



# CHINOOK

**THE INDUSTRY'S MOST COMPLETE LINE.  
WARM AIR GAS FURNACE DESIGNED,  
ENGINEERED, AND MANUFACTURED IN  
CANADA**

- Ultra compact size, featuring the industry's smallest footprint
- Right-sized for today's more efficient homes and new codes
- Ideally suited to the replacement market
- Allows the Right-Sized System<sup>®</sup> in combination with our **Alizé** cooling unit
- Stainless steel primary and secondary heat exchangers
- Part of our HVAC in a box<sup>®</sup> solution



**MADE IN CANADA**





## Benefits and differentiators

- Smallest footprint in the industry (height and width)
- Meets the existing replacement market requirements for both cooling and heating
- Designed for the rapidly changing new construction market which requires smaller capacity appliances due to better and tighter envelopes
- Zero-clearance certification for new construction and renovation projects
- An excellent central system solution for both the multifamily and single family home markets
- Designed and built with input from partners across North America including : gas laboratories, utilities, builders, contractors and distributors
- Can be installed with our Smart Duct System® as well as in a traditional duct environment

## Product line features

- Efficiency over 95 % (AFUE)
- Efficient combustion, stable at both high and low firing rates
- Quiet warm air and convenient heating capacities
- Full product line from 15,000 to 120,000 BTU/h on five platforms:
  - Modulating (from 40 to 100%)
  - 2 stage PSC or ECM motor
  - Single stage PSC or fixed torque ECM motor (X13)
- Multiposition: ready for upflow, simply modify condensate tubing for downflow and horizontal
- Optional propane conversion kits are available



## Reliable appliance that offers a safe maintenance environment

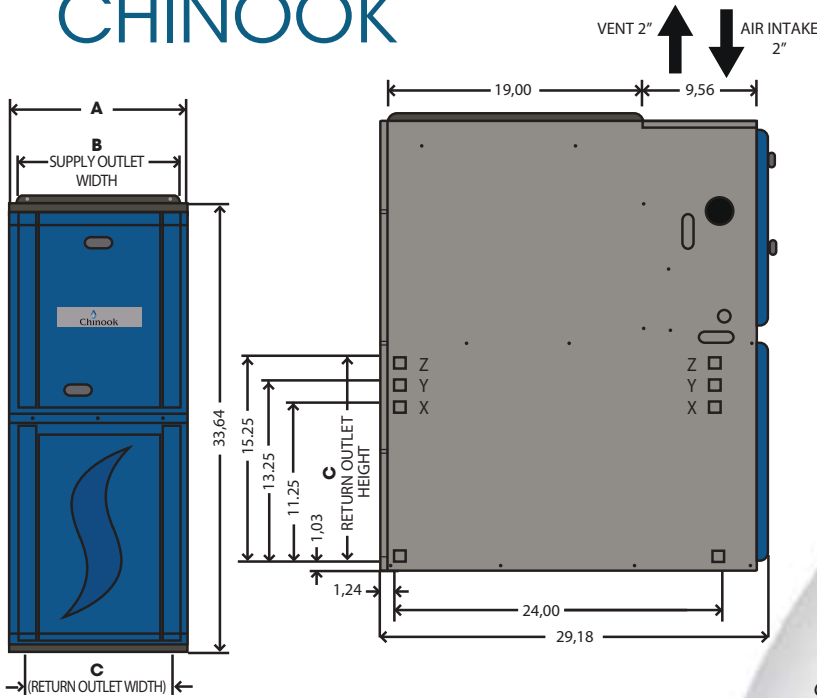
- Stainless steel extruded tube heat exchanger; primary (SS 409) and secondary (AL 29-4C)
- The ID blower has a single position independent of appliance orientation (Multiposition ready)
- Easy access to components for maintenance
- No sharp edges
- Transparent drain trap
- Control board located in the top compartment

**The Chinook gas furnace family can operate efficiently in a traditional duct environment or using the Smart Duct System®**

