

Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246

NATIONAL

TAB

Comfort. Under control.

Report: Prelim
Function: Test, Adjust, & Balance
Date: 01/05/2023

PROJECT

02-27-23 WALGREENS #3840 - BURIEN, WA

14656 AMBAUM BLVD SW

BURIEN, WA 98166

Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU1

AREA:SALES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	2625	2513
Serial Num	-	N2K2996884	SF RPM	987	829
Model Num	ZJ090N12R2B5GCB2R2	ZJ090N12R2B5GCB2R2	RA CFM	2137	2011
Type	RTU	RTU	OA CFM	488	502
Configuration	VERTICAL	VERTICAL	RL Voltage	-	209/208/209
Num OA Filters 1	-	1	RL Amperage	-	8.1/8.2/8.1
OA Filter Size 1	-	20X29	SF Rotation	-	CCW
Num Final Filter 1	-	2	RA Damper Position	-	80%
Final Filter Size 1	-	21X45X2	Min OA Damper Position	-	20%
			Min OA Damper Type	-	MOTORIZED
			OA Enthalpy Setpt	-	SP4

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	230	230/460
Rated Amperage	-	8.2/4.1

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.59"
Fan Suction SP	-	-0.78"
Fan Discharge SP	-	1.09"
Total ESP	1.2"	1.68"
Fan Total SP	-	1.87"

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VM50
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5 TURNS OPEN
Fan Sheave Size	-	8"
Fan Sheave Bore	-	1"
Belt CL Distance	-	19.5"
Num of Belts	-	1
Belt Size	-	A54
Belt Alignment	-	VERIFIED

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Project:02-27-23 WALGREENS #3840 - BURIEN, WA

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU1/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	NA	NA	437.5	1	402	412	412	94.2
SGRD2	SALES	NA	NA	656	1	622	639	639	97.4
SGRD3	SALES	NA	NA	175	1	182	172	172	98.3
SGRD4	SALES	NA	NA	175	1	191	181	181	103.4
SGRD5	SALES	NA	NA	175	1	229	171	171	97.7
SGRD6	SALES	NA	NA	175	1	275	165	165	94.3
SGRD7	SALES	NA	NA	415	1	321	391	391	94.2
SGRD8	SALES	NA	NA	415	1	312	382	382	92.0

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU2

AREA:SALES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	\$F CFM	2625	2804
Serial Num	-	N2L2019508	\$F RPM	1314	923
Model Num	ZR090N12R2B5GCB2R1	ZR090N12R2B5GCB2R1	RA CFM	2237	2393
Type	RTU	RTU	OA CFM	388	411
Configuration	VERTICAL	VERTICAL	RL Voltage	-	208/209/207
Num OA Filters 1	-	1	RL Amperage	-	7.5/7.8/8
OA Filter Size 1	-	20X29	\$F Rotation	-	CCW
Num Final Filter 1	-	2	RA Damper Position	-	85%
Final Filter Size 1	-	17X51	Min OA Damper Position	-	15%
			Min OA Damper Type	-	MOTORIZED
			OA Enthalpy Setpt	-	SP4

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	230	230/460
Rated Amperage	-	8.2/4.1

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.55"
Fan Suction SP	-	-0.82"
Fan Discharge SP	-	0.71"
Total ESP	1.2"	1.26"
Fan Total SP	-	1.53"

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VM50
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5 TURNS OPEN
Fan Sheave Size	-	AK61
Fan Sheave Bore	-	1"
Belt CL Distance	-	18"
Num of Belts	-	1
Belt Size	-	A49
Belt Alignment	-	VERIFIED

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Project:02-27-23 WALGREENS #3840 - BURIEN, WA

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU2/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	NA	NA	368	1	372	397	397	107.9
SGRD2	SALES	NA	NA	368	1	332	401	401	109.0
SGRD3	SALES	NA	NA	368	1	472	401	401	109.0
SGRD4	SALES	NA	NA	368	1	427	419	419	113.9
SGRD5	SALES	NA	NA	368	1	399	399	399	108.4
SGRD6	SALES	NA	NA	368	1	397	395	395	107.3
SGRD7	SALES	NA	NA	138	1	127	131	131	94.9
SGRD8	SALES	NA	NA	138	1	215	132	132	95.7
SGRD9	SALES	NA	NA	138	1	231	129	129	93.5

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU3

AREA:SALES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	2275	2170
Serial Num	-	N2E2377579	SF RPM	974	823
Model Num	ZT078N12R2B5GCB2R1	ZT078N12R2B5GCB2R1	RA CFM	2175	2076
Type	RTU	RTU	OA CFM	100	94
Configuration	VERTICAL	VERTICAL	RL Voltage	-	209/208/208
Num OA Filters 1	-	1	RL Amperage	-	5.6/5.4/5.6
OA Filter Size 1	-	29X20	SF Rotation	-	CCW
Num Final Filter 1	-	2	RA Damper Position	-	90%
Final Filter Size 1	-	21X46X2	Min OA Damper Position	-	10%
			Min OA Damper Type	-	MOTORIZED
			OA Enthalpy Setpt	-	SP4

