

Kistler Performance Analysis System for Swimming

Kistler Type 9691A

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Relevance of Starts and Turns for Time and Medals

- Up to 25% of race time consists of starting time!
- Turns comprise up to 33% of total race time on short course (25m pool)
- Only hundredths of a second can decide a race and over medal ranks
- Starts → Short distance races
- Turns → Distance races



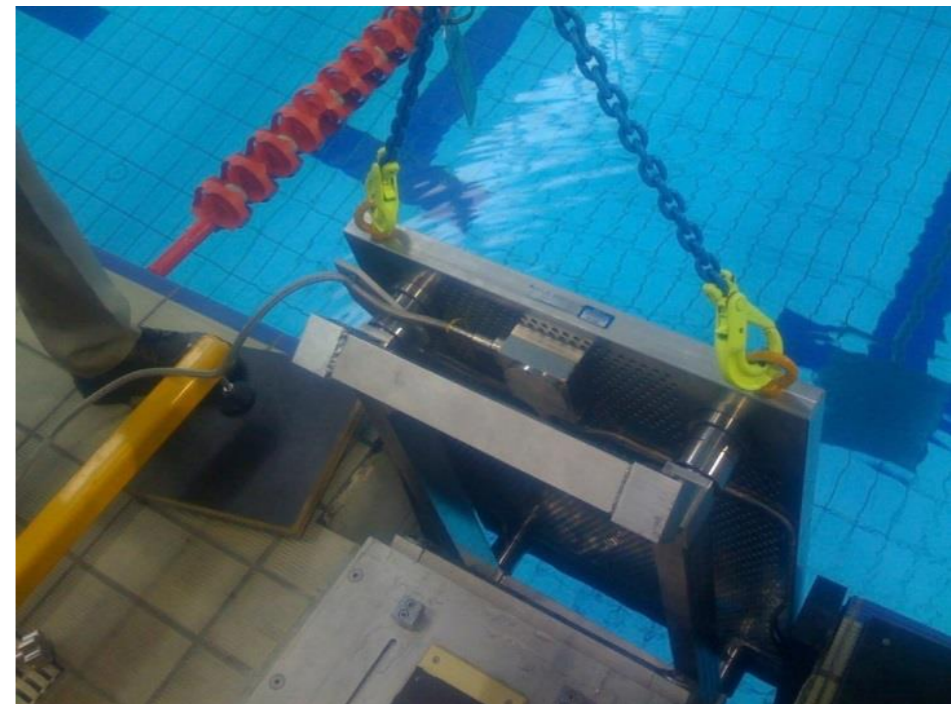
Limitations...

■ ...for the coach

- Precise and detailed feedback is needed to improve
- Details of movements are too fast to be seen
- Many actions are happening at the same time
- Poor sight: bubbles and refraction

■ ...for measuring systems

- No standard equipment available
- Need construction work in pools
- Build up on standard equipment
- Limited performance and longevity due to pool environment
- Time consuming analysis



Kistler Performance Analysis System for Swimming – type 9691A

- Analyze and improve
 - Starts, Turns, Relay changeovers
- Portable system for most swimming pools
 - Starting block
 - Turning plate
 - Under/over water cameras
 - DAQ system and PC
 - Analysis Software
- Immediate feedback
 - Coaches and athletes
 - Compare different trials



Instrumented starting block, turning plate and grab bar



- Multicomponent force measurement
 - Front force plate
 - Rear force plate
 - Grab bar
 - Turning force plate (*patent pending*)
- Pool water resistant
- Portable system
- No construction work on pool wall!

