Carrier® Product Bulletin

Subject: Non-Condensing (80's) Gas Furnace FER Launch (Dealers)
Department: Product Marketing
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Contact: Ryan Rouse
Related Bulletins: None

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Model Family: All non-condensing furnace model families

FER (Fan Energy Rating) Program: Non-Condensing (80%) Gas Furnace Launch

With a manufacturing cutoff date of **July 3, 2019**, FER compliance is quickly approaching and we are gearing up to launch our FER compliant lineup. Read below for more details.

Introduction

Over the last couple of years, the Carrier® team has been talking to you about the Department of Energy's (DOE) FER regulation and the impact FER will have on gas furnaces. The time is now to start preparing for the changes coming in the first half of 2019. This bulletin will provide you with the information you need to plan for a successful gas furnace FER transition; including key dates, model number changes, and support materials.

Although this bulletin is focused on the gas furnace FER transition, all YAC and Hybrid Heat residential SPP products are also impacted by FER. There will be a separate bulletin on the SPP transition.

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- **Badge Changes** (Page 8): The new 80s badges will become similar to 90s
- **Training Materials** (Page 9): We will be launching new gas furnace training with FER
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FER Overview

In 2014, the DOE established the first national efficiency standard targeting a specific product component – residential furnace fans. The new Fan Energy Rating (FER) formula specifies a maximum energy rating that varies based on the airflow provided by the furnace fan. FER is expressed in terms of power consumption in watts (W) per delivered airflow (1000 cfm), and incorporates energy consumption in three different modes: heating, cooling, and constant fan.

For gas heating products, the new standards target a significant 46 percent watt reduction over a typical permanent split capacitor (PSC) furnace blower motor. With this level of watt reduction, furnaces with PSC motors will not comply with FER, requiring electronically commutated motors (ECM) in all gas furnaces. The FER value is different for each furnace model, requiring all current ECM models to be re-designed for FER compliance. FER only applies to the furnace blower motor. Inducer motors are not impacted by FER and PSC inducer motors will remain in our product lineups.

FER compliance is based on a manufacture date of July 3, 2019. This means Carrier can no longer manufacture non-FER compliant furnaces (including PSC furnaces) after July 2, 2019. Furnaces with PSC motors and pre-FER ECM models can be installed any time after the regulation takes effect, as long as the furnace is manufactured before July 3, 2019.

In late 2018, the DOE began evaluating a petition to consider a new test procedure that would consolidate FER, AFUE, and stand by power watt tests into one test procedure. At the start of this investigation, the DOE issued a non-enforcement statement communicating they would not enforce FER while investigating the new test procedure. The Department of Energy (DOE) has since rescinded their prior non-enforcement statement, which means DOE **will** enforce FER on the originally planned July 3, 2019 date of manufacture.

The Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) has adopted Amendment 14, which outlines the same FER requirements as the DOE with a July 3, 2019 effective date.

For oil furnaces, FER targets a 12 percent watt reduction over the baseline PSC motor. With this level of targeted watt reductions, all Carrier® oil furnace designs currently meet FER, including those with PSC motors. There will be no changes to oil furnaces as a result of FER.

As a result of FER, the following will occur:

- PSC blower motors in gas furnaces will not meet the FER requirement. Therefore gas furnaces with PSC motors will become obsolete.
- Furnaces with fixed-speeds constant torque (FCT) ECM blower motors (five speed) will become the new entry tier product.
- There is no installation date limitation for furnaces built prior to July 3, 2019. PSC blower motors will remain available as service parts.
- All furnace model numbers and product tiers will change (further detail below).

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Model Family Guide

The chart below shows a side by side comparison of the current Carrier® non-condensing gas furnace models with the new FER compliant models. Yellow indicates a change in the post-FER lineup.

