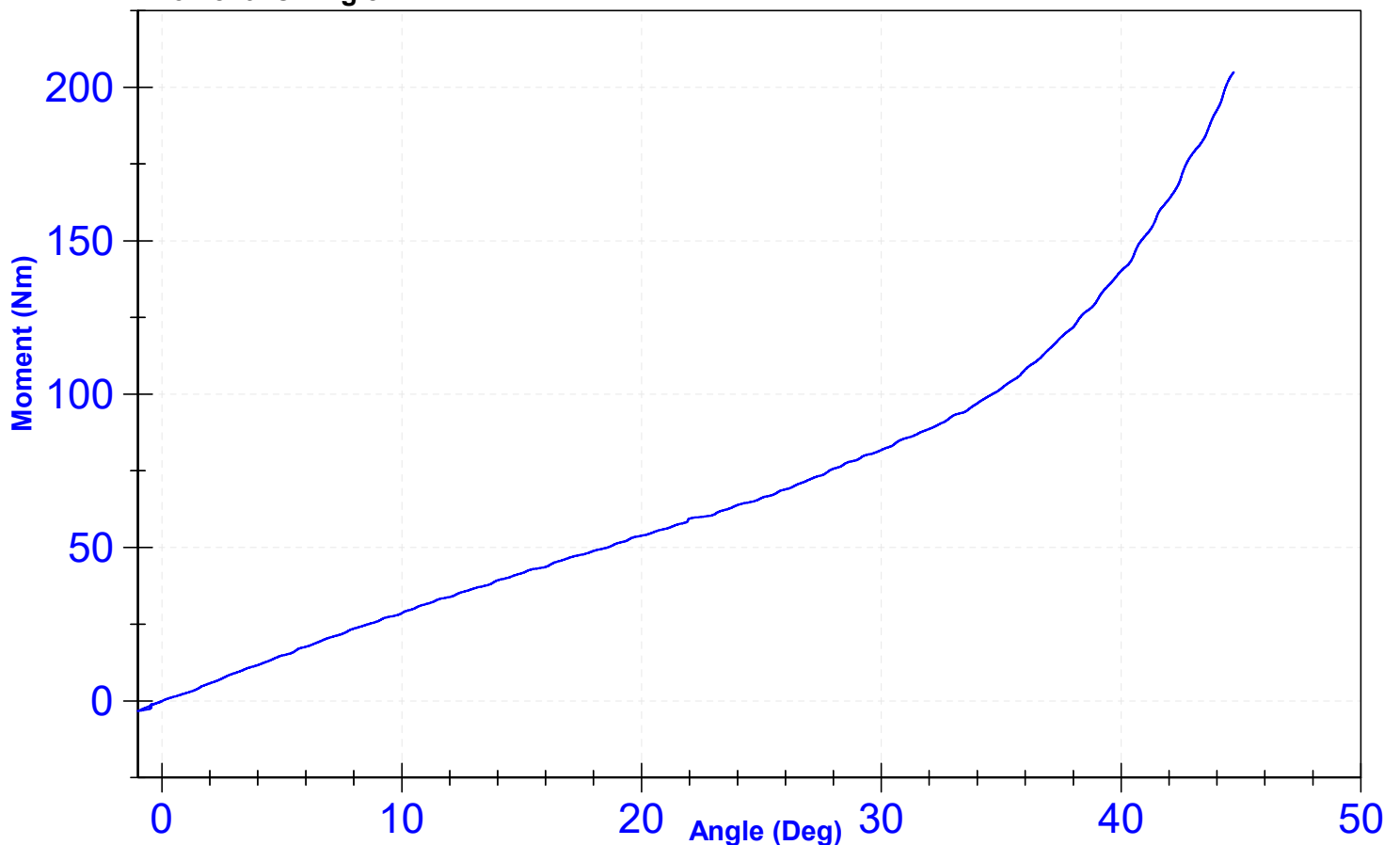
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.1	Pass
Humidity	10	70	%	21	Pass
Average Velocity	5	10	deg/s	7.6	Pass
Angle at 203Nm	40	50	deg	44.5	Pass
Moment at 30 degrees	0	94.9	Nm	81.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Potentiometer	ETI SP22	DS0008	9/29/2025	9/29/2026
Load Cell	PCB 2301-02A	694	2025-04-10	2026-04-10

Moment vs. Angle



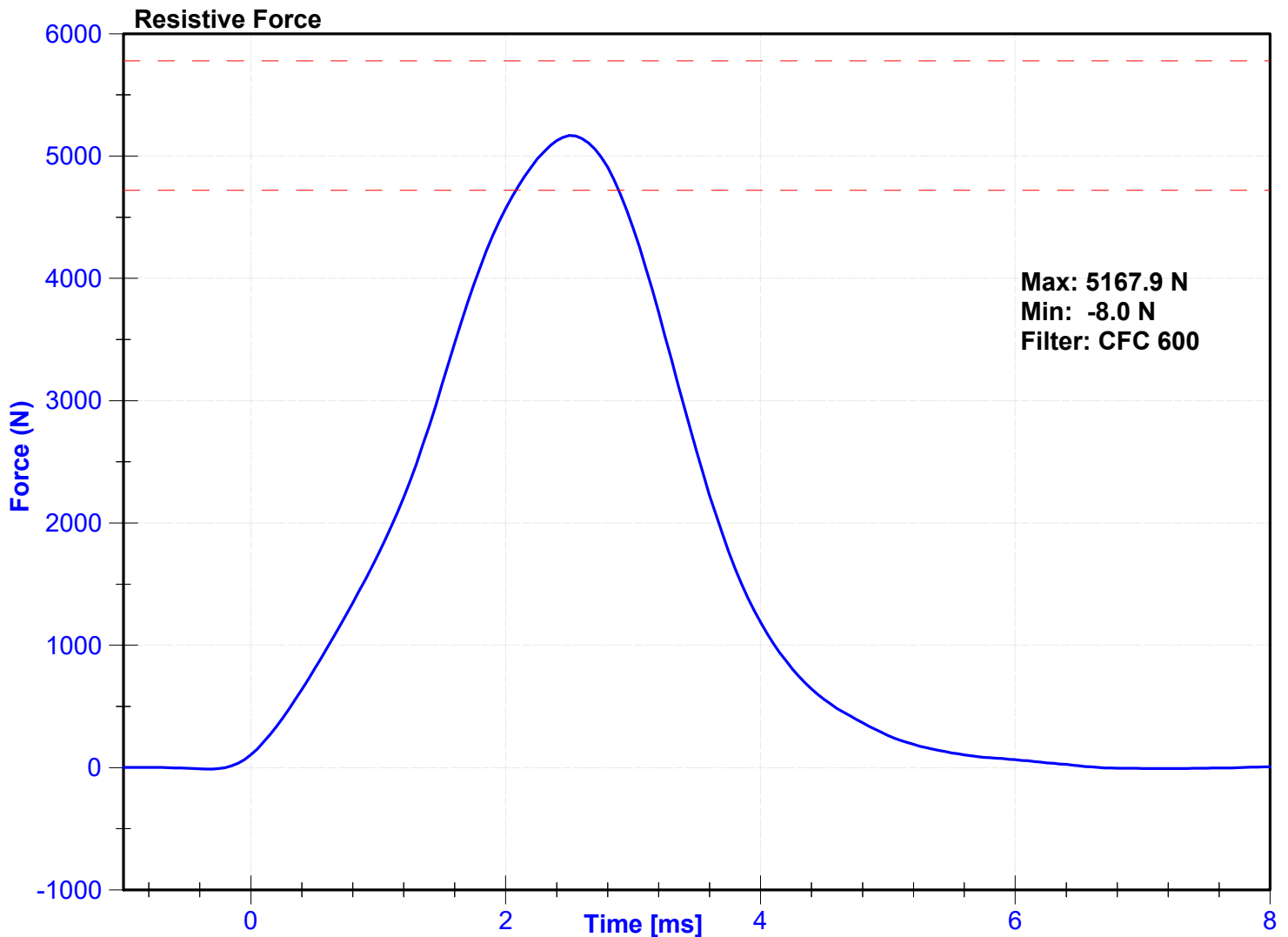
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

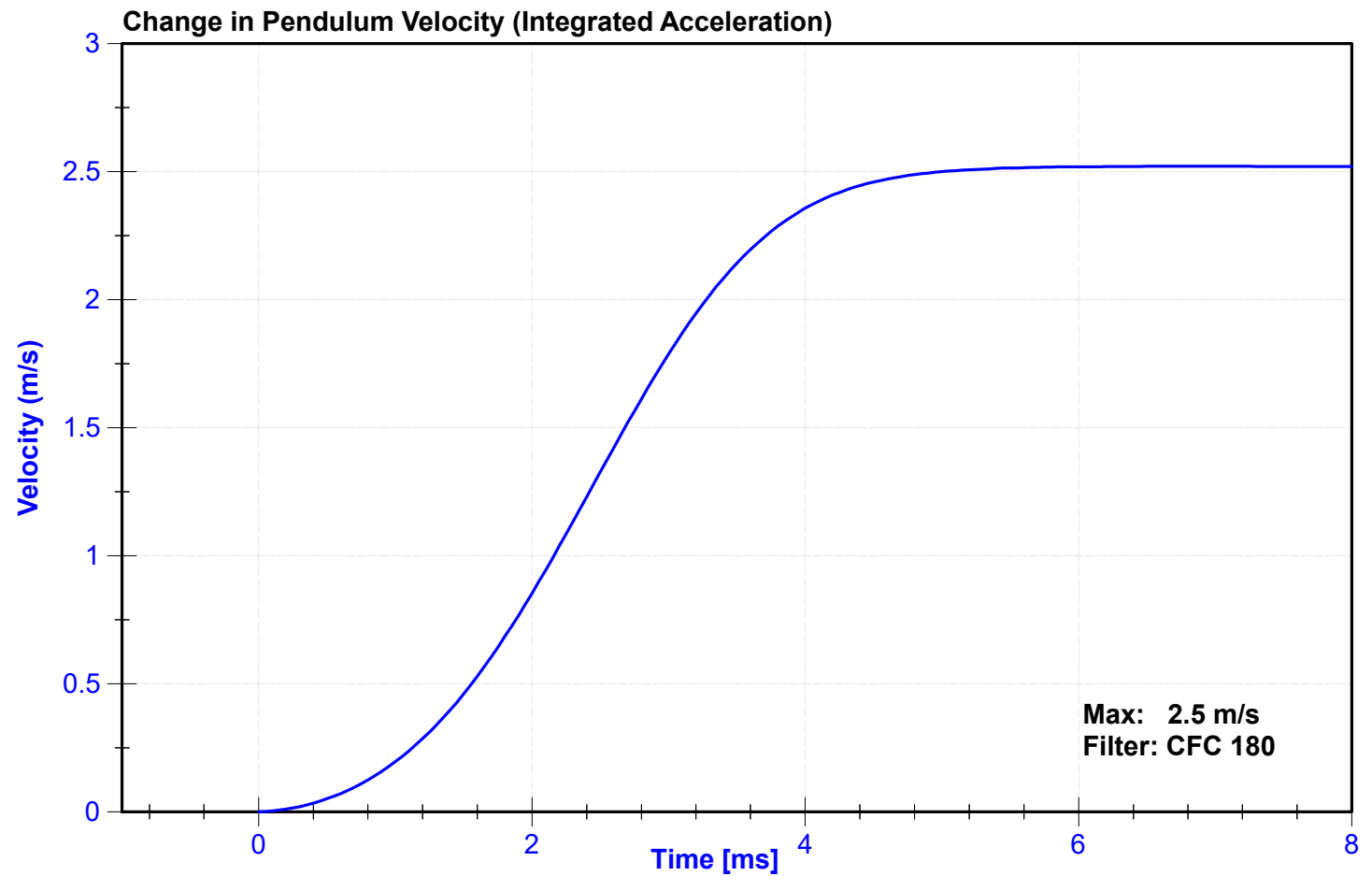
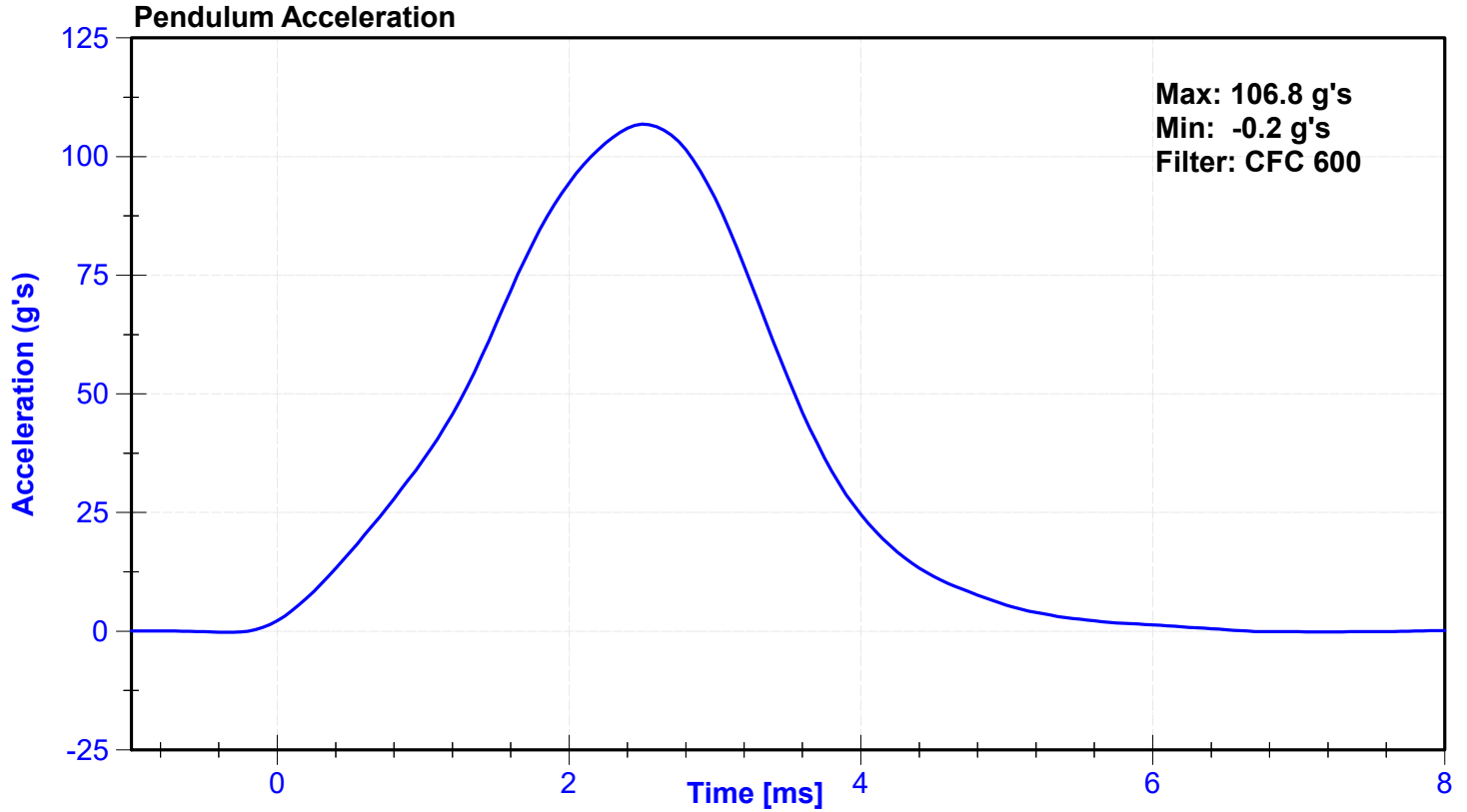
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	2.07	2.13	m/s	2.098	Pass
Maximum Resistive Force	4720	5780	N	5167.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	T25863	1/17/2025	1/17/2026