5 Cameras to analyze movement



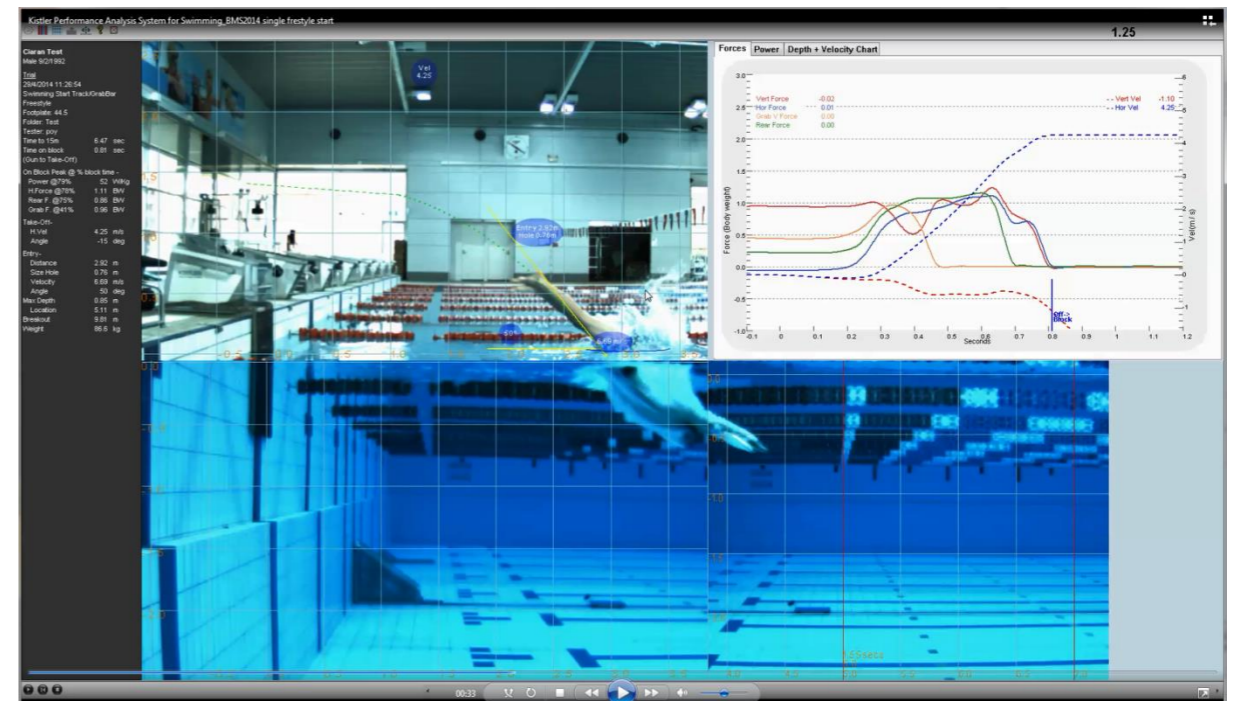
- 5 high speed cameras over and under water
- High resolution
- 100 fps
- Hardware trigger
- Pool water resistant
- Portable system
- No construction work on pool wall!

Software – analyze and compare

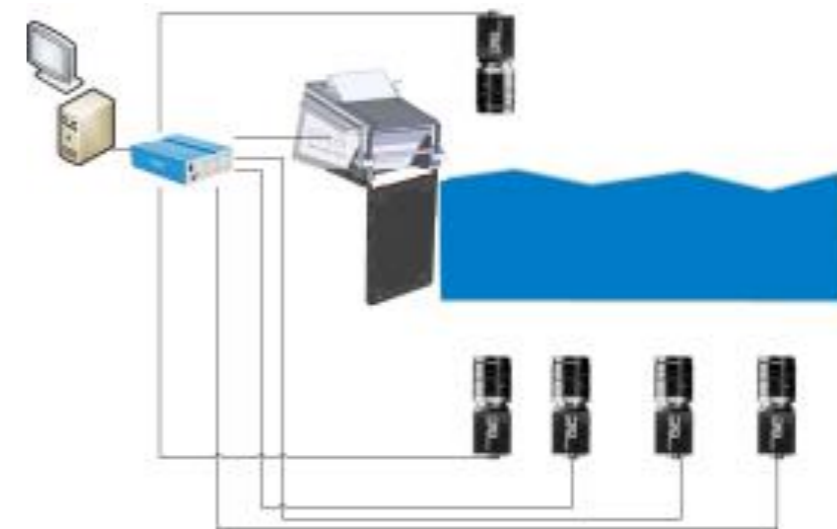
- Enhance elite swimmer's skills
- Immediate feedback
- Assists in analysis and correction of technique
- Comparison of different trials on one screen
 - One athlete different times
 - Two different athletes

■ Biomechanical analysis

- Forces
- Power
- Velocity
- Split times



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System overview

Contact



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www.kistler.com

or

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