Current								Post-FER						
Tier	Model Family	Motor Type	HTG STG	Cool STG	Blower Insulation	LNOx	SKUs	Model Family	Motor Type	HTG STG	Cool STG	Blower Insulation	LNOx	SKUs
Infinity®	58CVA	VCA	2	Multi	Y	N	5	58TN0A	VCA	2	Multi	Y	N	8
	58CVX					Y	5	58TN1A					Y	8
Performance™	58CTW	VCT	2	2	Y	N	5	58TP0A	VCT	2	2	Y	N	7
	58CTY					Y	5	58TP1A					Y	7
	58PHB	FCT	1	1	Y	N	12	58SP0A	VCT	1	2	Y	N	7
	58PHY					Y	12	58SP1A					Y	7
Comfort™	58DLA	PSC	1	2	Y	N	14	58SC0A	FCT	1	1	Y	N	13
	58DLX					Y	14	58SC1A					Y	12
	58STA	PSC	1	1	N	N	14	58SB0A	FCT	1	1	N	N	14
	58STX					Y	14	58SB1A					Y	14

VCA = Comm. Variable Speed Constant Airflow ECM (Infinity®)
VCT = Variable Speed Constant Torque ECM
FCT = Fixed Speeds Constant Torque ECM (5-speed)
PSC = Permanent Split Capacitor

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Product Launch Timeline

Depending on distributor inventory, you could see the following new FER models available as early as the dates outlined below.

- 58TN0(1): June 2019
- 58TP0(1): June – July 2019
- 58SP0(1): September 2019
- 58SC0(1): June – July 2019
- 58SB0(1): June – July 2019

Support Materials Timeline

As part of the FER initiative, the Carrier team is taking the opportunity to enhance and develop new marketing support materials and training to aid you in your selling efforts. Below is summary of what you can expect along with key dates for launch. You can also watch the 'What is FER?' video HERE.

	January	February	March	April	May
FER Brochure	✓				
Launch Bulletin			✓		
Ratings Posted			✓	✓	✓
Technical Literature Available on HVACpartners		✓	✓	✓	
HVACpartners Updates		✓	✓		
Accessories Bulletin			✓		
Consumer Literature Available on HVACpartners				✓	
Marketing Launch Kit				✓	
Consumer Website Updates					✓

*Cooling system ratings are anticipated to be similar to the equivalent current ECM models. The cooling system ratings are expected to be posted to the AHRI directory in phases throughout March, April and May.

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New Lineup

Below shows the complete lineup of FER compliant non-condensing furnaces:



	INFINITY	Performance SERIES		Comfort SERIES	
Model	**58TN0(1)A**	**58TP0(1)A**	**58SP0(1)A**	**58SC0(1)A**	**58SB0(1)A**
AFUE	80%	80%	80%	80%	80%
Stages	2	2	1	1	1
Heating Input Range (BTUh)	45k-135k	45k-135k	45k*-110k	45k*-135k	45k*-155k
Motor	Variable-Speed Constant Airflow ECM (VCA)	Variable-Speed Constant Torque ECM (VCT)	Variable-Speed Constant Torque ECM (VCT)	Fixed-Speeds Constant Torque ECM (FCT)	Fixed-Speeds Constant Torque ECM (FCT)
Thermostat	Infinity® Wall Control	24 V	24 V	24 V	24 V
Blower Insulation	Yes	Yes	Yes	Yes	No
Features	Ideal Humidity™ Comfort Heat™ Comfort Fan™	Dehumidification Comfort Heat™ Comfort Fan™ Twinnable	Dehumidification Comfort Fan™	Twinnable (October 2019)	Twinnable (October 2019)

*30k sizes will be available in Q4 2019

FER New Features and Benefits

As a result of FER, there will be a number of new exciting features and benefits added to the Carrier® non-condensing gas furnace portfolio. Below are some of the key highlights:

1. Upgraded models in the Comfort™ tier
    - Before, all furnaces in the Comfort™ tier had PSC motors. These have been replaced with Fixed Speeds Constant Torque (FCT) ECM motors.
    - Improves motor electrical efficiency (from 60 percent to 80-85 percent)
        - FER compliance
        - SEER boost
    - Provides five motor speed options (select through taps)
    - Reduces airflow loss at high static pressure
2. Five new model sizes, developed to reduce the required heating size needed to obtain SEER ratings for each cooling tonnage.

- New Sizes:
  - 30k BTU in a 14” casing (coming Q4 2019)
  - 45k BTU in a 17” casing
  - 70k BTU in a 21” casing
  - 90k BTU in a 24” casing
  - 110k BTU in a 24” casing
- Reduces heating oversizing at 16 SEER and 13 EER: For example, before these models were available, a 90k BTU furnace was required to achieve 16 SEER and 13 EER ratings with a 4 ton AC unit. Now these ratings can be met with the new 70k BTU furnace in a 21” casing.
- These models also provide improved flush coil options, which lowers labor and material costs, improves aesthetics, and reduces the chance of coils freezing.
- In 2018, most of these models were added to the 58PHB(Y) model families. With the FER launch, you will see all of these new model sizes in the 58SB0(1), 58SC0(1) and 58SP0(1), while select models will be added to 58TP0(1) and 58TN0(1). Check the SKU details section at the end of this bulletin for more information.

3. Additional two-stage cooling and dehumidification compatibility in the Performance™ tier with the 58SP0(1) model family (targeted availability September 2019).
   - Similar to today’s 58CTW(Y) but with one-stage heating
   - Combination of two-stage cooling, low heating to cooling ratio and dehumidification provide a great match up for southern markets
   - VCT (Variable Speed Constant Torque) motor
     - Variety of cooling airflow options for each model
     - Airflow reduction during cooling operation provides advanced dehumidification with applicable CÔR and CÔR7/7C thermostats
   - Two-stage cooling and dehumidification compatibility
   - Models with larger cooling capability for each heating size
4. Improved nomenclature to match the 90s nomenclature, see below for details.
5. Badge changes to align better with the 90’s badges, see below for details
6. Enhanced warranty, see below for details.
7. Enhanced furnace training through My Learning Center.

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Updated Nomenclature

One of the many positive changes taking place through the FER launch is new nomenclature. All current non-condensing gas furnace model numbers will change, in order to become more closely aligned with the condensing (90s) gas furnace models. This provides added identifiers in the non-condensing furnace model numbers including tier, heating stages, cabinet width, and motor type.

Below is an example of the updated nomenclature for Carrier® gas furnaces:

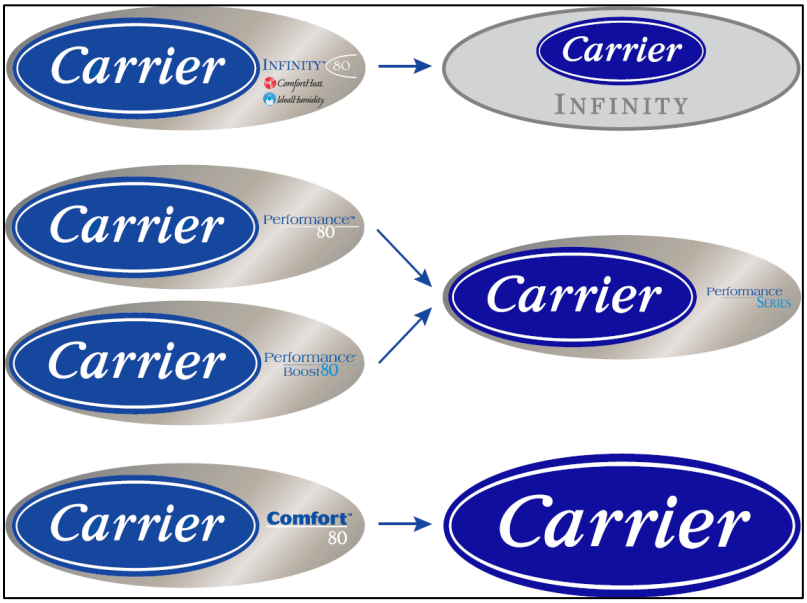
Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Alphanumeric	N	N	A	A	N	A	N	N	N	A	N	N	N	N	N	N
90s	5	9	M	N	7	A	0	6	0	C	1	7	1	1	1	4
80s	5	8	T	N	0	A	0	4	4	C	2	1	1	1	1	4

	Gas Furnace	Stages	Tier	Min AFUE / NOx	Major Series	Heating Input (BTU/H)	Motor	Cabinet Width	Electrical	Minor Series	Cooling Capacity
	58 = 80% 59 = 90%	M = Modulation S = Single Stage T = Two-Stage	C = Comfort N = Infinity P = Performance U = Ultra Low NOx B = Base E = Export	0 = Standard NOx 80% 1 = 80% Low NOx — — — 2 = 92% 5 = 95% 6 = 96% 7 = 97% 8 = 98%	A B C	026 = 26,000 040 = 40,000 060 = 60,000 . . . 155 = 155,000	C = Comm. Variable-Speed Constant Airflow (VCA) ECM E = Fixed-Speed Constant Torque (FCT) ECM V = Variable-Speed Constant Torque (VCT) ECM	14 = 14.2" 17 = 17.5" 21 = 21.5" 24 = 24.5"	1 = 115V/60 Hz 2 = 230V / 50 Hz Shown as "-"	1 2 3 . . . Shown as "-"	08 = 800 10 = 1000 12 = 1200 14 = 1400 16 = 1600 20 = 2000 22 = 2200

Badge Changes

The badges on the non-condensing product doors will also change to mirror the same strategy as the condensing gas furnaces.

Below is an example of the new badge changes:



Training Materials

As part of the FER launch, you will see four new gas furnace training modules in My Learning Center. Visit MLCTraining.com or use the direct links below to access these new modules.

Available Now:

- **Model Number Challenge:** Quickly learn the new nomenclature in this game
- **Furnace Function and Efficiency:** Compare functions and efficiencies of each tier

Coming Soon:

- **Furnace Product Overview**: Side by side comparison of the homeowner experience with each tier
- **ECM Troubleshooting** Technical review of best practices for troubleshooting these three motor types.

Warranty Details

The warranty plan for non-condensing gas furnaces will change slightly with the launch of FER. Going forward all Infinity® models will offer a lifetime warranty on the heat exchanger (if properly registered, see below and the warranty card for additional detail) instead of only 20 years. This provides customers with another added value in moving up to the Infinity® furnaces. The standard warranty for the Performance™ and Comfort™ Series will remain the same.

		Limited Warranty (Years)	
Product	Item	Original Owner	Subsequent Owners
Non-Condensing Infinity	Parts	10* (or 5)	5
	Heat Exchanger	Life ** (or 20)	20
Non-Condensing Performance and Comfort	Parts	10* (or 5)	5
	Heat Exchanger	20	20

*If properly registered within 90 days of original installation, otherwise 5 years (except in California and Quebec and other jurisdictions that prohibit warranty benefits conditioned on registration).

**If properly registered within 90 days of original installation, otherwise 20 years (except in California and Quebec and other jurisdictions that prohibit warranty benefits conditioned on registration).

See official Warranty Card for additional information and restrictions.

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SKU Cross-Reference

The chart below outlines each individual SKU both current and post-FER based on their tier position.

Standard NOx

First Available	58CVA to 58TN0A		
	Casing	Current	Post-FER
June 2019	17.5		58TN0A045C17--12
June 2019	14.2	58CVA070---1--12	58TN0A070C14--12
June 2019	17.5		58TN0A070C17--16
June 2019	21		58TN0A070C21--20
June 2019	17.5	58CVA090---1--16	58TN0A090C17--16
June 2019	21		58TN0A090C21--20
June 2019	21	58CVA110---1--20	58TN0A110C21--20
June 2019	24.5	58CVA135---1--22	58TN0A135C24--22
	24.5	58CVA155---1--22	

Low NOx

58CVX to 58TN1A		
Casing	Current	Post-FER
17.5		58TN1A045C17--12
14.2	58CVX070---1--12	58TN1A070C14--12
17.5		58TN1A070C17--16
21		58TN1A070C21--20
17.5	58CVX090---1--16	58TN1A090C17--16
21		58TN1A090C21--20
21	58CVX110---1--20	58TN1A110C21--20
24.5	58CVX135---1--22	58TN1A135C24--22
24.5	58CVA155---1--22	

First Available	58CTW to 58TP0A		
	Casing	Current	Post-FER
June - July 2019	14.2	58CTW045---1--12	58TP0A045V14--12
June - July 2019	14.2		58TP0A070V14--12
June - July 2019	17.5	58CTW070---1--16	58TP0A070V17--16
June - July 2019	17.5		58TP0A090V17--16
	21	58CTW090---1--16	
June - July 2019	21		58TP0A090V21--20
June - July 2019	21	58CTW110---1--22	58TP0A110V21--22
June - July 2019	24.5	58CTW135---1--22	58TP0A135V24--22