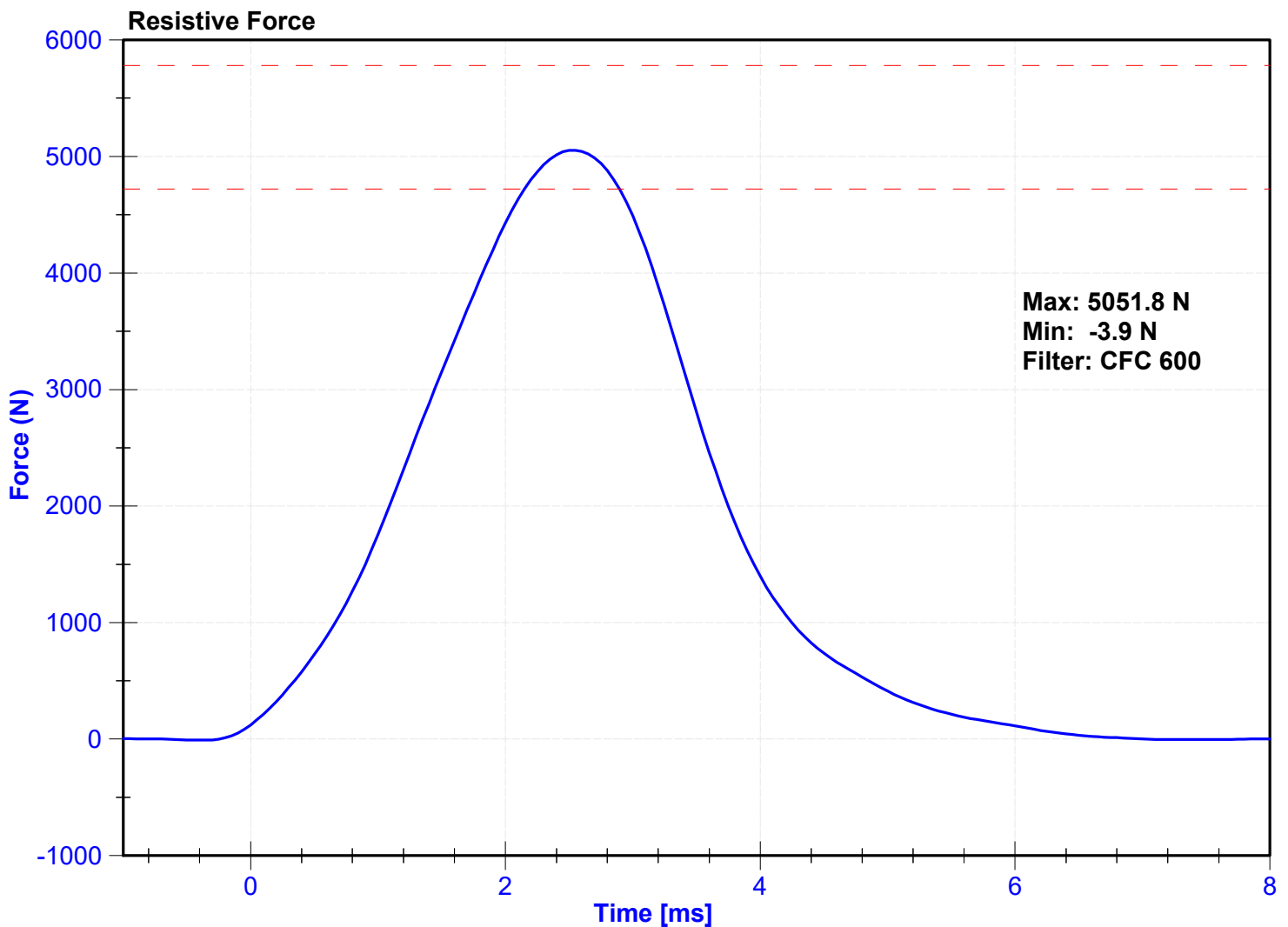
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	065	Laboratory Supervisor	J. Kinderman

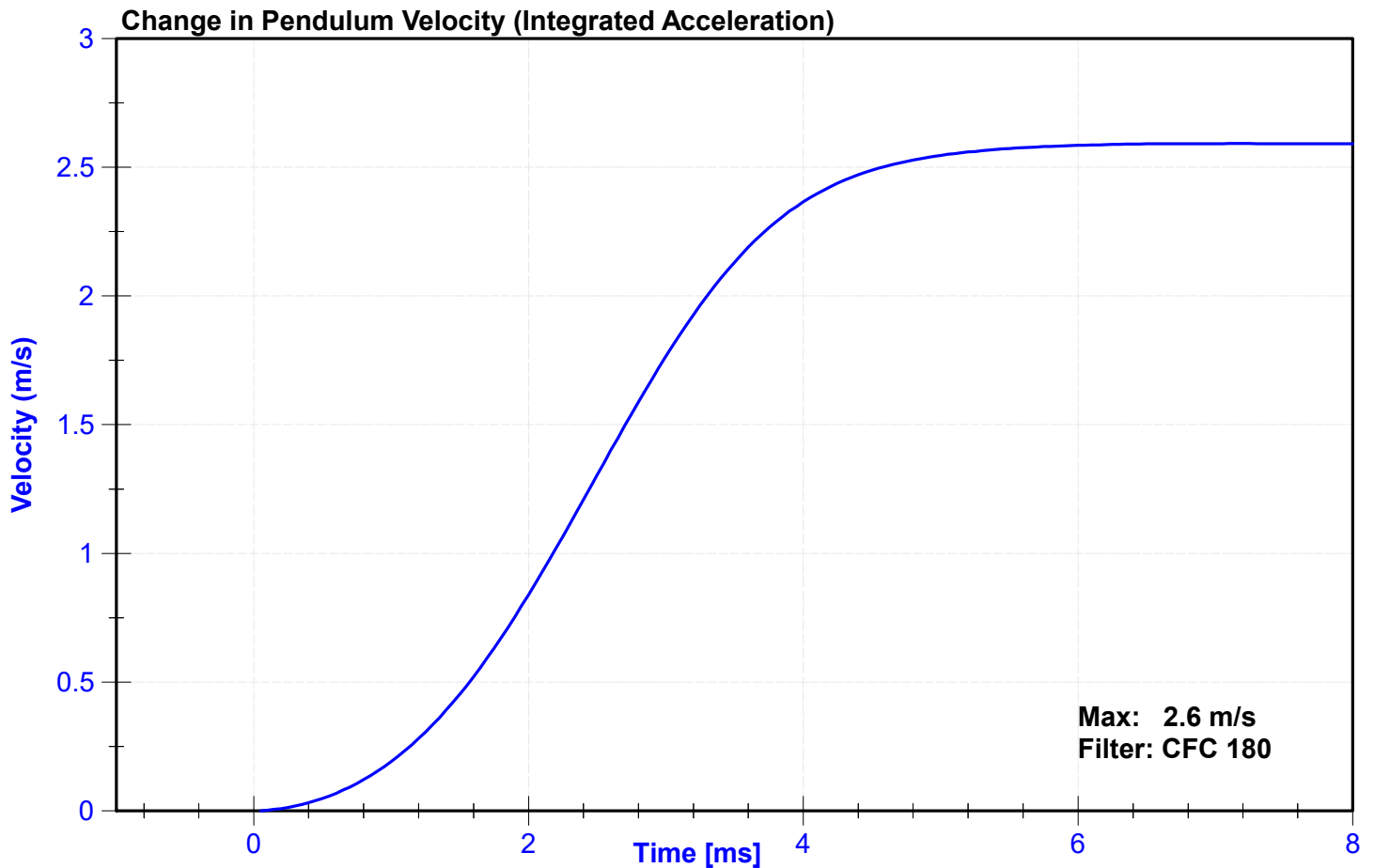
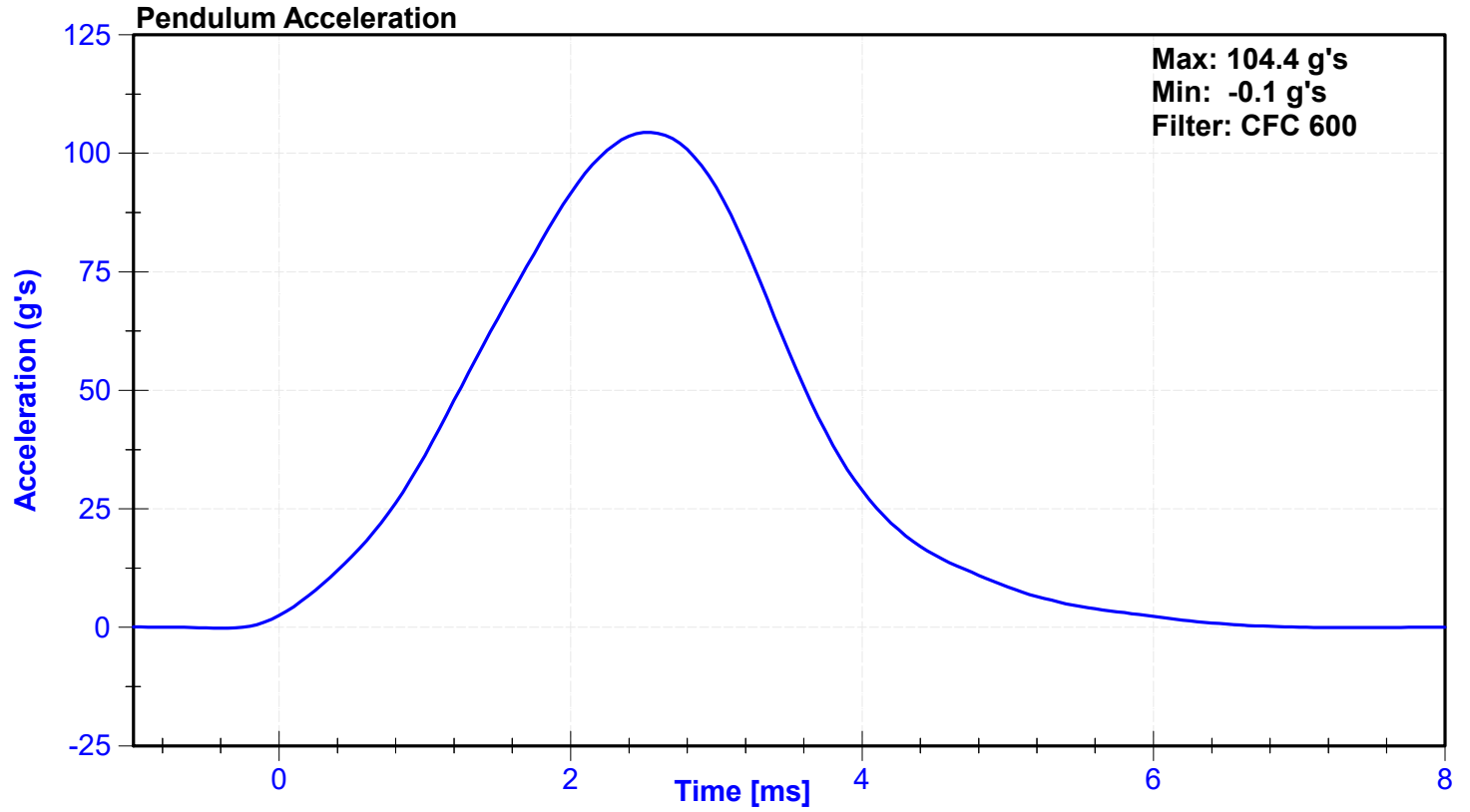
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	2.07	2.13	m/s	2.108	Pass
Maximum Resistive Force	4720	5780	N	5051.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	T25863	1/17/2025	1/17/2026





CALIBRATION TEST RESULTS

POST-TEST

HYBRID III 5TH PERCENTILE FEMALE - PASSENGER ATD

SERIAL NO: 137

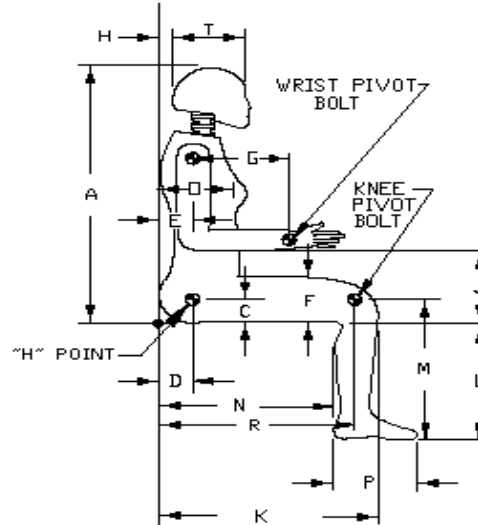
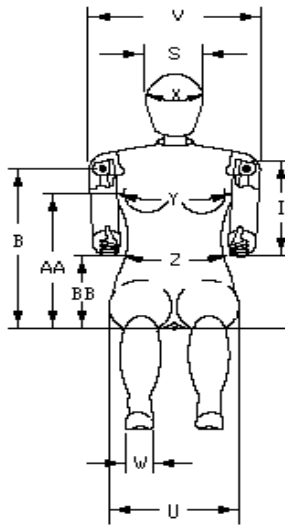


External Measurements - Hybrid 3 - 5th Female

Technician: **J. Rios**

Date: **12/29/2025**

Dummy Serial Number: **137**



Symbol	Description	Specification (mm)		Result (mm)	Pass/Fail
A	Sitting Height	775	800	785	Pass
B	Shoulder Pivot Height	432	457	444	Pass
C	H-Point Height	81	86	83	Pass
D	H-Point from Backline	145	150	148	Pass
E	Shoulder Pivot from Backline	69	84	75	Pass
F	Thigh Clearance	119	135	126	Pass
G	Back of Elbow to Wrist Pivot	244	259	255	Pass
H	Head Back to Backline	43	48	46	Pass
I	Shoulder to Elbow Length	277	297	286	Pass
J	Elbow Rest Height	183	203	192	Pass
K	Buttock to Knee Length	521	546	537	Pass
L	Popliteal Height	356	376	363	Pass
M	Knee Pivot Height	394	419	411	Pass
N	Buttock Popliteal Length	414	439	424	Pass
O	Chest Depth without Jacket	175	191	182	Pass
P	Foot Length (right)	219	234	226	Pass
R	Buttock To Knee Pivot Length	457	483	470	Pass
S	Head Breadth	137	147	142	Pass
T	Head Depth	178	188	180	Pass
U	Hip Breadth	300	315	306	Pass
V	Shoulder Breadth	351	366	359	Pass
W	Foot Breadth	79	94	86	Pass
X	Head Circumference	528	549	540	Pass
Y	Chest Circumference with Jacket	851	881	862	Pass
Z	Waist Circumference	460	790	632	Pass
AA	Reference Location (Chest Circumference)	333	358	342	Pass
BB	Reference Location (Waist Circumference)	160	170	165	Pass

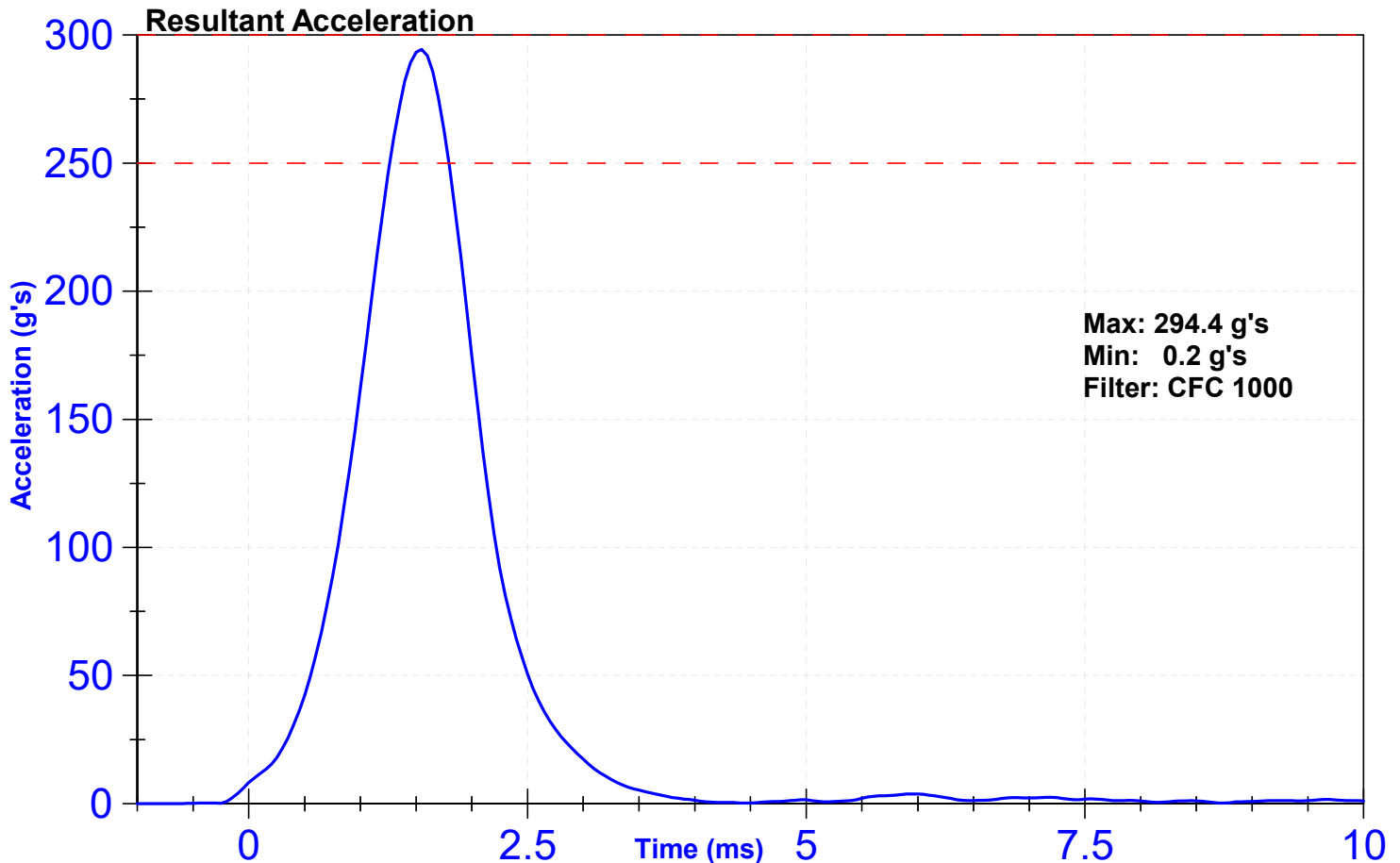
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

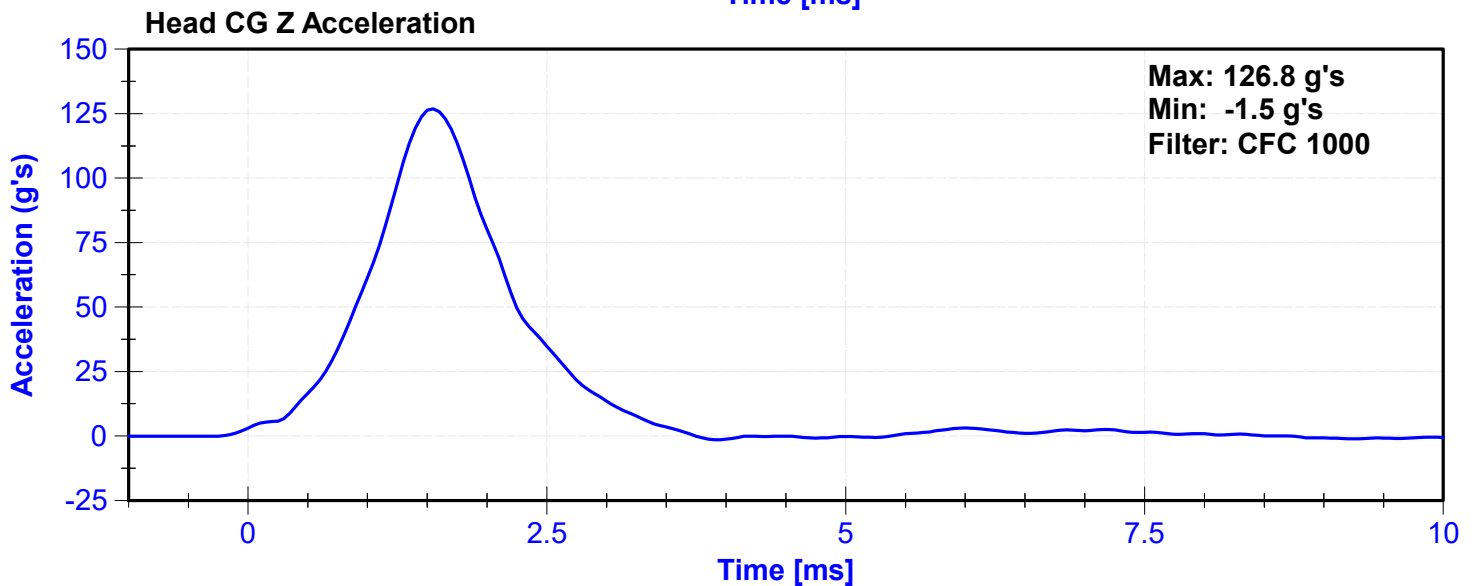
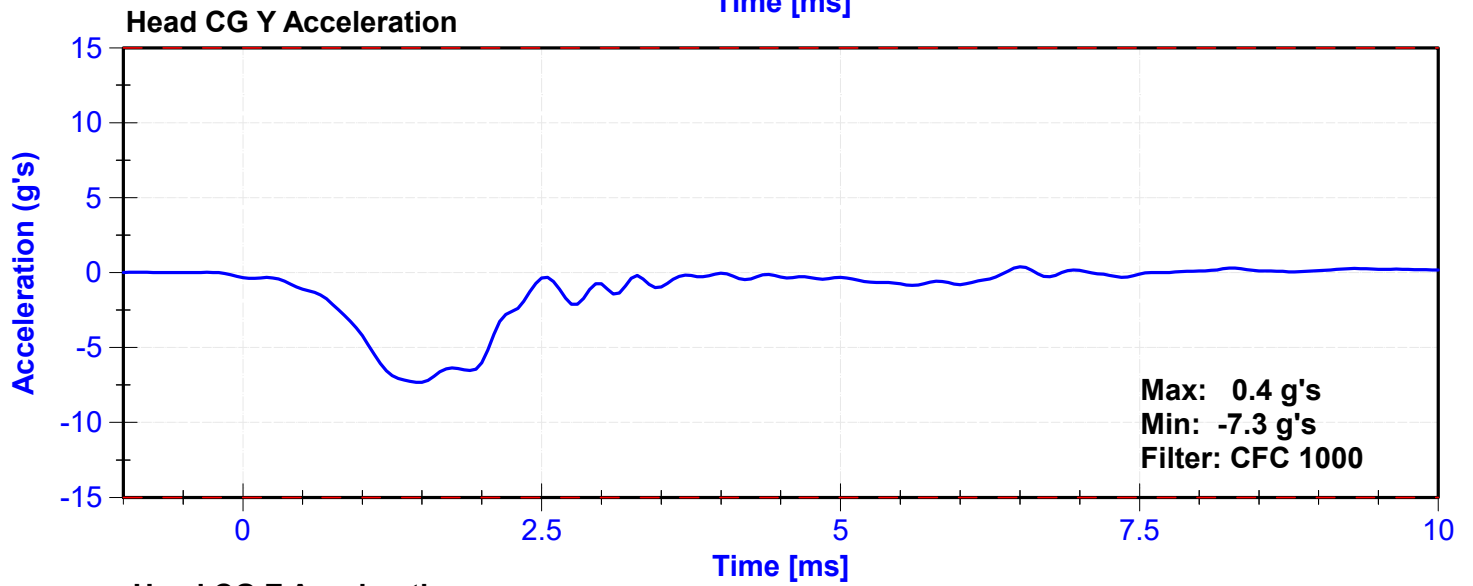
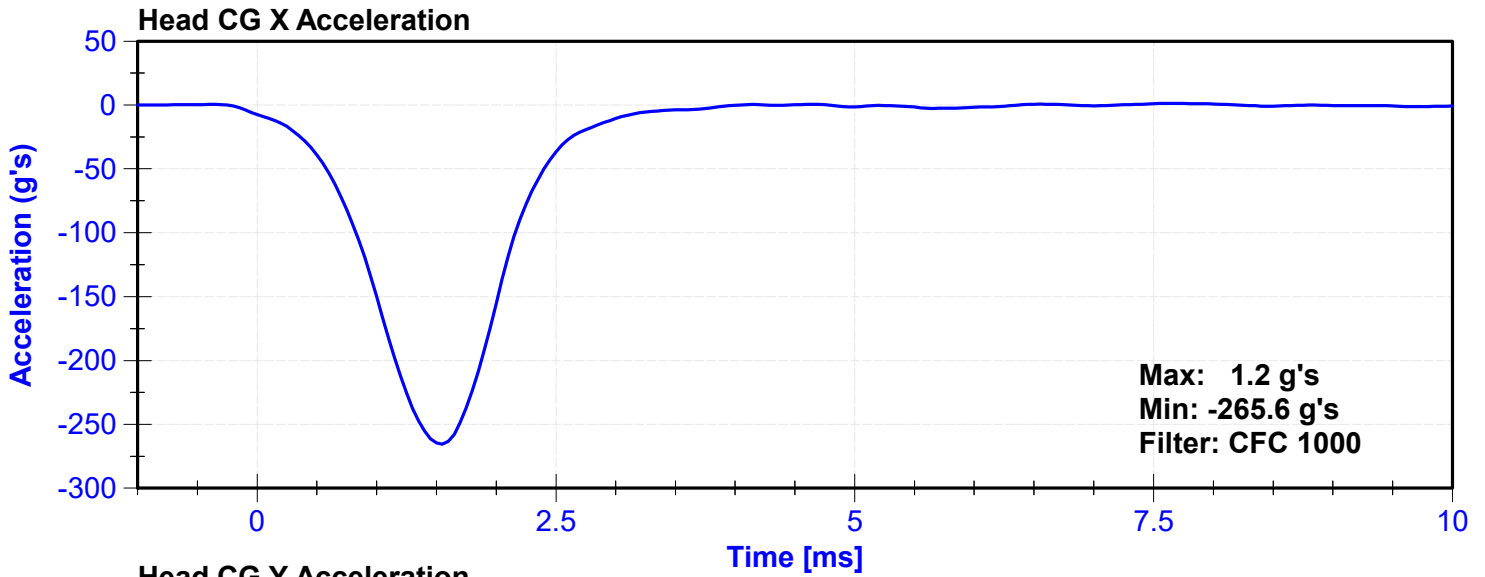
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	16	Pass
Resultant Acceleration	250	300	g's	294.4	Pass
Oscillation	0	10	%	1.3	Pass
Lateral Acceleration	-15	15	g's	-7.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	Endevco	P79417	12/11/2025	6/9/2026
Y Accelerometer	Endevco	P83335	12/11/2025	6/9/2026
Z Accelerometer	Endevco	P64149	12/11/2025	6/9/2026





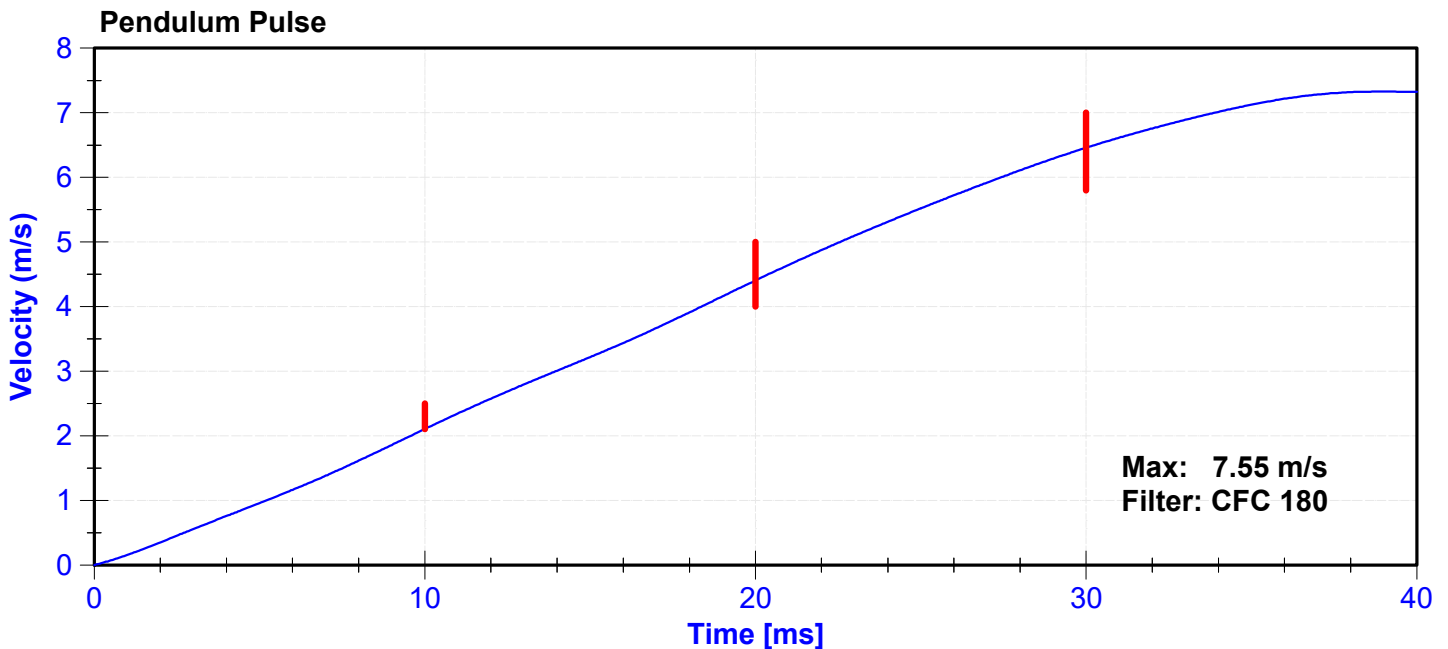
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

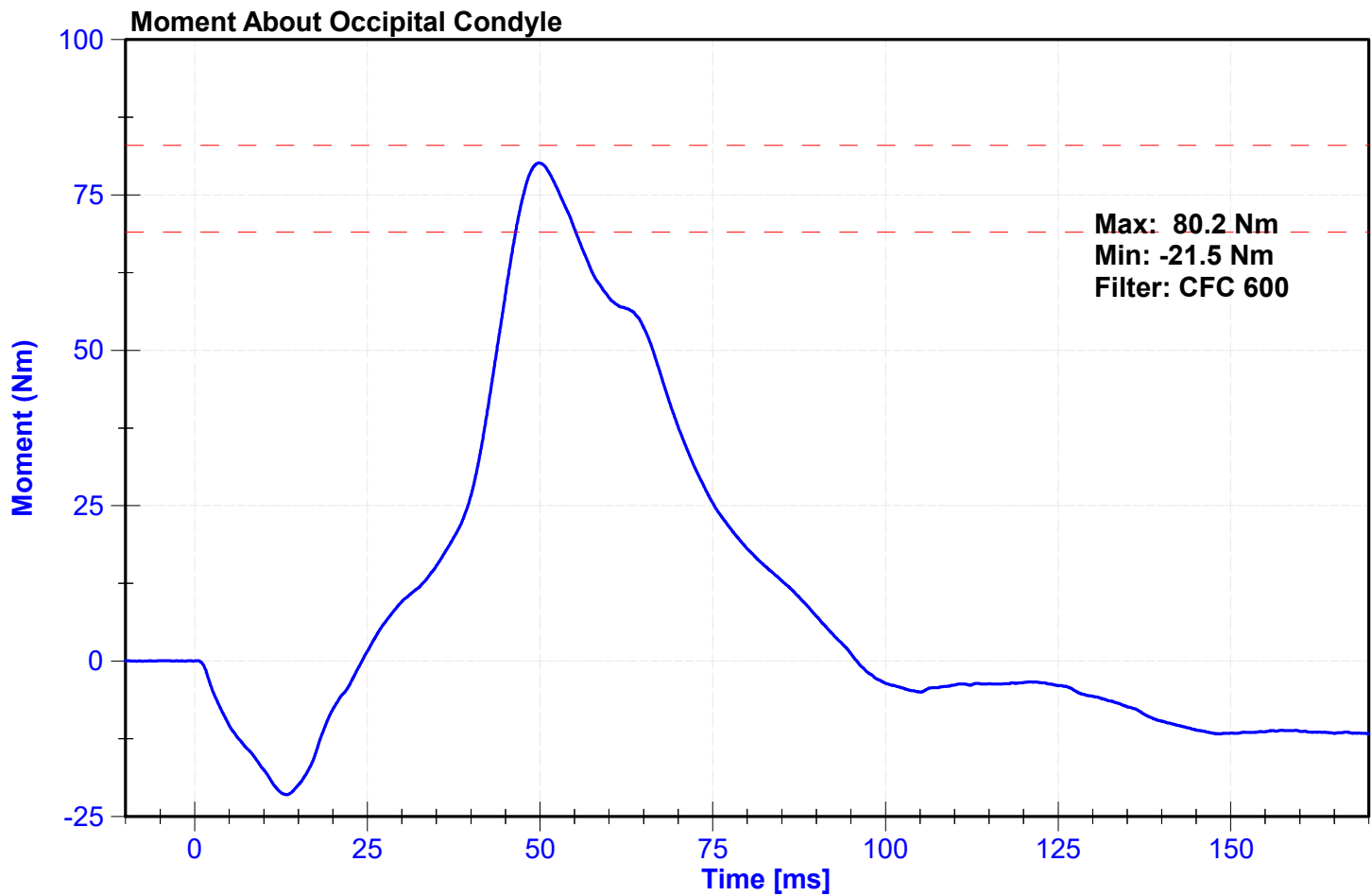
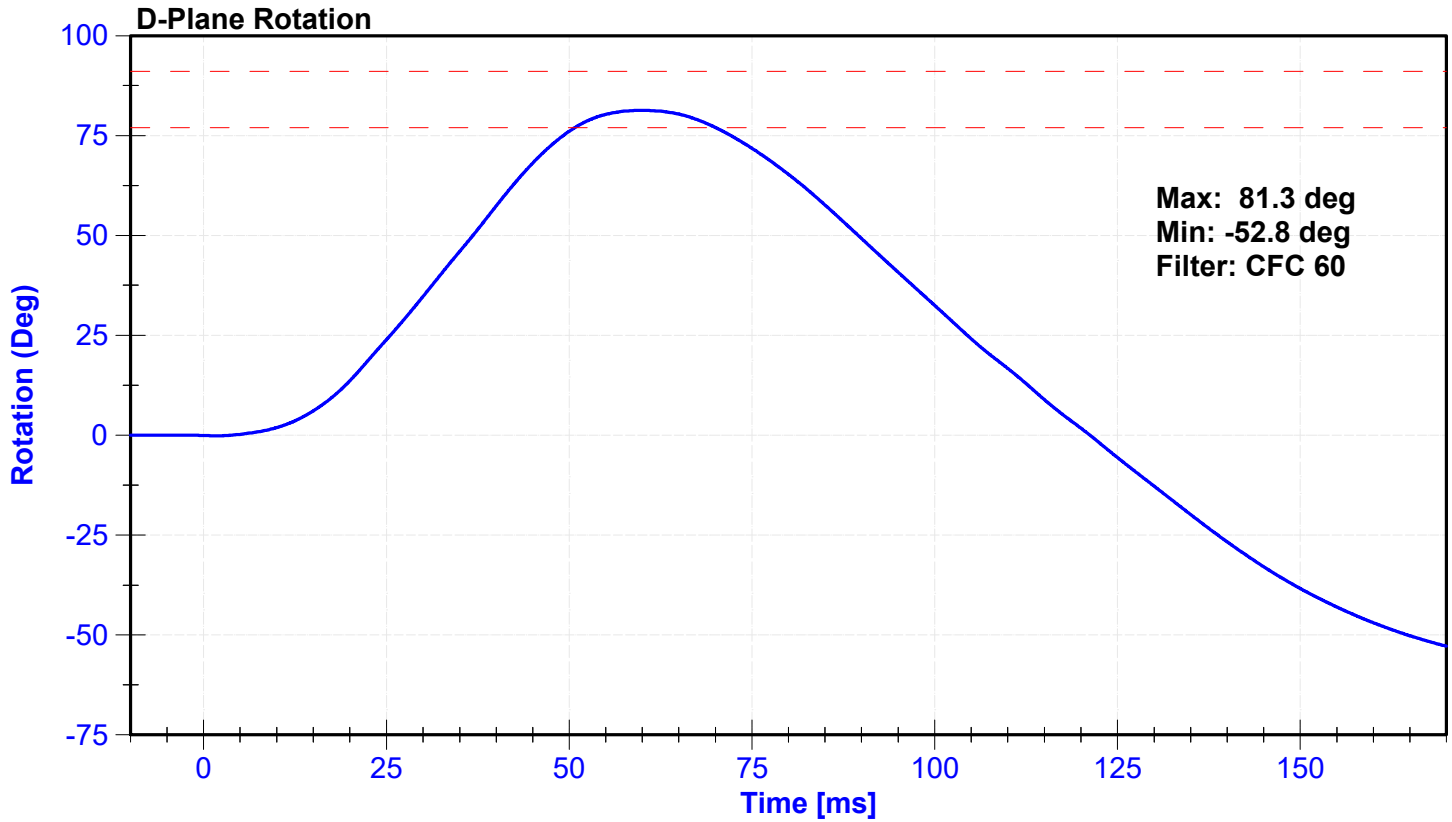
Results

