

# SURGICAL INSTRUMENTS

Straumann® VeloDrill™ System  
High performance.  
Low temperature.






Straumann® VeloDrill™ System  
Speed. Flexible. Simply cool.

*The Straumann® VeloDrill™ System shortens oral surgery chair time, minimizes heat generation and delivers high drilling stability. Suitable for all surgical protocols, the system lowers setup cost by maximizing synergy between instrumentation for freehand and guided surgery.*





Instrumentation for implant surgery has not changed much over the past decades, until now.

Current literature<sup>1-4</sup> shows that heat generation during drilling remains a major concern during dental implant surgery. Also, guided surgery adoption is hindered due to challenges of time, money and fear.<sup>6</sup>

Our answer is the new VeloDrill™ System. Designed for use in freehand and guided surgery, the VeloDrill™ System delivers speed, precision, high drilling stability and low drilling temperature.

When used for guided surgery, VeloDrill™ allows a pilot to final drill protocol that significantly shortens chair-time. For freehand surgery, VeloDrill™ can be used with a drill stop to provide precise depth control.



### **FLEXIBLE**

Shared instrumentation for freehand and guided surgery.



### **FAST**

Shorter chair-time with a simplified drilling protocol.



### **LOW TEMPERATURE DRILLING**

Avoids overheating surrounding structures.

# High performance delivered.

VeloDrill™ System is designed to allow dentists to shorten surgery chair time and to have more control during drilling. The shorter pilot-to-final guided surgery protocol is possible due to the VeloDrill™ low heat generation technology.



## Simply cool

Combines low heat generation with high drilling stability.



## Free one hand

Compatible with self-locking drill handles for guided surgery.



## Customized setup

Used with the Straumann® Modular Cassette, a VeloDrill™ freehand setup could easily be upgraded into a guided surgery setup.

Single use drill stops and self-locking drill handles allow dentists to have precise depth control and free up one hand during drilling.

 | Stay in control

Compatible with single use drill stop that provides precise depth control.



 | Shorter chair time

Pilot-to-final guided surgery protocol at 800 rpm.





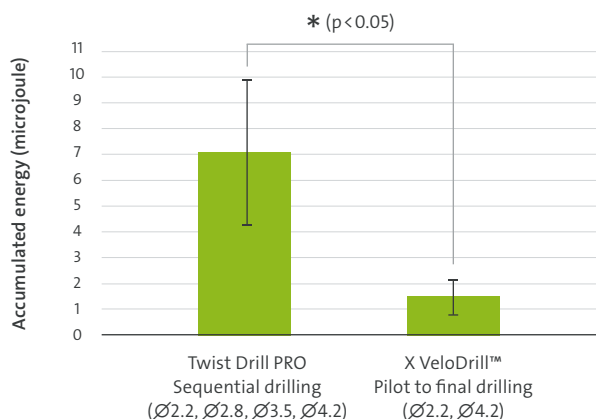
## Low temperature drilling.

Studies show that thermal damage adversely impacts bone healing.<sup>1-4</sup>

The VeloDrill™ System is designed to minimize heat generation.<sup>5</sup> This is facilitated by the new cutting geometry design and surface treatment that limits friction and facilitates debris extraction.

When used for guided surgery, the low-temperature drilling allows VeloDrill™ to be used for a pilot-to-final drill protocol, without generating more heat compared to the traditional sequential drilling protocol.<sup>5</sup>

Accumulated energy measured above room temperature (25 °C) across the drilling protocol in PUR plate (pcf 50) simulating hard bone





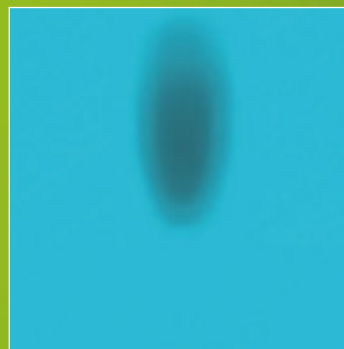
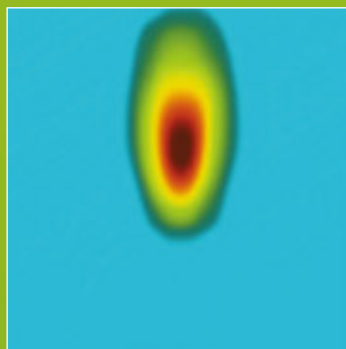
# Avoid overheating surrounding structures.



Twist Drill PRO



X VeloDrill™



Ø 2.8 mm drill, direct drilling in PUR (pcf 50) plate simulating hard bone measured with infrared camera.<sup>5</sup>

# Straumann® VeloDrill™ System

## Speed. Flexible. Simply cool.

- Shorter chair time and simplified drilling protocol
- Shared instrumentation for freehand and guided surgery
- Avoid overheating surrounding structures

### REFERENCES

1 Iyer S1, Weiss C, Mehta A. Effects of drill speed on heat production and the rate and quality of bone formation in dental implant osteotomies. *Int J Prosthodont.* 1997 Sep-Oct;10(5):411-4. 2 Albrektsson T, Eriksson A. Thermally induced bone necrosis in rabbits: relation to implant failure in humans. *Clin Orthop Relat Res.* 1985 May;(195):311-2. 3 Eriksson RA, Albrektsson T. The effect of heat on bone regeneration: an experimental study in the rabbit using the bone growth chamber. *J Oral Maxillofac Surg.* 1984 Nov;42(11):705-11. 4 Mishra SK, Chowdhary R. Heat generated by dental implant drills during osteotomy-a review: heat generated by dental implant drills. *J Indian Prosthodont Soc.* 2014 Jun;14(2):131-43. 5 Data on file for Straumann® VeloDrill™ and Twist Drill PRO 6 Orentlicher G, Horowitz A, Abboud M. What's Hindering Dentistry From the Widespread Adoption of CT-Guided Surgery? *Compend Contin Educ Dent.* 2015 Nov-Dec;36(10):762-4, 766.



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