58CTY to 58TP1A		
Casing	Current	Post-FER
14.2	58CTY045---1--12	58TP1A045V14--12
14.2		58TP1A070V14--12
17.5	58CTY070---1--16	58TP1A070V17--16
17.5		58TP1A090V17--16
21	58CTY090---1--16	
21		58TP1A090V21--20
21	58CTY110---1--22	58TP1A110V21--22
24.5	58CTY135---1--22	58TP1A135V24--22

First Available	58PHB to 58SP0A		
	Casing	Current	Post-FER
Q4-2019	14.2		58SP0A030V14--10
	14.2	58PHB045---1--12	
Sept 2019	17.5	58PHB045---1--14	58SP0A045V17--16
	17.5	58PHB070---1--12	
Sept 2019	17.5	58PHB070---1--16	58SP0A070V17--16
Sept 2019	21	58PHB070---1--18	58SP0A070V21--20
	17.5	58PHB090---1--14	
	21	58PHB090---1--16	
Sept2019	21	58PHB090---1--20	58SP0A090V21--20
Sept 2019	24.5	58PHB090---1--22	58SP0A090V24--20
	21	58PHB110---1--20	
Sept 2019	24.5	58PHB110---1--22	58SP0A110V24--22
	24.5	58PHB135---1--20	

58PHY to 58SP1A		
Casing	Current	Post-FER
14.2		58SP1A030V14--10
14.2	58PHY045---1--12	
17.5	58PHY045---1--14	58SP1A045V17--16
17.5	58PHY070---1--12	
17.5	58PHY070---1--16	58SP1A070V17--16
21	58PHY070---1--18	58SP1A070V21--20
17.5	58PHY090---1--14	
21	58PHY090---1--16	
21	58PHY090---1--20	58SP1A090V21--20
24.5	58PHY090---1--22	58SP1A090V24--20
21	58PHY110---1--20	
24.5	58PHY110---1--22	58SP1A110V24--22
24.5	58PHY135---1--20	

If you are buying 58PHB(Y) today, you may decide to move that volume to 58SP0(1). 58SP0(1) will have different performance (new cooling ratings) and additional features compared to 58PHB(Y). Today's 58PHB(Y) has a fixed speeds constant torque (FCT) motor and is not compatible with two stage cooling and dehumidification. The new 58SP0(1) has been upgraded to a variable speed constant torque (VCT) motor, providing more cooling airflows, making 58SP0(1) a good matchup with two stage cooling and dehumidification. You will also see models in the 58SP0(1) model family that are focused on cooling combinations with a low heat to cool ratio, meaning higher cooling capability for a given heating size.

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First Available	58DLA and 58PHB to 58SC0A			
	Casing	Current	Current	Post-FER
Q4-2019	14.2			58SC0A030E14--10
	14.2	58DLA045---1--08		
June - July 2019	14.2	58DLA045---1--12	58PHB045---1--12	58SC0A045E14--12
	17.5		58PHB045---1--14	58SC0A045E17--12
	14.2	58DLA070---1--08		
June - July 2019	14.2	58DLA070---1--12		58SC0A070E14--12
	17.5		58PHB070---1--12	58SC0A070E17--12
	17.5	58DLA070---1--16	58PHB070---1--16	
June - July 2019	21		58PHB070---1--18	58SC0A070E21--16
	17.5	58DLA090---1--14	58PHB090---1--14	58SC0A090E17--14
	21	58DLA090---1--16	58PHB090---1--16	58SC0A090E21--16
	21	58DLA090---1--20	58PHB090---1--20	58SC0A090E21--20
	24.5		58PHB090---1--22	58SC0A090E24--20
	17.5	58DLA110---1--12		
	21	58DLA110---1--16		
June - July 2019	21	58DLA110---1--22	58PHB110---1--20	58SC0A110E21--20
	24.5		58PHB110---1--22	58SC0A110E24--20
	21	58DLA135---1--16		
June - July 2019	24.5	58DLA135---1--22	58PHB135---1--20	58SC0A135E24--20
	24.5	58DLA155---1--20		