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	2	2
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	230	230/460
Rated Amperage	-	5.8/2.9

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.56"
Fan Suction SP	-	-0.58
Fan Discharge SP	-	0.63"
Total ESP	1.2"	1.19"
Fan Total SP	-	1.21"

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VM50
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5 TURNSBOPEN
Fan Sheave Size	-	AK74
Fan Sheave Bore	-	1"
Belt CL Distance	-	19"
Num of Belts	-	1
Belt Size	-	A54
Belt Alignment	-	VERIFIED

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Project:02-27-23 WALGREENS #3840 - BURIEN, WA

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU3/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	NA	NA	380	1	452	372	372	97.9
SGRD2	SALES	NA	NA	380	1	321	351	351	92.4
SGRD3	SALES	NA	NA	380	1	311	369	369	97.1
SGRD4	SALES	NA	NA	380	1	502	372	372	97.9
SGRD5	SALES	NA	NA	380	1	298	361	361	95.0
SGRD6	SALES	NA	NA	380	1	351	345	345	90.8

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU4

AREA:SALES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	2625	2873
Serial Num	-	N2K2996885	SF RPM	987	834
Model Num	ZJ090N12R2B5GCB2R2	ZJ090N12R2B5GCB2R2	RA CFM	2137	2382
Type	RTU	RTU	OA CFM	488	491
Configuration	VERTICAL	VERTICAL	RL Voltage	-	209/208/207
Num OA Filters 1	-	1	RL Amperage	-	7.2/7.2/7.3
OA Filter Size 1	-	21X29	SF Rotation	-	CCW
Num Final Filter 1	-	2	RA Damper Position	-	75%
Final Filter Size 1	-	20X45X2	Min OA Damper Position	-	25%
			Min OA Damper Type	-	MOTORIZED
			OA Enthalpy Setpt	-	SP4

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	230	230/460
Rated Amperage	-	8.2/4.1

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.63"
Fan Suction SP	-	-0.75"
Fan Discharge SP	-	0.56"
Total ESP	1.2"	-

General		
	Design	Actual

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VM50
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	1 TURN OPEN
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1
Belt CL Distance	-	19"
Num of Belts	-	1
Belt Size	-	A54
Belt Alignment	-	VERIFIED

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Project:02-27-23 WALGREENS #3840 - BURIEN, WA

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU4/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	NA	NA	350	1	502	382	382	109.1
SGRD2	SALES	NA	NA	350	1	521	389	389	111.1
SGRD3	SALES	NA	NA	350	1	289	391	391	111.7
SGRD4	SALES	NA	NA	350	1	359	389	389	111.1
SGRD5	SALES	NA	NA	350	1	421	381	381	108.9
SGRD6	SALES	NA	NA	350	1	391	396	396	113.1
SGRD7	SALES	NA	NA	263	1	192	284	284	108.0
SGRD8	SALES	NA	NA	131	1	122	137	133	101.5
SGRD9	SALES	NA	NA	131	1	152	128	128	97.7

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU5

AREA:PHARMACY

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	1050	995
Serial Num	-	N2E2506745	SF RPM	960	521
Model Num	ZJ037N08D2B5BCB2R3	ZJ037N08D2B5BCB2R3	RA CFM	1050	989
Type	RTU	RTU	OA CFM	0	0
Configuration	VERTICAL	VERTICAL	RL Voltage	-	208/209/207
Num OA Filters 1	-	1	RL Amperage	-	3.12/3.14/3.2
OA Filter Size 1	-	29X20	SF Rotation	-	CCW
Num Final Filter 1	-	2	RA Damper Position	-	100%
Final Filter Size 1	-	16X40X2	Min OA Damper Position	-	0%
			Min OA Damper Type	-	MOTORIZED
			OA Enthalpy Setpt	-	SP4

Motor Data		
	Design	Actual
Motor MFG	-	CENTURY
Frame	-	56H
Horsepower	1.50	1.5
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	230	230/460
Rated Amperage	-	5.0/2.5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.14"
Fan Suction SP	-	-0.16"
Fan Discharge SP	-	0.19"
Total ESP	1.2"	0.33"
Fan Total SP	-	0.35"

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8
Motor Sheave SetPt	-	3 TURNS OPEN
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1"
Belt CL Distance	-	16"
Num of Belts	-	1
Belt Size	-	A47
Belt Alignment	-	VERIFIED

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Notes: AIRFLOW INITIALLY APPROXIMATELY 1750 CFM. PULLEY CHANGE PERFORMED TO REDUCE AIRFLOW TO DESIGN.

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Project:02-27-23 WALGREENS #3840 - BURIEN, WA

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU5/PHARMACY

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	PHARMACY	NA	NA	250	1	473	273	247	98.8
SGRD2	PHARMACY	NA	NA	250	1	488	288	247	98.8
SGRD3	PHARMACY	NA	NA	250	1	479	279	231	92.4
SGRD4	PHARMACY	NA	NA	250	1	301	111	227	90.8
SGRD5	HEALTH SERVICES ROOM	NA	NA	40	1	58	38	43	107.5

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Asset	Notes
SGRD5	EXTRA DIFFUSER NOT SHOWN ON PLANS.