## MAXIMUM EQUIVALENT STRAIGHT VENT LENGTH FROM FURNACE TO OUTDOOR

MODULATING AND 2 STAGE UNITS			
Altitude (ft)	Unit size (BTU/h)	Vent pipe diameter	
		2"	3"
0 to 4500	15,000	300	N/A
	30,000	180	N/A
	45,000	70	90
	60,000	70	90
	75,000	70	90
	105,000	15	80
	120,000	10	40
1 STAGE UNIT			
Altitude (ft)	Unit size (BTU/h)	Vent pipe diameter	
		2"	3"
0 to 4500	45,000	70	90
	60,000	45	90
	75,000	30	90
	105,000	N/A	70
	120,000	N/A	40

# CHINOOK



## AIR RETURN

Position	Furnace size
X	15 @ 45 000
Y	60 @ 75 000
Z	90 @ 120 000

## DIMENSIONS (inches)

Furnace size	A Cabinet width	B Supply duct width	C Return duct width	Filter Size
15 k	13.50	12.50	11.50	13 x 24
30 k	13.50	12.50	11.50	13 x 24
45 k	13.50	12.50	11.50	13 x 24
60 k	15.75	14.75	13.75	15 x 24
75 k	15.75	14.75	13.75	15 x 24
90 k	21.20	20.00	15.25	17 x 24
105 k	21.20	20.00	15.25	17 x 24
120 k	21.20	20.00	15.25	17 x 24

## DIMENSIONS (centimeters)

Furnace size	A Cabinet width	B Supply duct width	C Return duct width	Filter Size
15 k	34.29	31.75	31.75	33.02 x 60.96
30 k	34.29	31.75	31.75	33.02 x 60.96
45 k	34.29	31.75	31.75	33.02 x 60.96
60 k	40.00	37.46	36.83	38.10 x 60.96
75 k	40.00	37.46	36.83	38.10 x 60.96
90 k	53.34	50.80	41.91	33.02 x 60.96
105 k	53.34	50.80	41.91	43.18 x 60.96
120 k	53.34	50.80	41.91	43.18 x 60.96



"It's hard to beat having a homeowner come up to you thanking you for installing a furnace and air conditioner system that is so quiet they keep checking on it to see if it's working. Constant temperature, high efficiency and quieter performance are some of the benefits that our customers are commenting on. As I've said before it's like swapping out your old gas guzzling tank for a Porsche. As a new home designer, I am extremely excited to be now exploring the impact of the Smart Duct System on my floor designs.

This is a revolution in improved HVAC performance offering full home comfort and energy efficiency to the homeowners."

**Doug Tarry Jr**

Doug Tarry Homes

## ELECTRICAL DATA

INPUT	15K COMPACT	15K	30K	45K	60K	75K	105K	120K
SHIP WEIGHT (LB/KG)	79 / 35.8	115 / 52.2	116 / 52.6	119 / 54.0	136 / 61.7	138 / 62.6	161 / 73.0	171 / 77.6
MAXIMUM CONSUMPTION (Amps / breaker size)	MODULATING	8.6 / 10	10.7 / 15	10.7 / 15	12.6 / 15	15.6 / 20	15.6 / 20	19.0 / 20
	2 STAGE ECM	-	-	-	12.6 / 15	15.0 / 15	15.0 / 15	19.0 / 20
	2 STAGE PSC	-	-	-	15.3 / 20	15.3 / 20	15.0 / 15	19.1 / 20
	1 STAGE X13	-	-	-	11.9 / 15	11.9 / 15	13.5 / 20	16.6 / 20
	1 STAGE PSC	-	-	-	15.9 / 20	15.9 / 20	15.5 / 20	19.6 / 20
SUPPLY	115 Volts - 60 Hertz - 1 Phase							