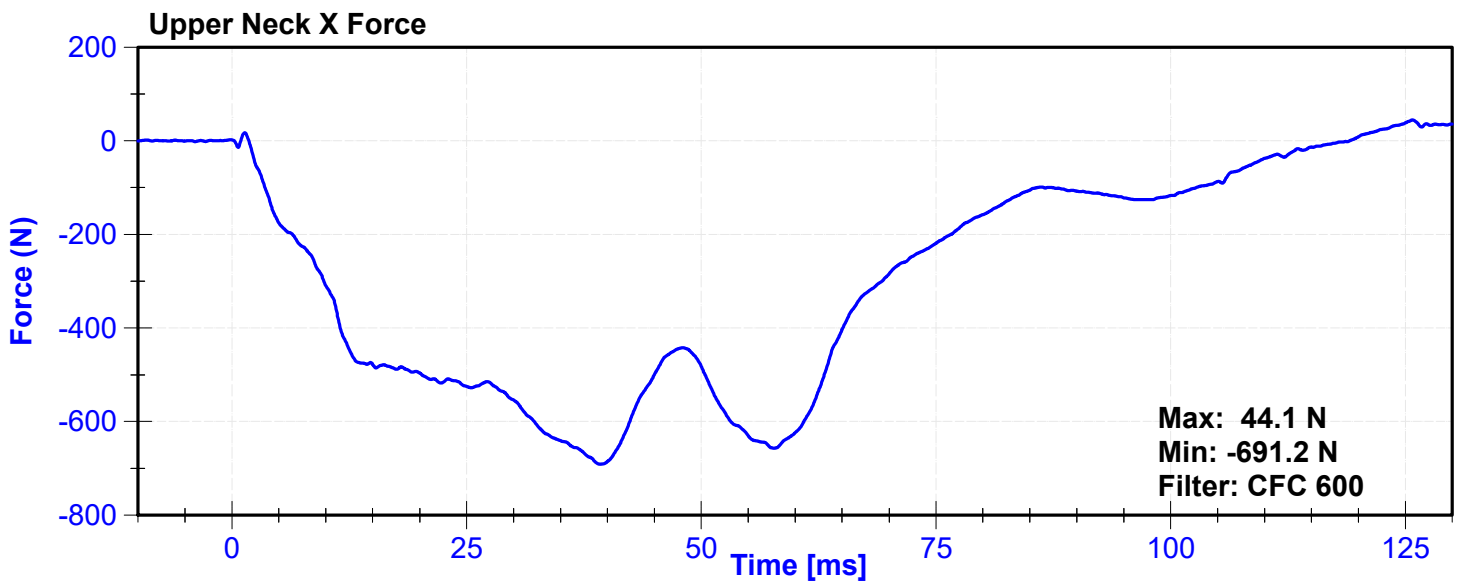
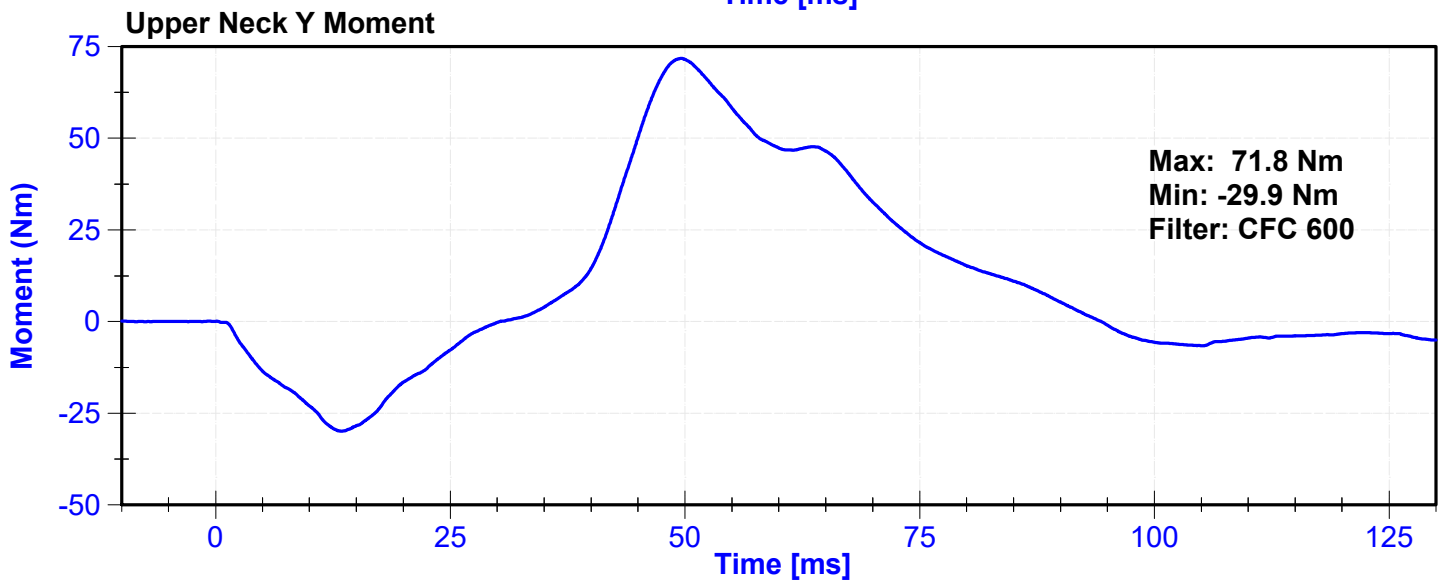
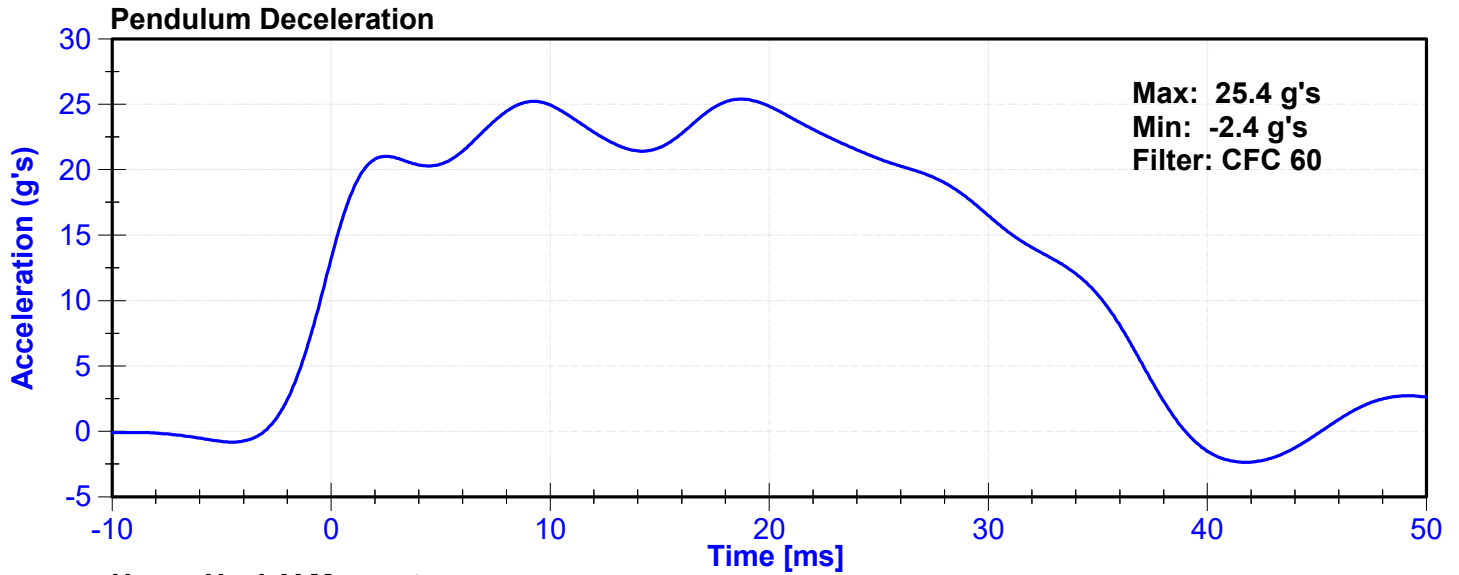
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	22	Pass
Velocity	6.89	7.13	m/s	7.065	Pass
Pendulum Impulse at 10ms	2.1	2.5	m/s	2.11	Pass
Pendulum Impulse at 20ms	4.0	5.0	m/s	4.40	Pass
Pendulum Impulse at 30ms	5.8	7.0	m/s	6.46	Pass
Max D Plane Rotation	77	91	deg	81.3	Pass
Max Moment During Rotation Interval	69	83	Nm	80.2	Pass
Moment Decay to 10.0 Nm	80	100	ms	87.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/21/2025	10/21/2026
Pendulum Potentiometer	ETI	SP22G_LABPOT1	5/14/2025	5/14/2026
Condyle Potentiometer	ETI	SP22G_LABPOT2	5/14/2025	5/14/2026
Upper Neck Load Cell	Humanetics	1872-FX	7/7/2025	7/7/2026







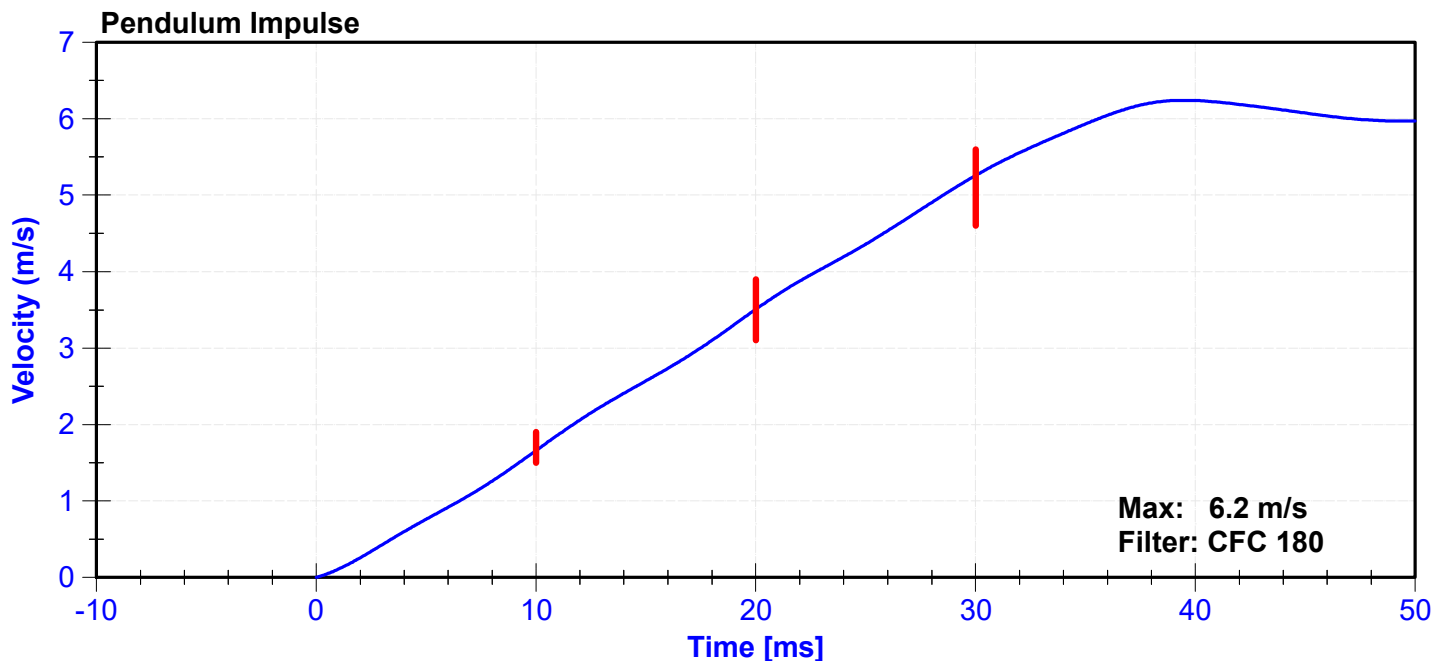
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

