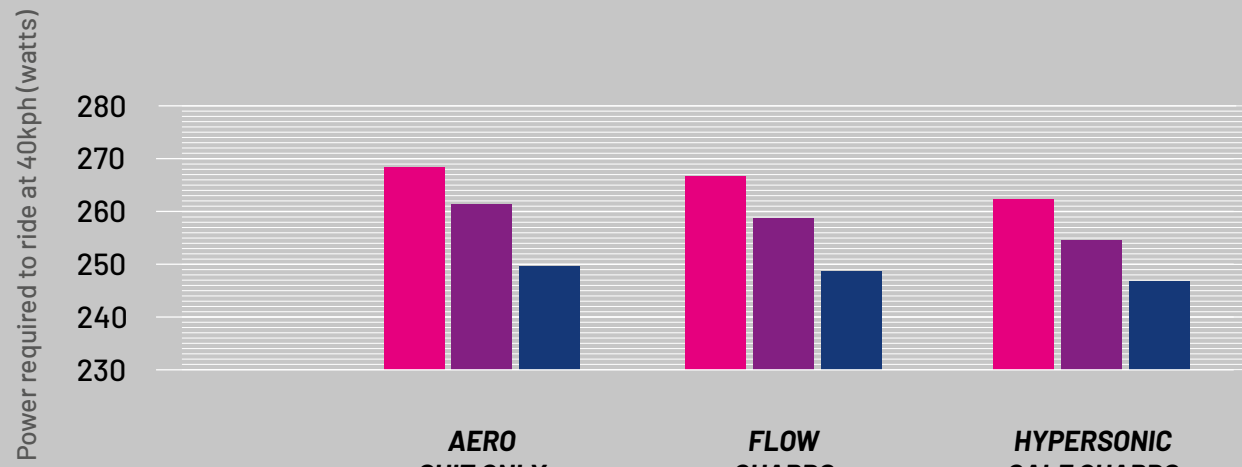
AERO SUIT / FLOW GUARDS
HYPERSONIC CALF GUARDS



	AERO SUIT ONLY	FLOW GUARDS	HYPERSONIC CALF GUARDS
0 Degrees yaw	268.19w	266.88w	262.22w
4 Degrees yaw	261.16w	258.94w	254.84w
7 Degrees yaw	249.88w	248.56w	246.74w
Average	259.74w	258.12w (-1.62w)	254.60w (-5.14w)

SUMMARY

At 40 Kph Nopinz Flow Guards were on average **-1.62w** faster and up to **-2.2w** faster than riding with bare legs.
Hypersonic Calf Guards improved aerodynamic efficiency on average by **-5.14w** with a maximum saving of **6.32w at** 4 degree yaw.

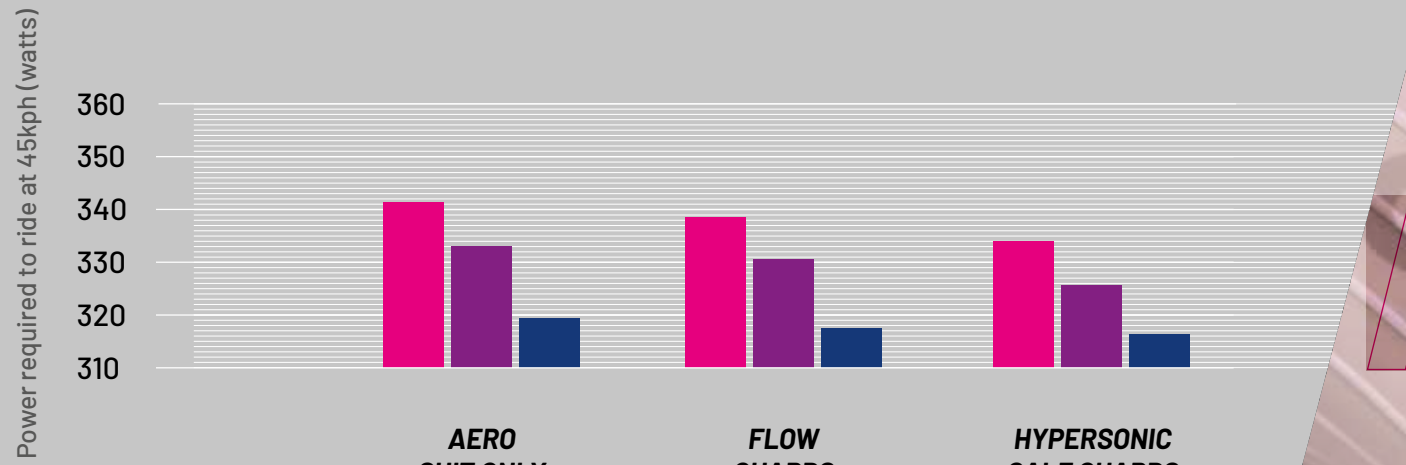
Test speed 40kph.