# CHINOOK COMPACT

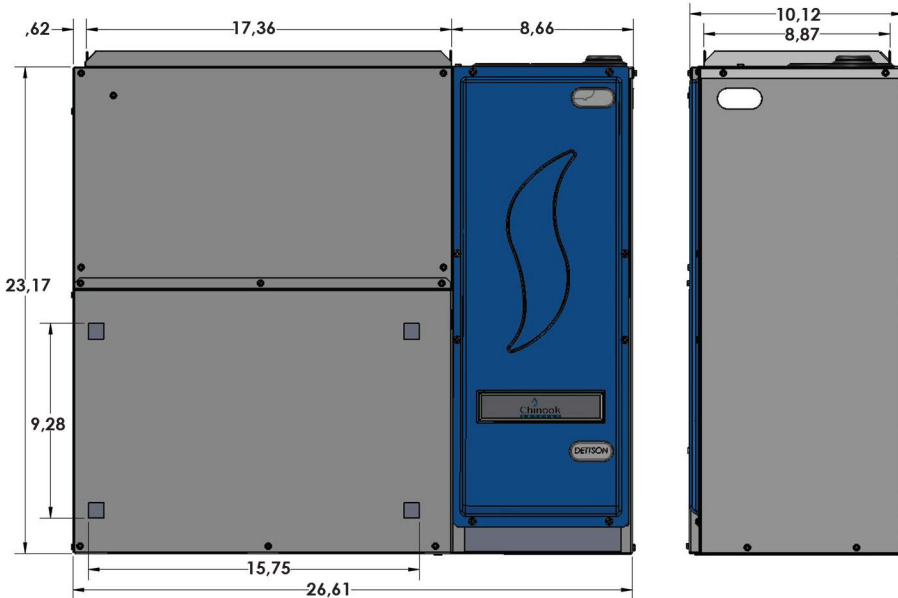


\*For more information, see [www.dettson.com](http://www.dettson.com)

## The Chinook Compact is the next evolution for our Chinook family.

- The smallest central gas heating unit for the multifamily market
- 10" wide x 23" tall
- Low air flow rate for optimal comfort and quieter operation
- Allows the Right-Sized System<sup>®</sup> in combination with our Alizé heatpump unit
- Ideal for single floor condos, apartments and legal suites
- Up to 400 CFM, meaning 1T of cooling
- Modulating in heating mode: 6,000 to 15,000 BTU/h

### Dimensions (inches)



### Top view



## RIGHT-SIZED SYSTEM

With the evolution of building codes, the growth of the multifamily market and the introduction of Net Zero Ready and Net Zero Energy homes, loads in High Performance homes are decreasing since volume of required conditioned air drops. This causes a decline in performance for traditional duct systems. With the builders' requirements in mind, as well as the building science community's input, Dettson Industries is now offering the Right-Sized System<sup>®</sup>.

The energy required to condition new efficient homes has been reduced by over 33% in the last few years. When it comes to HVAC systems, old design rules of thumb don't apply to high performance homes and won't provide the healthy, comfortable and efficient home we are striving to produce.

The Right-Sized System<sup>®</sup> is about having a room by room approach to sizing the loads in both cooling and heating. Sizing the airflow properly is important, if not more important than BTUs. Combining the Chinook gas furnace to the Alizé, which is a variable speed heatpump unit, provides a very quiet system that operates with a longer cycle, resulting in gentler airflow providing more thermal comfort to the homeowner.

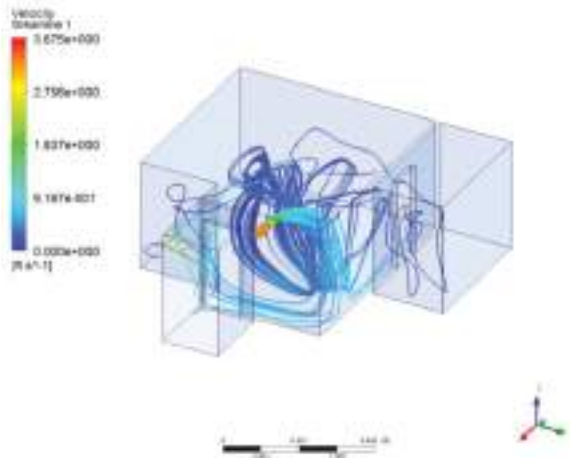


The right airflow is as important in considering the load per room, as the BTUs either in a new efficient home or for effective renovation. The Smart Duct System<sup>®</sup> can provide a system leakage of 5% or less. In combination with the controls we developed at Dettson for this specific system, our HVAC in a box<sup>®</sup> solution is designed to run at a low-to-medium velocity and low-to-medium static pressure, offering quiet thermal comfort for homeowners and system efficacy for the efficient home.

