NUTRI SYSTEM INC /DE/ Form SC 13G/A February 14, 2018

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

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No. 5) *

		Nutrisystem, Inc.	
	(Na	me of Issuer)	
	Comm	on Stock, \$.001 par value	
	(Title of C	lass of Securities)	
		67069D108	
	(CUS	IP Number) December 29, 2017	
	(Date of Event Which	Requires Filing of this	Statement)
Check the Schedule i	appropriate box to designa s filed:	te the rule pursuant to w	hich this
[X] R	ule 13d-1(b)		
[_] R	ule 13d-1(c)		
[_] R	ule 13d-1(d)		
initial f and for a	nder of this cover page shiling on this form with reny subsequent amendment consures provided in a prior	spect to the subject clasentaining information which	s of securities,
deemed to 3 Act of 193	ation required in the remate be "filed" for the purpose 4 ("Act") or otherwise substitute to a but shall be subject to a tes).	e of Section 18 of the Sec ject to the liabilities o	urities Exchange f that section
CUSIP NO.	67069D108	13G	 Page 2 of 8 Pages
	S OF REPORTING PERSONSS. IDENTIFICATION NOS. OF	' ABOVE PERSONS (entities	only).
Rena	issance Technologies LLC	26-0385758	
(2) CHECK	THE APPROPRIATE BOX IF A	MEMBER OF A GROUP (SEE IN	STRUCTIONS):

	(b) [_]			
(3)	SEC USE ONLY			
(4)	CITIZENSHIP OR PLACE OF O	 RGANIZATION		
	Delaware			
			(5)	SOLE VOTING POWER
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:				1,713,300
			(6)	SHARED VOTING POWER
				0
			(7)	SOLE DISPOSITIVE POWER
				1,713,300
			(8)	SHARED DISPOSITIVE POWER
				8,200
(9)	AGGREGATE AMOUNT BENEFIC	IALLY OWNED BY EAC	H REI	PORTING PERSON
		1,721,500		
(10)	CHECK BOX IF THE AGGREGA	TE AMOUNT IN ROW (9) EX	CLUDES CERTAIN SHARES
	(SEE INSTRUCTIONS)			[_]
(11)	PERCENT OF CLASS REPRES	 ENTED BY AMOUNT IN	ROW	(9)
		5.73 %		
(12)	TYPE OF REPORTING PERSON	(SEE INSTRUCTIONS)	
		Page 2 of 8 pag	es	
		Page 3 of 8 pag		
		13G		Page 3 of 8 Page
(1)	NAMES OF REPORTING PERSON	NS.		ENTITIES ONLY).
	RENAISSANCE TECHNOLOGIES	HOLDINGS CORPORAT	ION	13-3127734
(2)	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) [_] (b) [_]			
(3)	SEC USE ONLY			

Delaware			
	(F) GOLD WORLD DOWN		
	(5) SOLE VOTING POWER		
NUMBER OF SHARES BENEFICIALLY OWNED	1,713,300		
BY EACH REPORTING PERSON WITH:	(6) SHARED VOTING POWER		
	0		
	(7) SOLE DISPOSITIVE POWER		
	1,713,300		
	(8) SHARED DISPOSITIVE POWER		
	8,200		
(9) AGGREGATE AMOUNT BENEFICIALLY OWNED	BY EACH REPORTING PERSON		
1,721,500			
(10) CHECK BOX IF THE AGGREGATE AMOUNT IN	N ROW (9) EXCLUDES CERTAIN SHARES		
(SEE INSTRUCTIONS)			
(11) PERCENT OF CLASS REPRESENTED BY AMO	DUNT IN ROW (9)		
5.73 %			
(12) TYPE OF REPORTING PERSON (SEE INSTRU	ICTIONS)		
HC	30110.00		
Page 3 of			
	l3G Page 4 of 8 Pages		
Item 1.			
(a) Name of Issuer			
Nutrisystem, Inc.			
(b) Address of Issuer's Principal Exe	ecutive Offices.		
Fort Washington Executive Center Pennsylvania 19034	c, 600 Office Center Drive, Fort Washington		
Item 2.			
(a) Name of Person Filing:			
	d by Renaissance Technologies LLC pgies Holdings Corporation ("RTHC").		

(b) Address of Principal Business Office or, if none, Residence.

The principal business address of the reporting persons is:

800 Third Avenue New York, New York 10022

(c) Citizenship.

RTC is a Delaware limited liability company, and RTHC is a Delaware corporation.

(d) Title of Class of Securities.

Common Stock, \$.001 par value

(e) CUSIP Number.

67069D108

Page 4 of 8 pages

- Item 3. If this statement is filed pursuant to Rule 13d-1(b) or 13-d-2(b)or (c), check whether the person filing is a:
- (a) [_] Broker or dealer registered under section 15 of the Act.
- (b) [_] Bank as defined in section 3(a)(6) of the Act.
- (c) [_] Insurance Company as defined in section 3(a)(19) of the Act.
- (d) [_] Investment Company registered under section 8 of the Investment Company Act.
- (e) [x] Investment Adviser in accordance with Sec.240.13d-1(b)(1)(ii)(E).
- (f) [_] Employee Benefit Plan or Endowment Fund in accordance with Sec. 240.13d-1(b)(1)(ii)(F).
- (g) [_] Parent holding company, in accordance with Sec.240.13d-1(b)(1)(ii)(G).
- (h) [_] A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act.
- (i) $[_]$ A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940.
- (j) [_] Group, in accordance with Sec.240.13d-1(b)(1)(ii)(J).
- Item 4. Ownership.
 - (a) Amount beneficially owned.

RTC: 1,721,500

shares, comprising the shares beneficially owned 1,721,500 by RTHC, because of RTHC's majority ownership of RTC.

(b) Percent of Class.

RTC: 5.73 % RTHC: 5.73 %

- (c) Number of shares as to which the person has:
 - (i) sole power to vote or to direct the vote:

1,713,300 RTC: RTHC: 1,713,300

(ii) Shared power to vote or to direct the vote: 0

(iii) sole power to dispose or to direct the disposition of:

RTC: 1,713,300 RTHC: 1,713,300

(iv) Shared power to dispose or to direct the disposition of:

RTC: 8,200 RTHC: 8,200

Page 5 of 8 pages

Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following: [_]

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Certain funds and accounts managed by RTC have the right to receive dividends and proceeds from the sale of the securities which are the subject of this report.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company.

Not applicable

Item 8. Identification and Classification of Members of the Group.

Not applicable

Item 9. Notice of Dissolution of a Group.

Not applicable

Page 6 of 8 pages

Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete

and correct.

Date: February 13, 2018

Renaissance Technologies LLC

By: /s/ Mark Silber

Executive Vice President

Renaissance Technologies Holdings Corporation

By: /s/ Mark Silber Vice President

Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See $18\ U.S.C.\ 1001$).

Page 7 of 8 Pages

EXHIBIT 99.1

AGREEMENT REGARDING JOINT FILING

UNDER RULE 13D-1(K) OF THE EXCHANGE ACT

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, each of the undersigned agrees to the filing on behalf of each of a Statement on Schedule 13G, and all amendments thereto, with respect to the shares of Common Stock, \$.001 par value of Nutrisystem, Inc.

Date: February 13, 2018

Renaissance Technologies LLC

By: /s/ Mark Silber
Executive Vice President

Renaissance Technologies Holdings Corporation

By: /s/ Mark Silber Vice President

Page 8 of 8 Pages