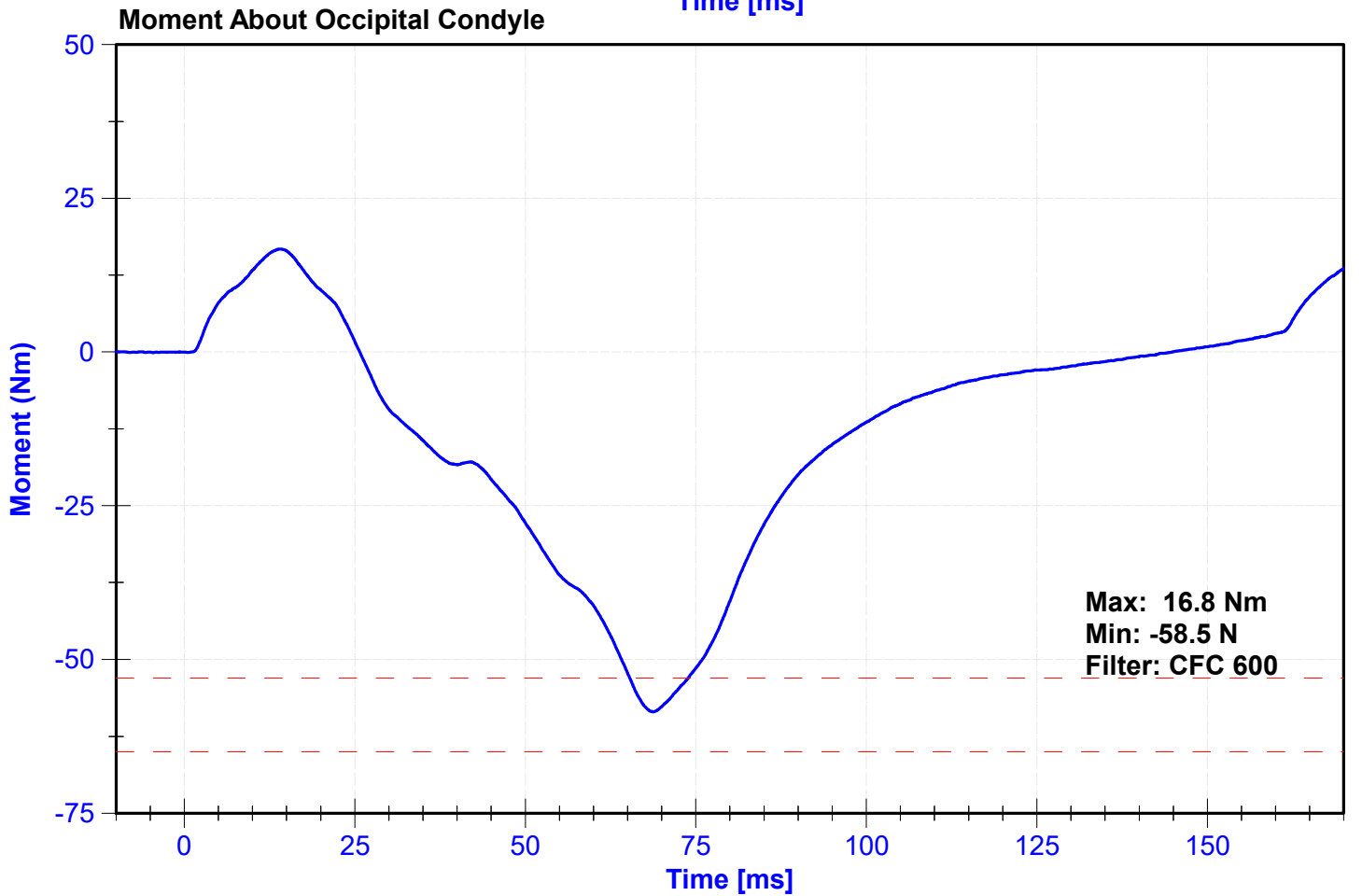
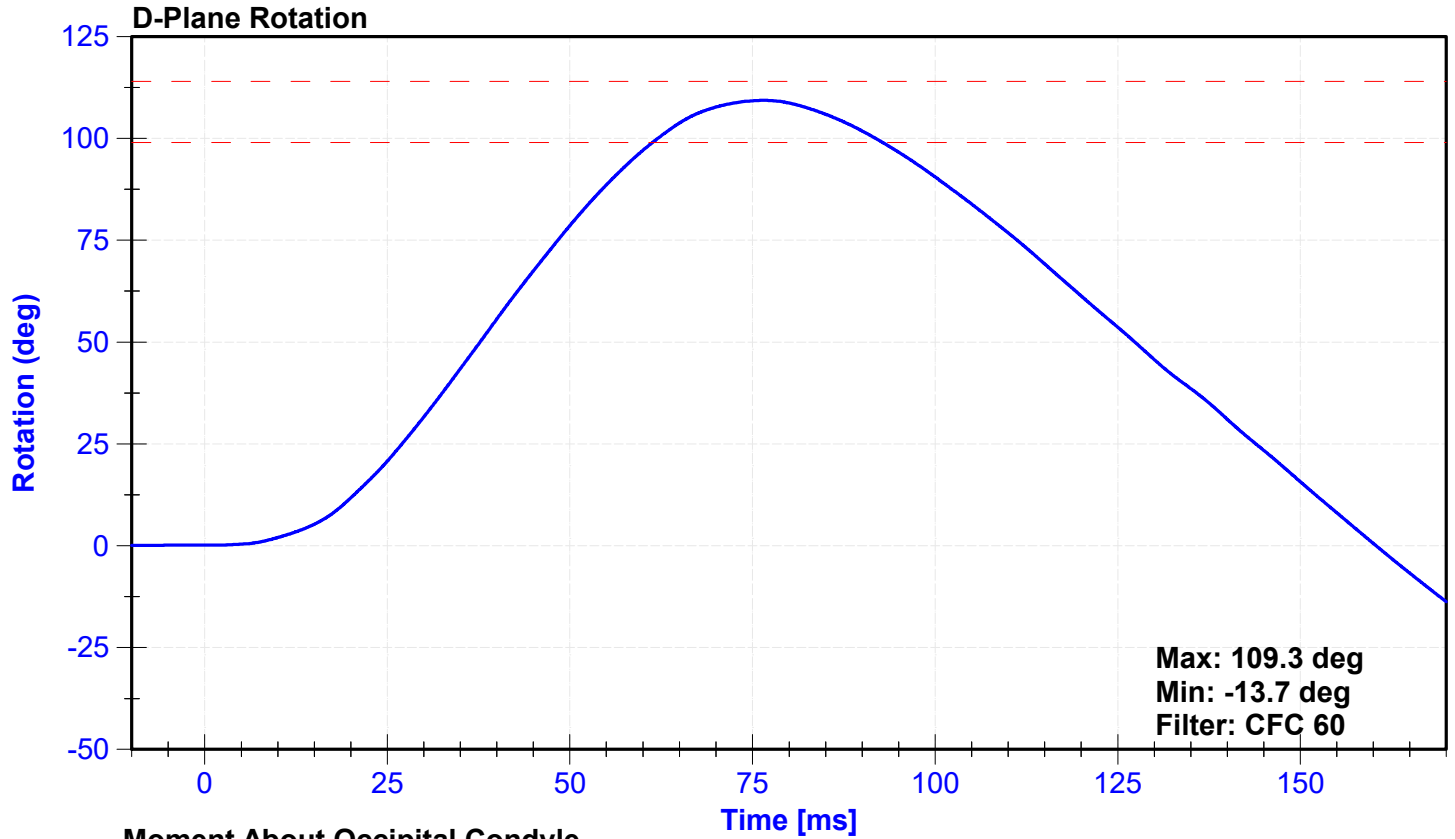
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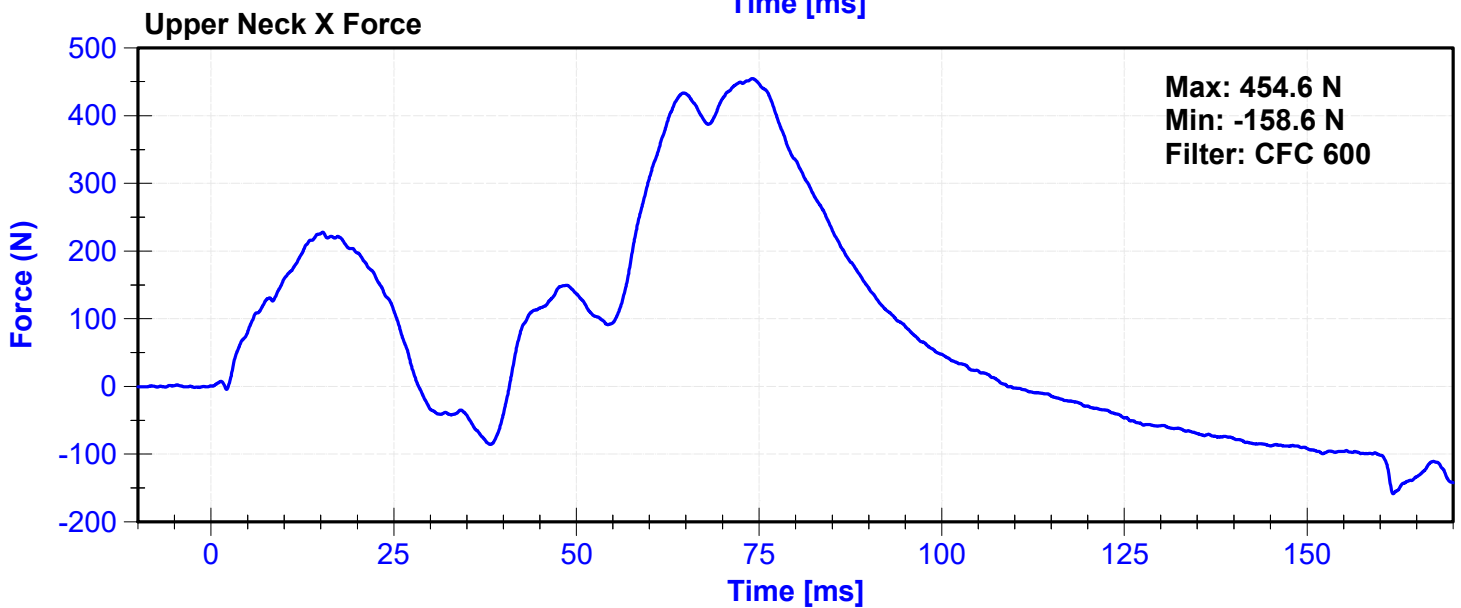
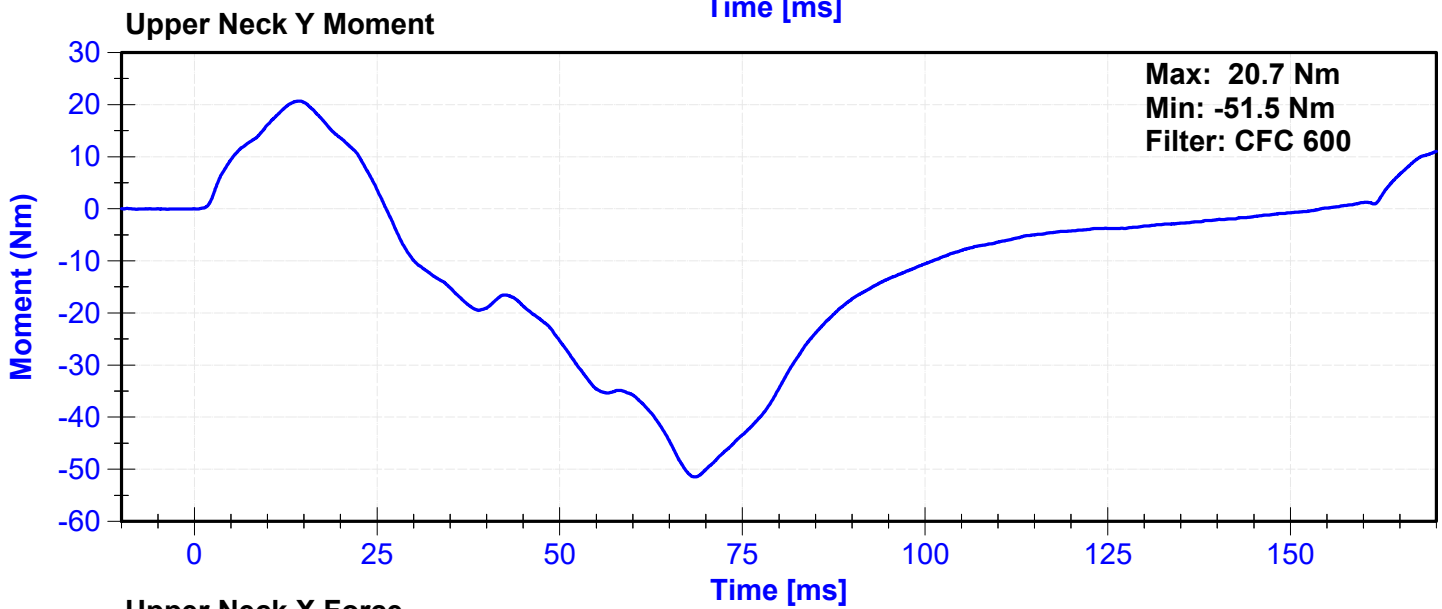
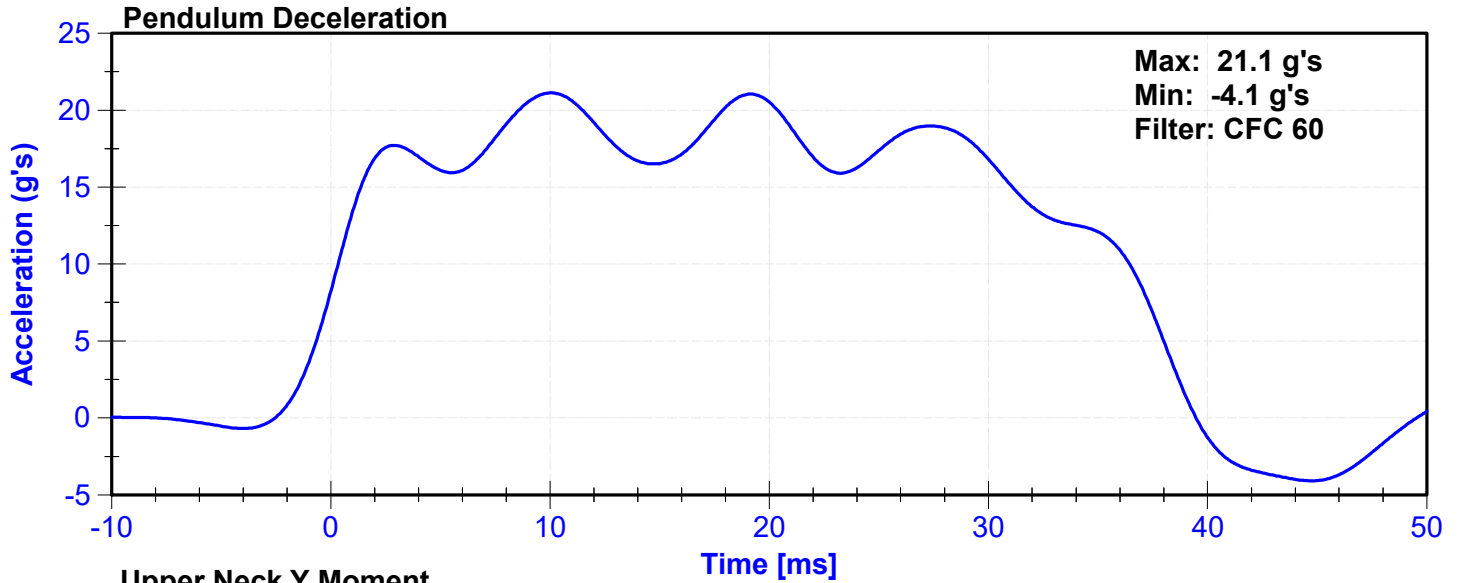
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	22	Pass
Velocity	5.95	6.19	m/s	6.012	Pass
Pendulum Impulse at 10ms	1.5	1.9	m/s	1.66	Pass
Pendulum Impulse at 20ms	3.1	3.9	m/s	3.51	Pass
Pendulum Impulse at 30ms	4.6	5.6	m/s	5.26	Pass
D Plane Rotation	99	114	deg	109.3	Pass
Moment During Rotation Interval	-65	-53	Nm	-58.5	Pass
Moment Decay to -10Nm	94	114	ms	102.2	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/21/2025	10/21/2026
Pendulum Potentiometer	ETI	SP22G_LABPOT1	5/14/2025	5/14/2026
Condyle Potentiometer	ETI	SP22G_LABPOT2	5/14/2025	5/14/2026
Upper Neck Load Cell	Humanetics	1716A	7/7/2025	7/7/2026







ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

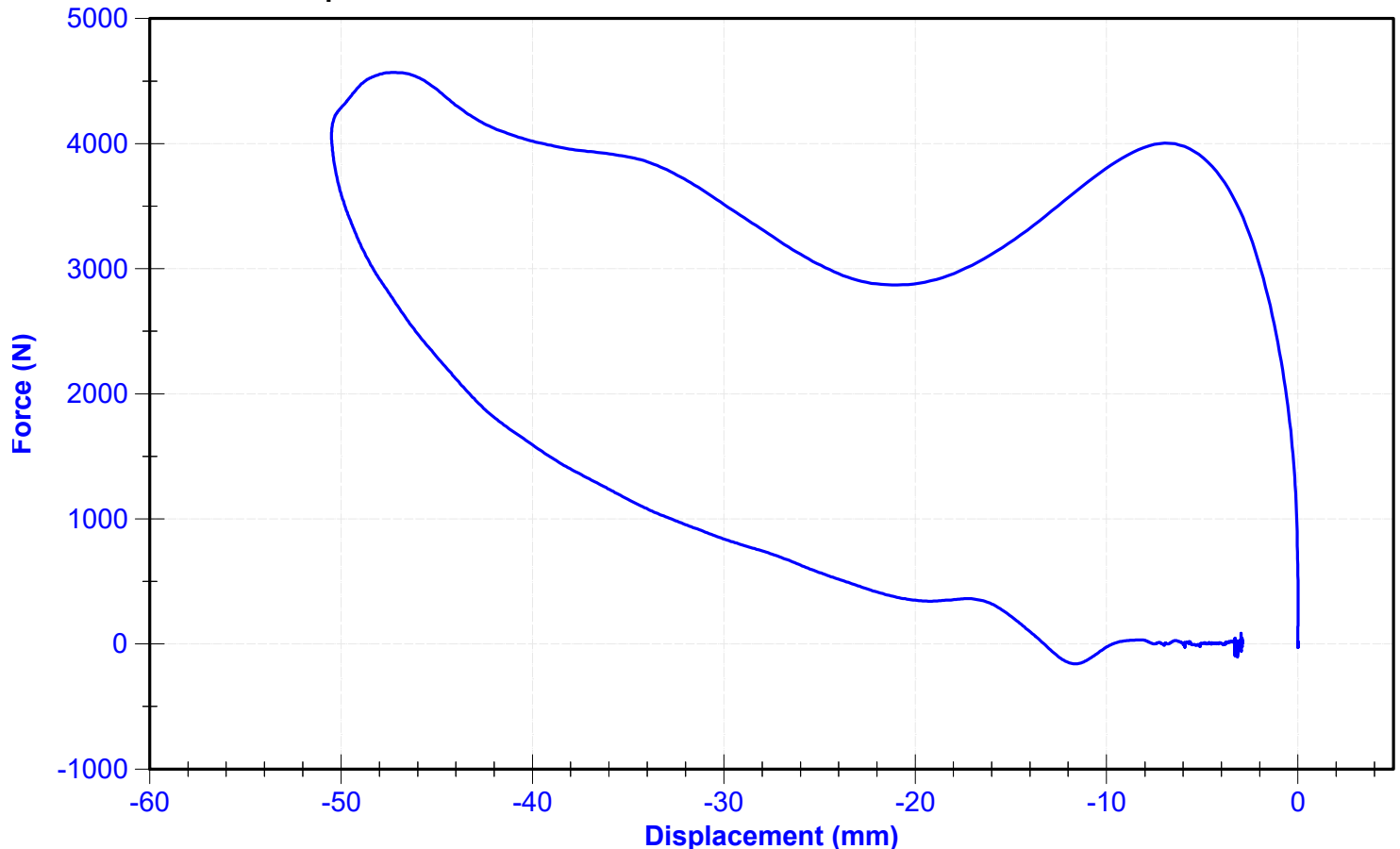
Results

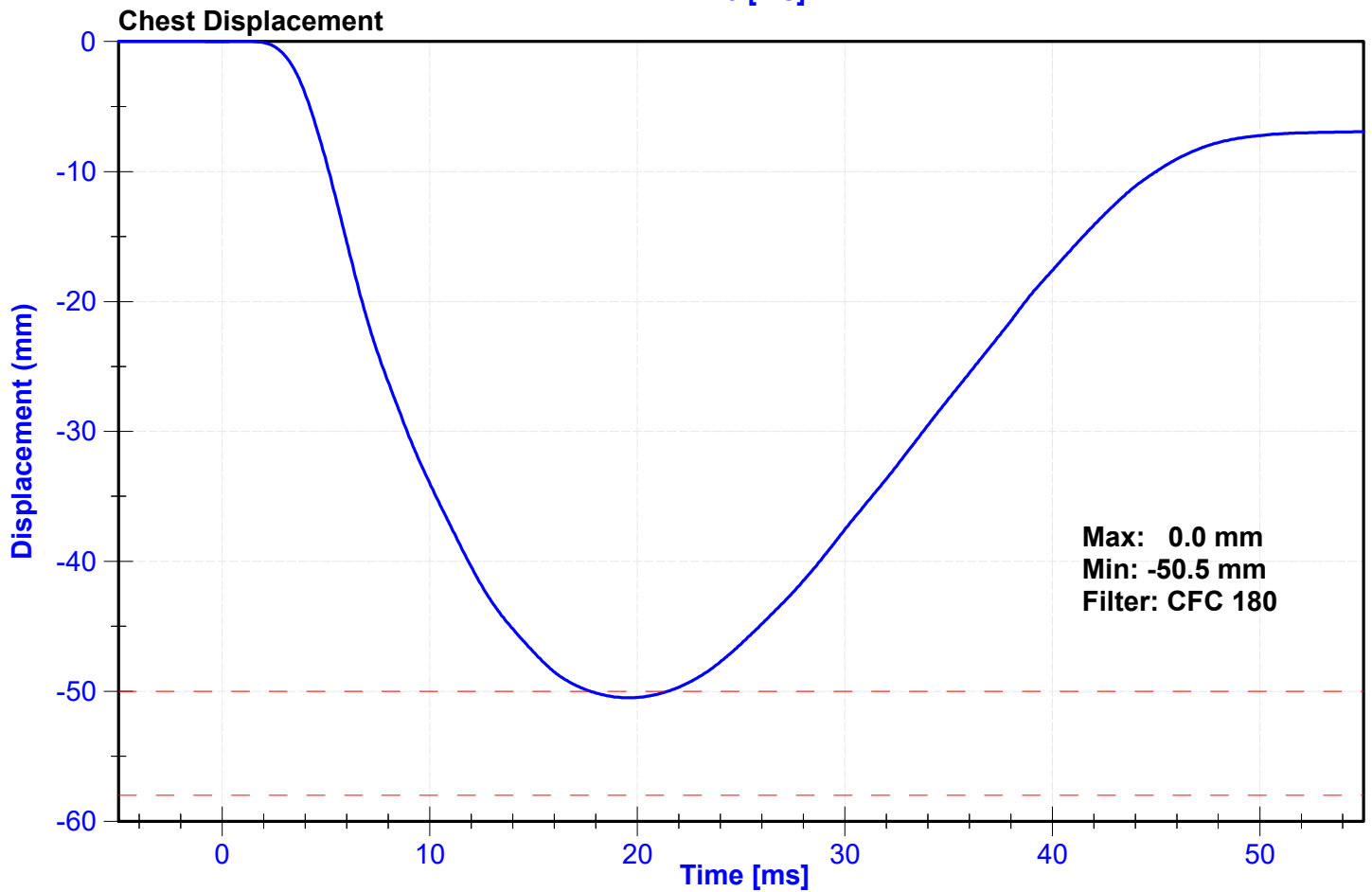
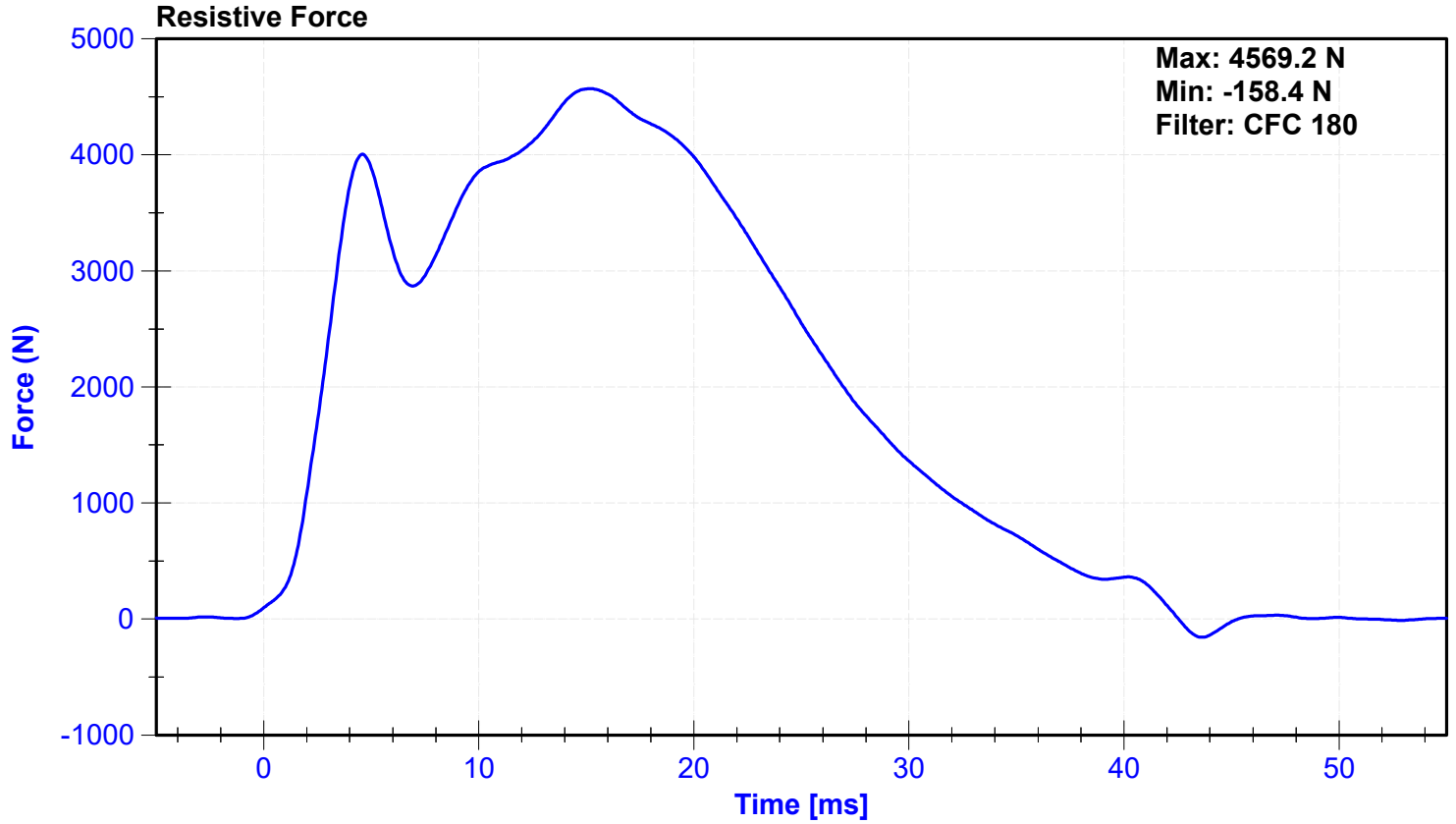
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	29	Pass
Velocity	6.59	6.83	m/s	6.686	Pass
Chest Deflection	-58	-50	mm	-50.5	Pass
Maximum Resistive Force (50 to 58mm)	3900	4400	N	4291.8	Pass
Maximum Resistive Force (18 to 50mm)	0	4600	N	4569.2	Pass
Hysteresis	69	85	%	75.3	Pass

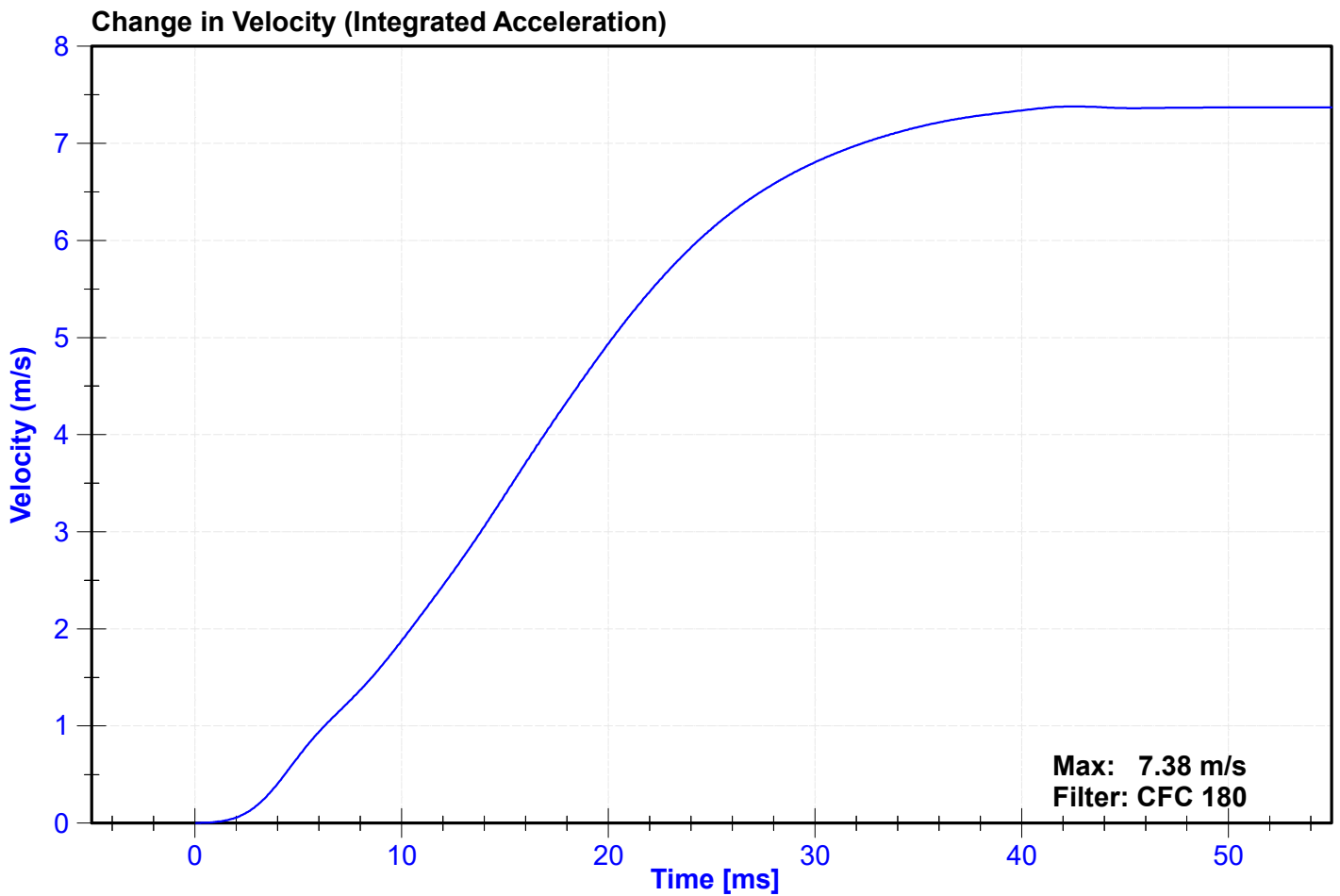
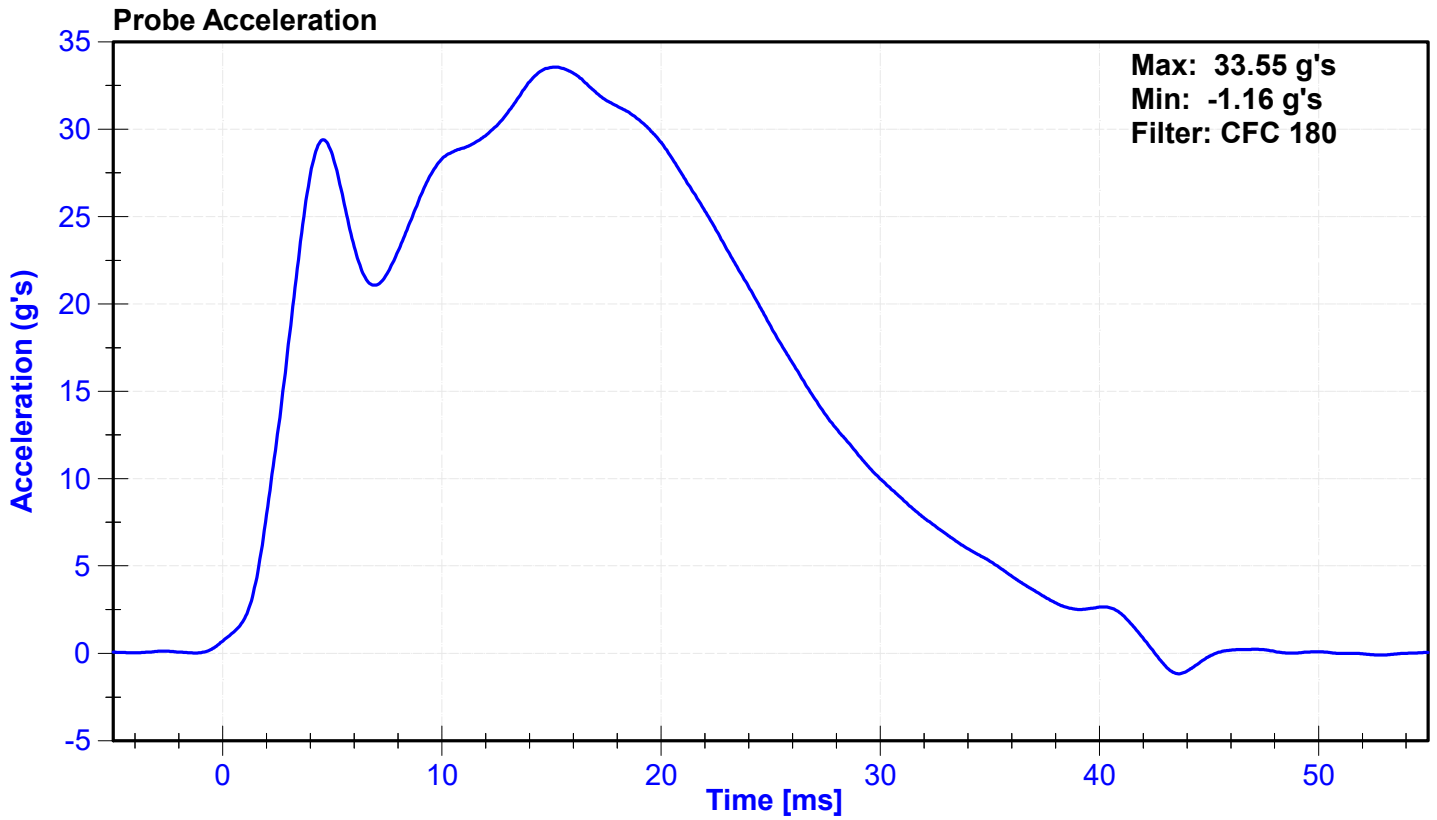
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	11/5/2025	5/4/2026
Chest Potentiometer	Servo	0720	12/11/2025	6/11/2026