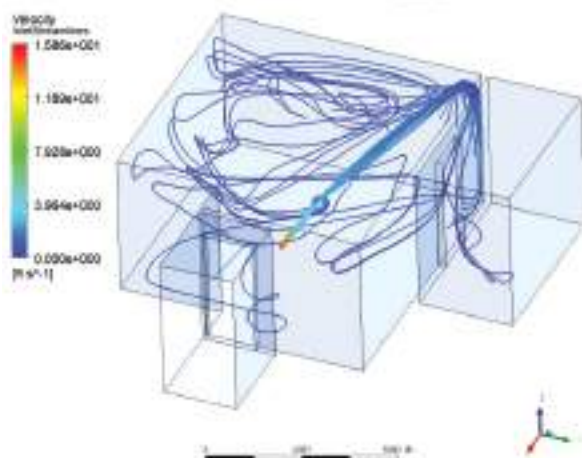
Our vision behind this system allows the builder to eliminate bulkheads and added expenses, while optimizing floor plan designs. High Performance homes benefit from the longer cycles offered by the lower airflow in combination with the right BTUs. Our system offers a better air mix from the diffuser that is installed high wall, which delivers a more comfortable environment and better energy performance from the HVAC system.

Another benefit of this concept includes zoning capabilities. Overall this system greatly improves the air distribution performance avoiding cold or warm rooms thus positively impacting homeowner comfort.

**Standard register throw**



**Smart Duct System throw**



## Benefits from the *Smart Duct System*<sup>®</sup>

### For the builder:

- A uniform system from home to home;
- Less expensive to install being less labor intensive;
- Lower duct leakage below 5%, balanced room to room, fewer callbacks;
- Easier to install in conditioned space.

### For building science:

- Provides a solution to the building codes and voluntary program challenges;
- Raises the bar on old rule of thumbs for load assessments;
- Easy-to-design duct system.

### For the homeowner:

- Better air mix throughout the home through better distribution (addressing hot or cold rooms);
- System designed for central HVAC efficacy for lower energy consumption;
- Quieter environment in each room;
- Healthier home including humidity management;
- 35 dB and less at the diffuser.

### For mechanical contractor:

- Provides a differentiator with a technical solution;
- Brings value-added features to builders;
- Ability to handle more job sites because of more efficient and faster installs;
- Installation labour savings vs. traditional duct system;
- More consistent end product.



## MODULATING GAS FURNACE

VARIABLE SPEED ECM

The furnace requires an interface board and the communicating thermostat to interface with ERV/HRV when not installed in combination with our Aisle cooling unit.

To identify approved products, please visit: [www.energystar.gov](http://www.energystar.gov)



\*See manufacturer's literature for details

MODEL		C015-M-V	C15-M-S	C15-M-V	C30-M-S	C30-M-V	C45-M-S	C45-M-V	C60-M-S	C60-M-V	C75-M-V	C105-M-V	C120-M-V
INPUT (BTU/h)	HIGH	15 000	15 000	15 000	30 000	30 000	45 000	45 000	60 000	60 000	75 000	105 000	120 000
	LOW	6 000	6 000	6 000	12 000	12 000	18 000	18 000	24 000	24 000	30 000	42 000	48 000
OUTPUT (BTU/h)	HIGH	14 352	14 352	14 352	28 613	28 613	43 101	43 101	57 654	57 654	71 798	101 010	115 200
	LOW	5 741	5 741	5 741	11 485	11 485	17 240	17 240	23 052	23 052	28 605	40 427	45 080
AFUE %		95.6	97.3	97.3	96.2	96.2	96.7	96.7	96.8	96.8	96.7	96.6	97.0
TEMPERATURE RISE		40-70 °F (22-39 °C)				60-80 °F (27-44 °C)		40-70 °F (22-39 °C)					
AIRFLOW (CFM)	HEATING HIGH	240	310	240	500	500	610	766	1 000	1 000	1 200	1 735	1 838
	HEATING LOW	240	310	240	240	240	330	330	385	430	480	630	645
	MAX*	480	1 200	1 000	1 345	1 200	1 400	1 285	1 950	1 750	1 760	1 961	2 138
	MAX**	420	860	600	950	720	980	770	1 450	1 235	1 260	N/A	N/A
MAX COOLING CAPACITY (tons)		1	3	2.5	3	3	3.5	3	5	4.5	4.5	5	5
MOTOR HP		1/3	3/4	1/2	3/4	1/2	3/4	1/2	1	3/4	3/4	1	1