58DLX and 58PHY to 58SC1A			
Casing	Current	Current	Post-FER
14.2			58SC1A030E14--10
14.2	58DLX045---1--08		
14.2	58DLX045---1--12	58PHY045---1--12	58SC1A045E14--12
17.5		58PHY045---1--14	58SC1A045E17--12
14.2	58DLX070---1--08		
14.2	58DLX070---1--12		58SC1A070E14--12
17.5		58PHY070---1--12	58SC1A070E17--12
17.5	58DLX070---1--16	58PHY070---1--16	
21		58PHY070---1--18	58SC1A070E21--16
17.5	58DLX090---1--14	58PHY090---1--14	58SC1A090E17--14
21	58DLX090---1--16	58PHY090---1--16	58SC1A090E21--16
21	58DLX090---1--20	58PHY090---1--20	58SC1A090E21--20
24.5		58PHY090---1--22	58SC1A090E24--20
17.5	58DLX110---1--12		
21	58DLX110---1--16		
21	58DLX110---1--22	58PHY110---1--20	58SC1A110E21--20
24.5		58PHY110---1--22	58SC1A110E24--20
21	58DLX135---1--16		
24.5	58DLX135---1--22	58PHY135---1--20	
24.5	58STX155---1--20		

If you are buying 58DLA(X) and 58PHB(Y) today, you may decide to move that volume to 58SC0(1). 58SC0(1) has similar performance and features to the pre-FER 58PHB(Y). The difference between this 58SC0(1) model family and the 58SB0(1) model family below is that the 58SC0(1) has insulation in the blower cabinet.

First Available	58STA and 58PHB to 58SB0A			
	Casing	Current	Current	Post-FER
Q4-2019	14.2			58SB0A030E14--10
	14.2	58STA045---1--08		
June - July 2019	14.2	58STA045---1--12	58PHB045---1--12	58SB0A045E14--12
	17.5		58PHB045---1--14	58SB0A045E17--12
	14.2	58STA070---1--08		
June - July 2019	14.2	58STA070---1--12		58SB0A070E14--12
	17.5		58PHB070---1--12	58SB0A070E17--12
	17.5	58STA070---1--16	58PHB070---1--16	
June - July 2019	21		58PHB070---1--18	58SB0A070E21--16
	17.5	58STA090---1--14	58PHB090---1--14	58SB0A090E17--14
	21	58STA090---1--16	58PHB090---1--16	58SB0A090E21--16
	21	58STA090---1--20	58PHB090---1--20	58SB0A090E21--20
	24.5		58PHB090---1--22	58SB0A090E24--20
	17.5	58STA110---1--12		
	21	58STA110---1--16		
June - July 2019	21	58STA110---1--22	58PHB110---1--20	58SB0A110E21--20
	24.5		58PHB110---1--22	58SB0A110E24--20
	21	58STA135---1--16		
June - July 2019	24.5	58STA135---1--22	58PHB135---1--20	58SB0A135E24--20
	24.5	58STA155---1--20		58SB0A155E24--20

58STX and 58PHY to 58SB1A			
Casing	Current	Current	Post-FER
14.2			58SB1A030E14--10
14.2	58STX045---1--08		
14.2	58STX045---1--12	58PHY045---1--12	58SB1A045E14--12
17.5		58PHY045---1--14	58SB1A045E17--12
14.2	58STX070---1--08		
14.2	58STA070---1--12		58SB1A070E14--12
17.5		58PHY070---1--12	58SB1A070E17--12
17.5	58STX070---1--16	58PHY070---1--16	
21		58PHY070---1--18	58SB1A070E21--16
17.5	58STX090---1--14	58PHY090---1--14	58SB1A090E17--14
21	58STX090---1--16	58PHY090---1--16	58SB1A090E21--16
21	58STX090---1--20	58PHY090---1--20	58SB1A090E21--20
24.5		58PHY090---1--22	58SB1A090E24--20
17.5	58STX110---1--12		
21	58STX110---1--16		
21	58STX110---1--22	58PHY110---1--20	58SB1A110E21--20
24.5		58PHY110---1--22	58SB1A110E24--20
21	58STX135---1--16		
24.5	58STX135---1--22	58PHY135---1--20	58SB1A135E24--20
24.5	58STX155---1--20		58SB1A155E24--20

If you are buying 58STA(X) and 58PHB(Y) today, you may decide to move that volume to 58SB0(1). 58SB0(1) has similar performance and features to the pre-FER 58PHB(Y), with the exception of 58SB0(1) not having insulation in the blower compartment.

As we move into 2019 the Carrier® team will continue to provide the latest updates on the FER transition.

Please contact your distributor or territory manager with any questions. Thank you for your continued support!