Force vs. Displacement







ATD Manufacturer	Humanetics	Test Technician	Z. Nyhart
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

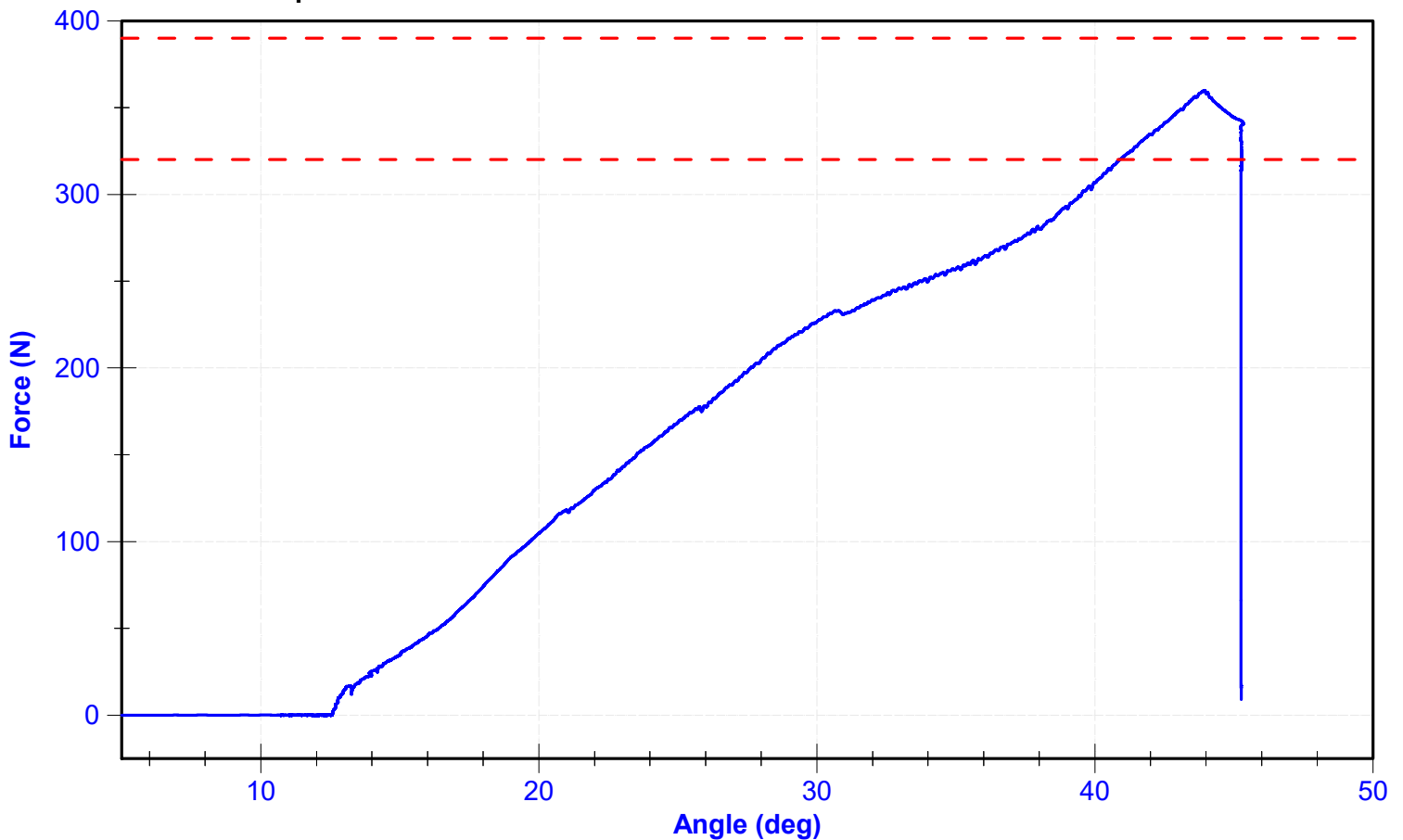
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.6	25.6	°C	20.6	Pass
Humidity	10	70	%	24	Pass
Initial Angle	0	20	deg	11.4	Pass
Force at 45 Degrees	320	390	N	360.0	Pass
Return Angle Relative to Initial	0	8	deg	3.1	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Potentiometer	Rieker	DS-1905226	2025-08-08	2026-08-08
Load Cell	Interface	1134516	2025-02-26	2026-02-26

Force vs. Displacement



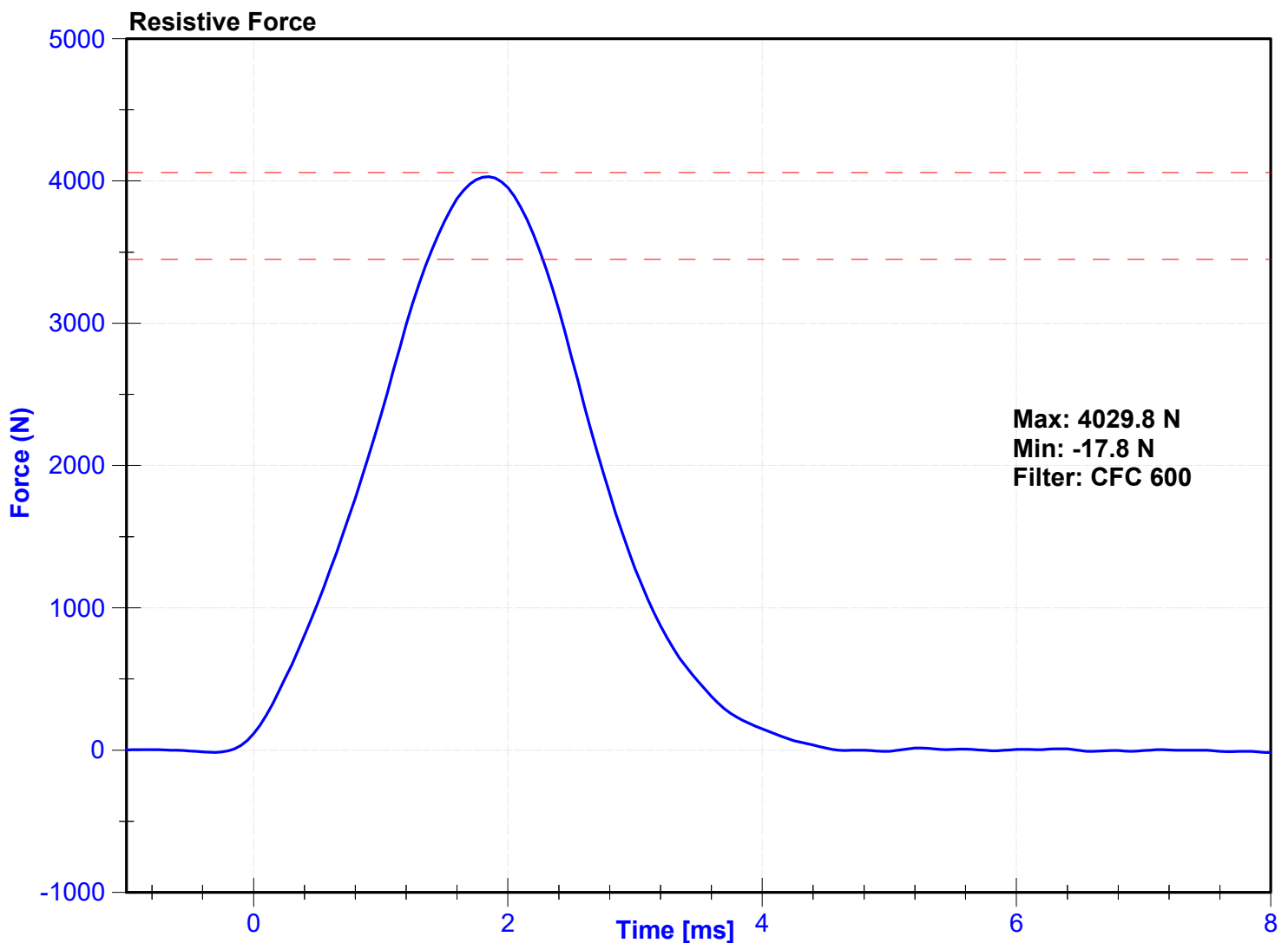
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

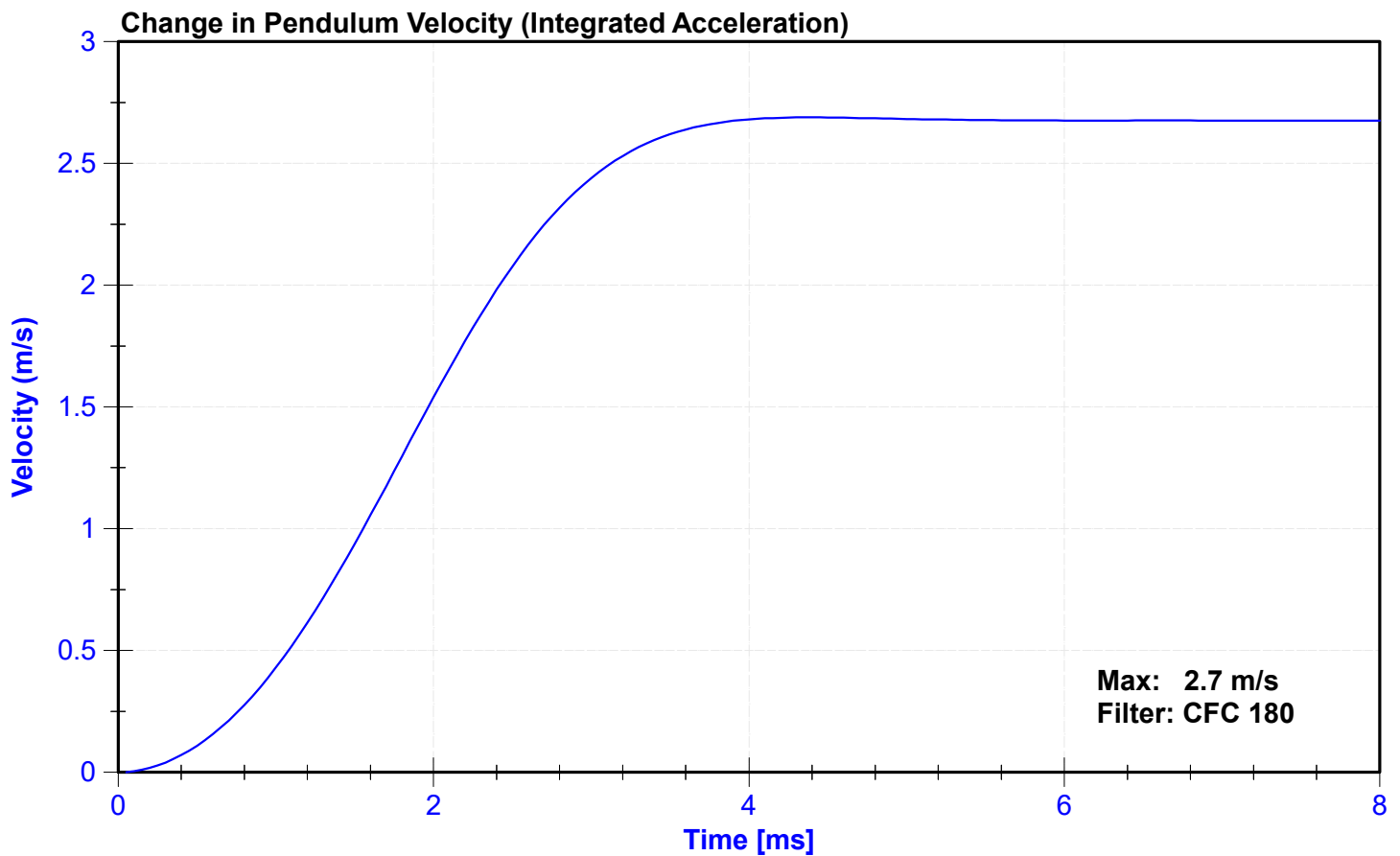
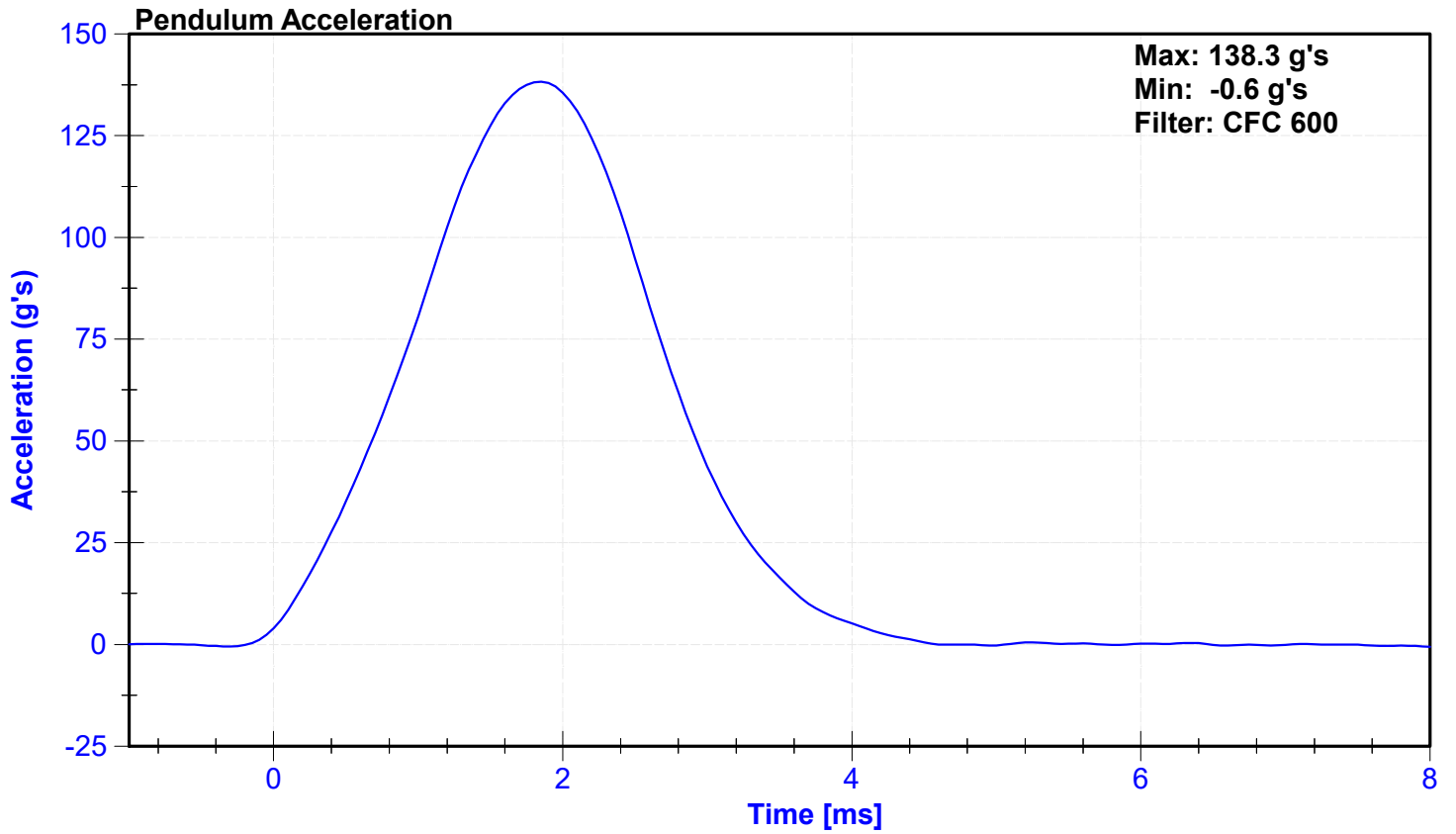
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	2.07	2.13	m/s	2.117	Pass
Resistive Force	3450	4060	N	4029.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	T25863	1/17/2025	1/17/2026