\*AIRFLOW (CFM) for ESP of 0.5" w.e. \*\*AIRFLOW (CFM) for Smart Duct™



## 2 STAGE VARIABLE SPEED MOTOR GAS FURNACE

VARIABLE SPEED ECM

MODEL		C45-2-V	C60-2-V	C75-2-V	C105-2-V	C120-2-V
INPUT (BTU/h)	HIGH	45 000	60 000	75 000	105 000	120 000
	LOW	18 000	24 000	30 000	42 000	48 000
OUTPUT (BTU/h)	HIGH	42 755	57 000	71 475	99 750	115 080
	LOW	17 102	22 800	28 590	39 900	46 032
AFUE %		96.0	95.7	95.9	95.3	96.3
TEMPERATURE RISE		40-70 °F (22-39 °C)				
AIRFLOW (CFM)	HEATING HIGH	735	1 000	1 230	1 700	1 880
	HEATING LOW	535	690	830	1 200	1 400
	MAX	1 050	1 380	1 630	1 800	2 000
MAX COOLING CAPACITY (tons)		2.5	3.5	3.5	4.5	5
MOTOR HP		1/2	3/4	3/4	1	1

## 2 STAGE FIXED SPEED MOTOR GAS FURNACE (PSC)

MODEL		C45-2-D	C60-2-D	C75-2-D	C105-2-D	C120-2-D
INPUT (BTU/h)	HIGH	45 000	60 000	75 000	105 000	120 000
	LOW	18 000	24 000	30 000	42 000	48 000
OUTPUT (BTU/h)	HIGH	42 755	57 000	71 475	99 750	115 080
	LOW	17 102	22 800	28 590	39 900	46 032
AFUE %		95.0	95.0	95.3	95.0	95.9
TEMPERATURE RISE		40-70 °F (22-39 °C)				
AIRFLOW (CFM)	HEATING HIGH	735	1 000	1 230	1 700	1 880
	HEATING LOW	535	690	830	1 200	1 400
	MAX	1 050	1 380	1 400	1 800	2 000
MAX COOLING CAPACITY (tons)		2.5	3.5	3.5	4.5	5
MOTOR HP		1/2	1/2	3/4	1	1



## SINGLE STAGE GAS FURNACE WITH FIXED SPEED (PSC) OR FIXED TORQUE ECM MOTOR (X13)

To identify approved products, please visit: [www.energystar.gov](http://www.energystar.gov)

MODEL	PSC	C45-1-D	C60-1-D	C75-1-D	C105-1-D	C120-1-D
	X13	C45-1-X	C60-1-X	C75-1-X	C105-1-X	C120-1-X
INPUT (BTU/h)		45 000	60 000	75 000	105 000	120 000
OUTPUT (BTU/h)		42 750	57 000	71 250	99 750	114 000
AFUE %		95.0	95.0	95.0	95.0	95.0
TEMPERATURE RISE		40-70 °F (22-39 °C)				
AIRFLOW (CFM)		1 000	1 200	1 400	1 600	1 900
MAX COOLING CAPACITY (tons)		2.5	3	3.5	4	5
MOTOR HP		1/2	1/2	3/4	1	1

CCxx-M-V: Modulating Chinook Compact

Cxx-M-S: Modulating Chinook with Smart Duct

Cxx-M-V: Modulating Chinook

Cxx-2-V: Variable 2 Stage Chinook

Cxx-2-D: PSC 2 Stage Chinook

Cxx-1-X: X13 1 Stage Chinook

Cxx-1-D: PSC 1 Stage Chinook



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