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU6

AREA:STORAGE

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	1050	1047
Serial Num	-	N2E2506744	SF RPM	960	542
Model Num	ZJ037N08D2B5BCB2R3	ZJ037N08D2B5BCB2R3	RA CFM	950	940
Type	RTU	RTU	OA CFM	100	107
Configuration	VERTICAL	VERTICAL	RL Voltage	-	208/208/209
Num OA Filters 1	-	1	RL Amperage	-	3.25/3.24/3.14
OA Filter Size 1	-	20X29	SF Rotation	-	CCW
Num Final Filter 1	-	2	RA Damper Position	-	90%
Final Filter Size 1	-	16X50X2	Min OA Damper Position	-	10%
			Min OA Damper Type	-	MOTORIZED
			OA Enthalpy Setpt	-	SP4

Motor Data		
	Design	Actual
Motor MFG	-	CENTURY
Frame	-	56H
Horsepower	1.50	1.50
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	230	230/460
Rated Amperage	-	5.0/2.5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.15"
Fan Suction SP	-	-0.17"
Fan Discharge SP	-	0.10
Total ESP	1.2"	0.25"
Fan Total SP	-	0.27"

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8
Motor Sheave SetPt	-	5 TURNS OPEN
Fan Sheave Size	-	AK104
Fan Sheave Bore	-	1"
Belt CL Distance	-	16"
Num of Belts	-	1
Belt Size	-	A47
Belt Alignment	-	VERIFIED

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Notes: AIRFLOW INITIALLY APPROXIMATELY 1700 CFM. PULLEY CHANGE PERFORMED TO REDUCE AIRFLOW TO DESIGN.

National TAB

Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF1

AREA:EMPLOYEE ROOM

Unit Data		
	Design	Actual
MFG	PENN	GREENHECK
Model Num	ZEPHYR-Z85TDA	CSP-A190-QD
Serial Num	-	20975181
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	300	137
System SetPt	-	ON
Total ESP	0.33"	0.21"

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	0.008	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	NL
Service Factor	-	NL

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Notes:

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF2

AREA:MENS RESTROOM

Unit Data		
	Design	Actual
MFG	PENN	PENN
Model Num	ZEPHYR-Z85TDA	ZEPHYR-Z85TDA
Serial Num	-	NA
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	200	116
Fan RPM	-	NA
Total ESP	0.25"	NA

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	0.08	NL
Motor Rpm	-	NL
Phase	1	NL
Voltage (rated)	115	NL
Amperage (rated)	-	NL
Service Factor	-	NL

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF3

AREA:WOMENS RR

Unit Data		
	Design	Actual
MFG	PENN	PENN
Model Num	ZEPHYR-Z85TDA	ZEPHYR-Z85TDA
Serial Num	-	NL
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	200	126
Fan RPM	-	NA
Total ESP	0.25"	NA

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	0.08	NL
Motor Rpm	-	NL
Phase	1	NL
Voltage (rated)	115	NL
Amperage (rated)	-	NL
Service Factor	-	NL

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF4

AREA:PHOTO

Unit Data

	Design	Actual
MFG	PENN	PENN
Model Num	ZEPHYR-Z12STDA	ZEPHYR-Z12STDA
Serial Num	-	NL
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data

	Design	Actual
CFM	750	0
System SetPt	-	ON
Total ESP	0.25"	0

Motor Data

	Design	Actual
Motor MFG	-	MAGNETEK
Frame	-	NL
Horsepower	0.12	NL
Motor Rpm	-	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	7.9
Service Factor	-	NL

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF5

AREA:OFFICE

Unit Data

	Design	Actual
MFG	PENN	NUTOME
Model Num	ZEPHYR-Z8HTDA	QTXEN150-B
Serial Num	-	NA
Type	CEILING	CEILING
Configuration	VERTICAL	HORIZONTAL

Test Data

	Design	Actual
CFM	300	153
System SetPt	-	ON
Total ESP	0.33"	NA

Motor Data

	Design	Actual
Horsepower	0.08	NA
Phase	1	1
Voltage (rated)	115	120
Amperage (rated)	-	0.5

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF6

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	PENN	PENN
Model Num	ZEPHYR-Z10H	ZEPHYR-Z10H
Serial Num	-	-
Type	CEILING	-
Configuration	VERTICAL	-

Test Data		
	Design	Actual
CFM	500	-

Motor Data		
	Design	Actual
Horsepower	0.29	-
Phase	1	-
Voltage (rated)	115	-

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Notes:

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Project: 02-27-23 WALGREENS #3840 - BURIEN, WA

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF7

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	PENN	PENN
Model Num	ZEPHYR-Z10H	ZEPHYR-Z10H
Serial Num	-	-
Type	CEILING	-
Configuration	VERTICAL	-

Test Data		
	Design	Actual
CFM	500	-

Motor Data		
	Design	Actual
Horsepower	0.29	-
Phase	1	-
Voltage (rated)	115	-

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Notes: