

Doughty Brian
Form 4
May 17, 2010

FORM 4

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
Doughty Brian

(Last) (First) (Middle)
651 CAMPUS DRIVE
(Street)

ST. PAUL, MN 55112

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
Cardiovascular Systems Inc [CSII]

3. Date of Earliest Transaction
(Month/Day/Year)
05/13/2010

4. If Amendment, Date Original Filed(Month/Day/Year)

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

____ Director _____ 10% Owner
 Officer (give title below) _____ Other (specify below)
VP of Commerical Operations

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
____ Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)
				(A) or (D) Code V Amount (D) Price			
Common Stock	05/13/2010		S ⁽¹⁾	2,147 D	\$ 5.16	41,533 D	

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 3)
Stock Option (right to buy)	\$ 8.83					(2) 12/18/2016	Common Stock 45,290	
Stock Option (right to buy)	\$ 8.83					(2) 04/17/2017	Common Stock 3,235	
Stock Option (right to buy)	\$ 7.9					(3) 06/11/2017	Common Stock 16,175	
Stock Option (right to buy)	\$ 7.9					(4) 08/06/2017	Common Stock 6,470	
Stock Option (right to buy)	\$ 12.15					(5) 12/11/2017	Common Stock 32,350	
Stock Option (right to buy)	\$ 8.75					(6) 03/01/2019	Common Stock 7,764	

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Doughty Brian 651 CAMPUS DRIVE ST. PAUL, MN 55112			VP of Commerical Operations	

Signatures

/s/ John R. Remakel as Attorney-in-Fact for Brian Doughty pursuant to Power of Attorney previously filed.

05/17/2010

__Signature of Reporting Person

Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) In connection with the vesting and delivery of restricted stock, shares were sold and the net proceeds were used to pay required withholding taxes.
- (2) Fully exercisable.
- (3) Exercisable: 5,391 on 6/12/08 and 5,392 on 6/12/09 and 6/12/10.
- (4) Exercisable: 2,156 on 8/7/08 and 2,157 on 8/7/09 and 8/7/10.
- (5) Exercisable: 16,175 on 2/25/10 and 2/25/11.
- (6) Exercisable: 3,882 on 3/2/10 and 3/2/11.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.