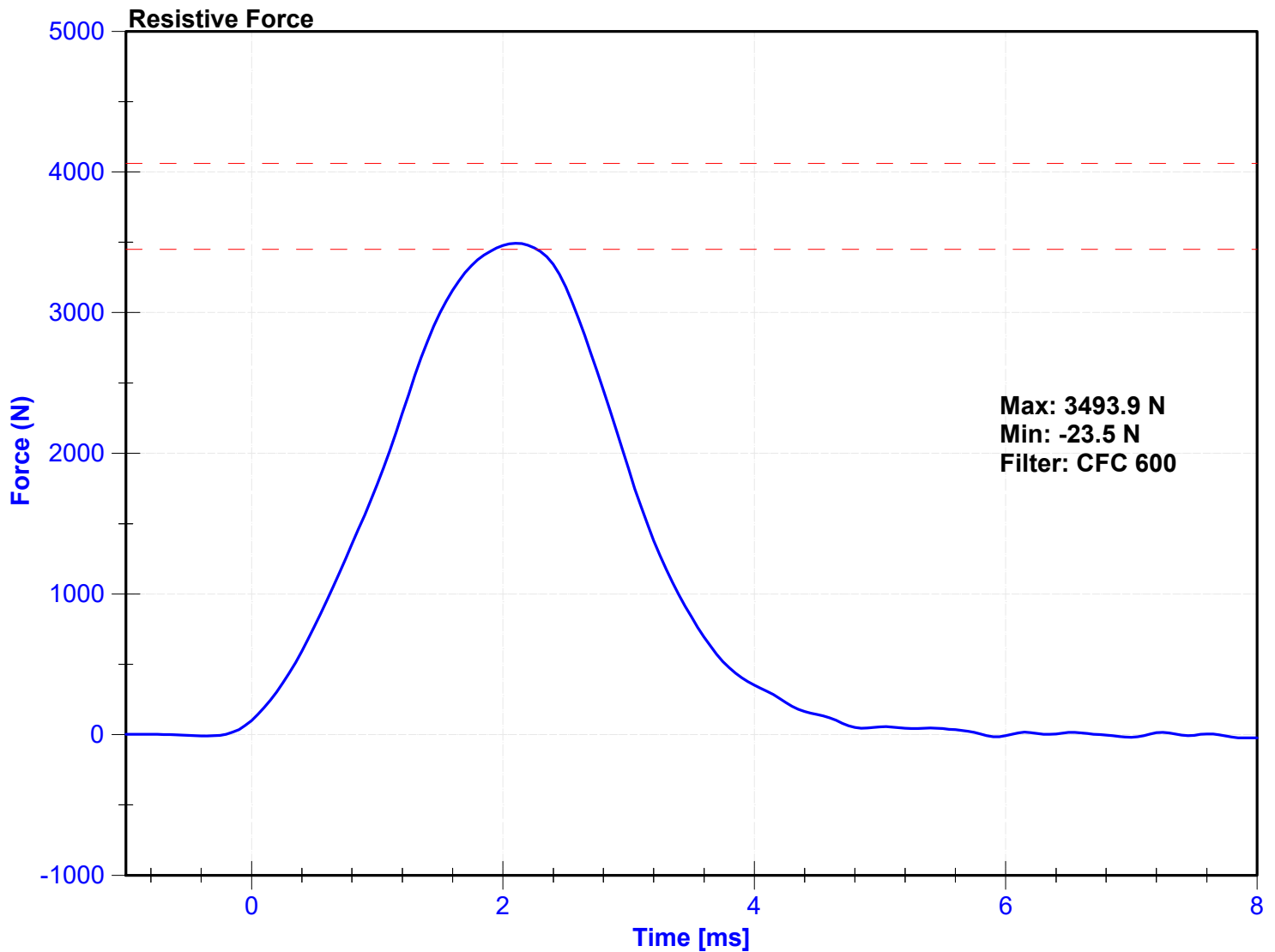
ATD Manufacturer	Humanetics	Test Technician	W. Brokx
ATD Serial Number	137	Laboratory Supervisor	J. Kinderman

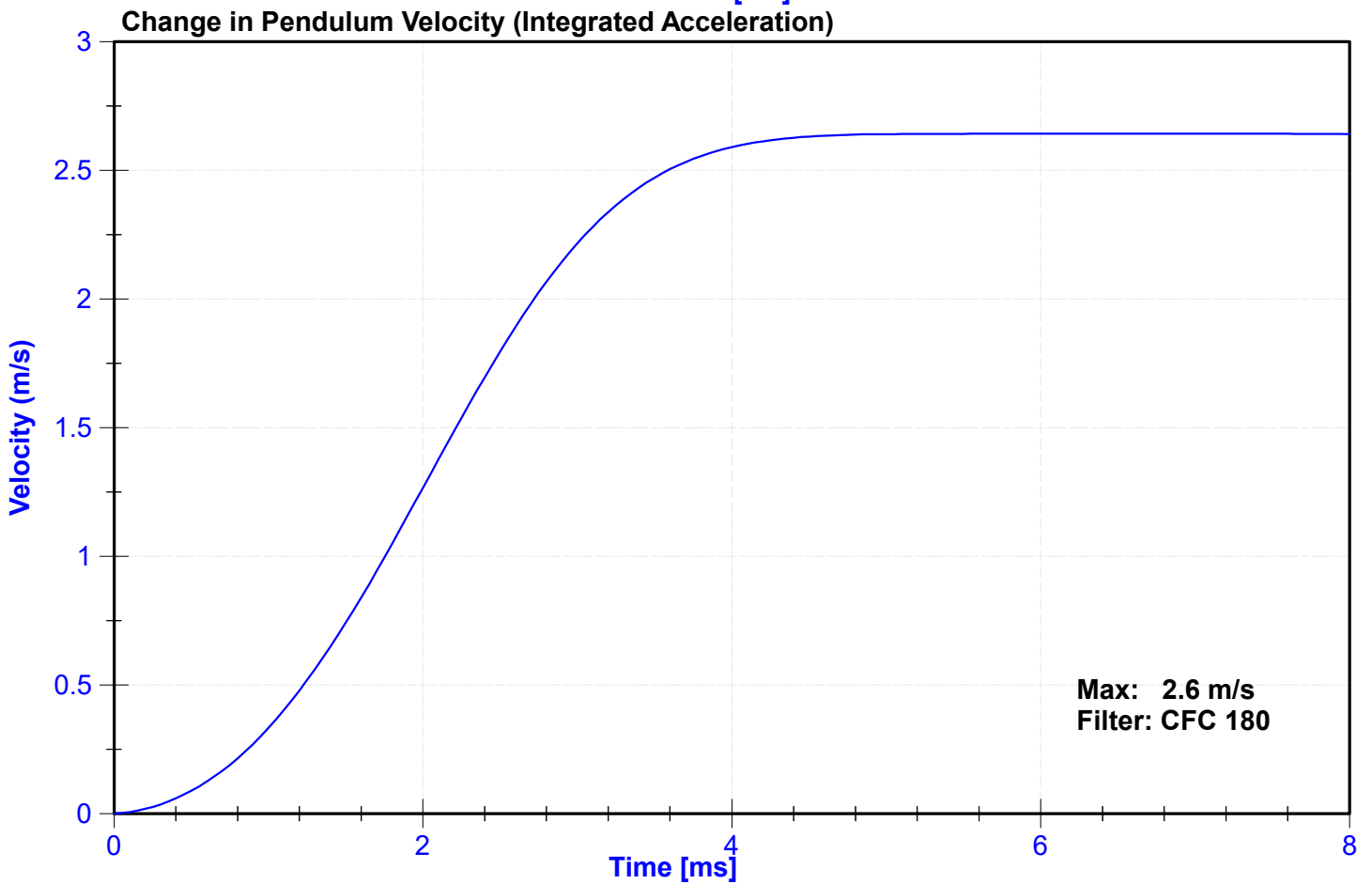
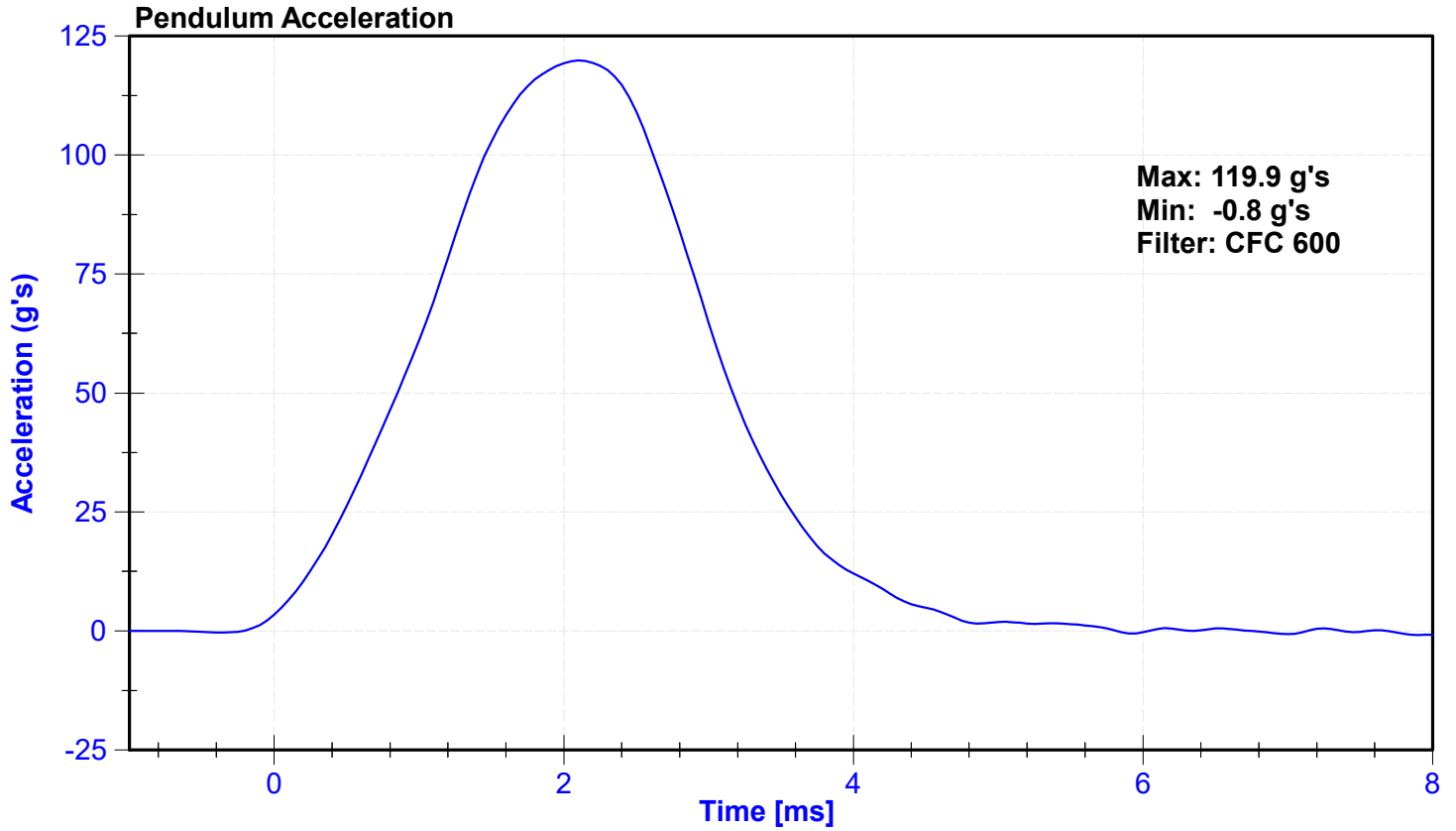
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.6	Pass
Humidity	10	70	%	17	Pass
Velocity	2.07	2.13	m/s	2.103	Pass
Resistive Force	3450	4060	N	3493.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	T25863	1/17/2025	1/17/2026





APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

Table 1 – Driver Dummy Instrumentation

Instrumentation		Axis/Location	Hybrid III 50 th S/N: 065		
			Serial Number	Manufacturer	Calibration Date
Head Accelerometers	Primary	X	P52152	Endevco	12/09/2025
		Y	P58888	Endevco	12/09/2025
		Z	P58911	Endevco	12/09/2025
	Redundant	X	P52012	Endevco	12/09/2025
		Y	P51979	Endevco	12/09/2025
		Z	P49204	Endevco	12/09/2025
Head Angular Rate Sensors		X	7603	DTS ARS	03/03/2025
		Y	15692	DTS ARS	03/03/2025
		Z	7589	DTS ARS	03/03/2025
Upper Neck Load Cell		FX, Fy, Fz MX,MY, MZ	2207-FX	Denton	07/07/2025
Chest Accelerometers	Primary	X	P58887	Endevco	12/10/2025
		Y	P66917	Endevco	12/09/2025
		Z	P49197	Endevco	12/10/2025
	Redundant	X	P49213	Endevco	12/10/2025
		Y	P63840	Endevco	12/09/2025
		Z	P83313	Endevco	12/10/2025
Chest Potentiometer		X	1046	Servo	12/09/2025
Pelvis Accelerometer		X	P51699	Endevco	12/10/2025
		Y	P94090	Endevco	12/10/2025
		Z	P83437	Endevco	12/10/2025
Femur Load Cells - Left	Primary	Z	108-FZ1	Denton	07/10/2025
	Redundant	Z	108-FZ2	Denton	07/10/2025
Femur Load Cells - Right	Primary	Z	119-FZ1	Denton	07/10/2025
	Redundant	Z	119-FZ2	Denton	07/10/2025
Tibia Load Cells - Left	Upper	MX, MY, FZ	404-FZ	Denton	07/09/2025
	Lower	MX, MY, FZ	371-FZ	Denton	07/08/2025
Tibia Load Cells – Right	Upper	MX, MY, FZ	406-FZ	Denton	07/09/2025
	Lower	MX, MY, FZ	674-FZ	Denton	07/08/2025
Foot Accelerometers - Left	Rear	X	P69807	Endevco	12/10/2025
	Front	Z	P51729	Endevco	12/10/2025
Foot Accelerometers - Right	Rear	X	P52255	Endevco	12/10/2025
	Front	Z	P51685	Endevco	12/10/2025
Seat belt Load Cells	Lap		292	GFE	02/11/2025
	Shoulder		295	GFE	02/11/2025

Table 2 – Front Passenger Dummy Instrumentation

Instrumentation		Axis/Location	Hybrid III 5 th S/N: 137		
			Serial Number	Manufacturer	Calibration Date
Head Accelerometers	Primary	X	P79417	Endevco	12/11/2025
		Y	P83335	Endevco	12/11/2025
		Z	P64149	Endevco	12/11/2025
	Redundant	X	P52008	Endevco	12/11/2025
		Y	P52045	Endevco	12/11/2025
		Z	P74774	Endevco	12/11/2025
Head Angular Rate Sensors		X	15212	DTS ARS	03/03/2025
		Y	14921	DTS ARS	03/03/2025
		Z	7370	DTS ARS	03/03/2025
Upper Neck Load Cell		FX, Fy, Fz MX,MY, MZ	1872-FX	Humanetics	07/07/2025
Chest Accelerometers	Primary	X	P58780	Endevco	12/12/2025
		Y	P83346	Endevco	12/12/2025
		Z	P49190	Endevco	12/12/2025
	Redundant	X	P58794	Endevco	12/12/2025
		Y	P69791	Endevco	12/12/2025
		Z	T11253	Endevco	12/12/2025
Chest Potentiometer		X	0720	Servo	12/11/2025
Pelvis Accelerometer		X	P58735	Endevco	12/12/2025
		Y	P59019	Endevco	12/12/2025
		Z	P51285	Endevco	12/12/2025
Femur Load Cells - Left	Primary	Z	118-FZ1	Denton	07/10/2025
	Redundant	Z	118-FZ2	Denton	07/10/2025
Femur Load Cells - Right	Primary	Z	124-FZ1	Denton	07/10/2025
	Redundant	Z	124-FZ2	Denton	07/10/2025
Tibia Load Cells - Left	Upper	MX, MY, FZ	651-FZ	Denton	07/09/2025
	Lower	MX, MY, FZ	359-FZ	Denton	07/08/2025
Tibia Load Cells – Right	Upper	MX, MY, FZ	371-FZ	Denton	07/09/2025
	Lower	MX, MY, FZ	362-FZ	Denton	07/08/2025
Foot Accelerometers - Left	Rear	X	P78959	Endevco	12/12/2025
	Front	Z	T29381	Endevco	12/12/2025
Foot Accelerometers - Right	Rear	X	P63998	Endevco	12/12/2025
	Front	Z	P80265	Endevco	12/12/2025
Seat belt Load Cells	Lap		NA	NA	
	Shoulder		DK1753	GFE	02/11/2025

Table 3 – Vehicle Instrumentation

Instrumentation			Axis	Serial Number	Manufacturer	Calibration Date
Crossmember/Rear Seat Accelerometers	Left	Primary	X	G19493	Endevco	10/31/2025
			Z	G19969	Endevco	11/07/2025
		Redundant	X	G19553	Endevco	11/03/2025
	Right	Primary	X	G19963	Endevco	11/07/2025
			Z	G19967	Endevco	11/07/2025
		Redundant	X	G19965	Endevco	11/07/2025
Engine Accelerometers	Top		X	G27107	Endevco	09/09/2025
	Bottom		X	G26701	Endevco	09/18/2025