Yaw 0/4/7, Subject Alex Dowsett.

Location Silverstone Wind Tunnel UK.

nopinz TAILORED FOR SPEED

AERO SUIT / FLOW GUARDS
HYPERSONIC CALF GUARDS



	AERO SUIT ONLY	FLOW GUARDS	HYPERSONIC CALF GUARDS
0 Degrees yaw	341.06w	338.83w	334.05w
4 Degrees yaw	333.03w	330.35w	325.77w
7 Degrees yaw	319.17w	317.23w	316.20w
Average	331.08w	328.8w (-2.28w)	325.34w (-5.74w)

HYPERSONIC 45kph

SUMMARY

At 45 Kph Nopinz Flow Guards were on average **-2.28w** faster than riding with bare legs.
Hypersonic Calf Guards improved aerodynamic efficiency on average by **-5.74w** with a maximum saving of **7.26w** at 4 degree yaw.

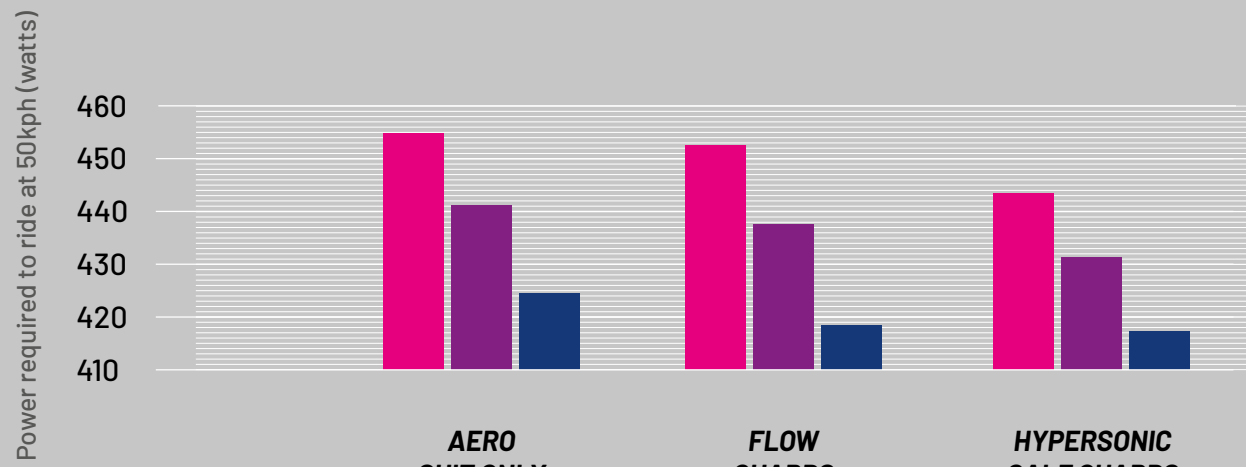
Test speed 45kph.

Yaw 0/4/7, Subject Alex Dowsett.

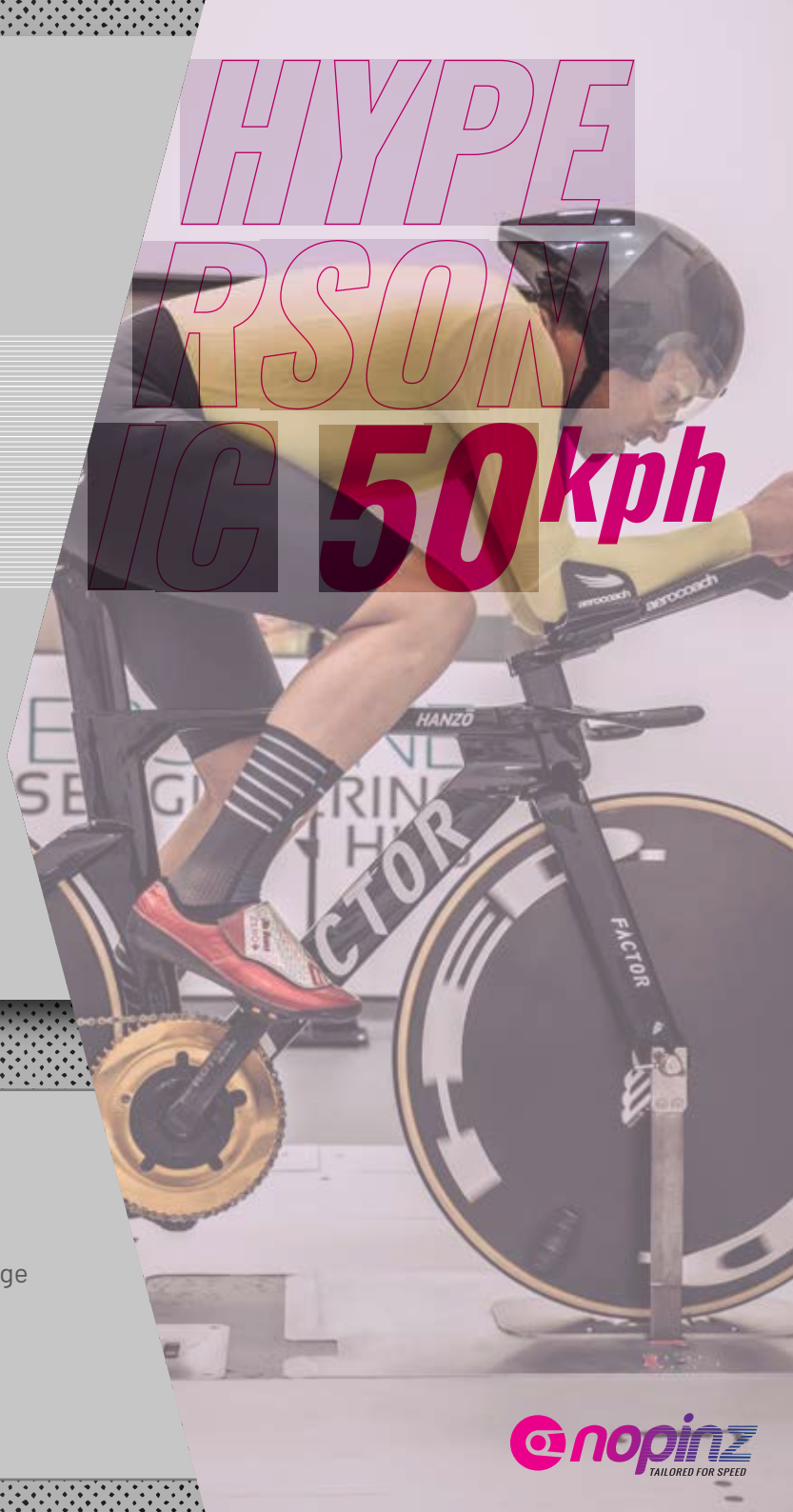
Location Silverstone Wind Tunnel UK.

nopinz TAILORED FOR SPEED

AERO SUIT / FLOW GUARDS
HYPERSONIC CALF GUARDS



	AERO SUIT ONLY	FLOW GUARDS	HYPERSONIC CALF GUARDS
0 Degrees yaw	454.90w	452.60w	443.40w
4 Degrees yaw	441.20w	437.70w	431.10w
7 Degrees yaw	424.38w	418.52w	417.20w
Average	440.16w	436.27w (-3.89w)	430.56w (-9.60w)



SUMMARY

At 50 Kph Nopinz Flow Guards were on average **-3.89w** faster than riding with bare legs.
Hypersonic Calf Guards improved aerodynamic efficiency on average by **-9.6w** with a maximum saving of **10.1w** at 4 degree yaw.

Test speed 50kph.

Yaw 0/4/7, Subject Alex Dowsett.

Location Silverstone Wind Tunnel UK.

nopinz
TAILORED FOR SPEED

AERODYNAMIC IMPACT OF WEARING ***CALF GUARDS***

Across the range of test speeds and yaw angles Nopinz Flow-Guards improved aerodynamic efficiency by an average of **2.59w**. The biggest improvement was seen at 50kph with 7 degree yaw where aerodynamic efficiency improved by **5.86w.**

Hypersonic calf guards on average improved aerodynamic efficiency by **6.82w** with the biggest saving of 10.1w coming at 50kph 4 degree yaw. To put the aerodynamic difference into perspective, over the course of a 25mile TT on average Alex would expect to save **6-7 seconds** wearing Nopinz Flow Guards or **17+** seconds wearing Hypersonic calf guards.

(These test were conducted at Silverstone wind tunnel in August 2023 using test speeds of 40/45/50 kph and a yaw angle of 0/4/7 degrees).