

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Install gas furnace, AC, & ducting	1.00000	LS	\$16,910.000000	\$16,910.00

Comm Code	Manufacturer	Specification	Model #
72151207			

Extended Description :	Install gas furnace, AC, & ducting
-------------------------------	------------------------------------

Comments: Price is based upon RFQ and job site visit. Acknowledging addendum #1

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we Rich's Refrigeration, Air Conditioning, Heating, Plumbing and Welding Service, Inc. (Here insert full name and address or legal title of Contractor)
as Principal, hereinafter called the Principal, and _____ (Here insert full name and address or legal title of Surety)

The Ohio Casualty Insurance Company
a corporation duly organized under the laws of the State of New Hampshire
as Surety, hereinafter called the Surety, are held and firmly bound unto _____ (Here insert full name and address or legal title of Owner)

West Virginia Division of Highways District Eight

as Obligee, hereinafter called the Obligee, in the sum of
Five Percent of Amount Bid

Dollars (\$ 5% of Amount Bid),
for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for _____ (Here insert full name, address and description of project)

Heating, Cooling and Complete Duct Work Project

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this 21st day of February 2018

[Signature]
(Witness)

[Signature]
Rich's Refrigeration, Air Conditioning, Heating, Plumbing and Welding Service, Inc.
(Principal)

(Seal)

Secretary
(Title)

[Signature]
(Witness)

The Ohio Casualty Insurance Company
(Surety) (Seal)

[Signature]
David A. Sams, Attorney-In-Fact

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7933398

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, David A. Sams

all of the city of CINCINNATI, state of OH each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 6th day of November, 2017.



The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 6th day of November, 2017, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 21st day of February, 2018.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

CONTRACTOR LICENSE

Authorized by the

West Virginia Contractor Licensing Board

Number: WV001629

Classification:

ELECTRICAL
HEATING, VENTILATING & COOLING
PIPING
PLUMBING

RICHS REFRIGERATION A/C HEAT PLUMBI
DBA RICHS REFRIGERATION A/C HEAT PLUMBI
1151 AIRPORT RD
SUTTON, WV 26601

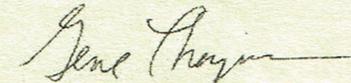
Date Issued

AUGUST 07, 2017

Expiration Date

AUGUST 07, 2018


Authorized Company Signature


Chair, West Virginia Contractor
Licensing Board

WEST VIRGINIA
CONTRACTOR
LICENSING
BOARD

This license, or a copy thereof, must be posted in a conspicuous place at every construction site where work is being performed. This license number must appear in all advertisements, on all bid submissions and on all fully executed and binding contracts. This license cannot be assigned or transferred by licensee. Issued under provisions of West Virginia Code, Chapter 21, Article 11.

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**RICHS REFRIGERATION AIR CONDITIONING HEATING PLUMBING &
WELDING SERVICE
1151 AIRPORT RD
SUTTON, WV 26601-9744**

BUSINESS REGISTRATION ACCOUNT NUMBER: **1039-0801**

This certificate is issued on: **06/11/2010**

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with W.Va. Code § 11-12.*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

General Data ①

MODEL	TUH1C100A9H41B, AUH1C100A9H41B
TYPE	Upflow/Horizontal
RATINGS ②	
Input BTUH ③	97,000
Capacity BTUH (ICS) ④	92,105
AFUE (Upflow / Horizontal)	95.0 ⑤ / 94.2
Temp. rise (Min.-Max.) °F.	35 - 65
BLOWER DRIVE ⑥	DIRECT
Diameter-Width (In.)	11 x 10
No. Used	1
Speeds (No.)	4
CFM vs. in. w.g.	See Fan Performance
Motor HP ⑤	3/4
R.P.M.	1100
Volts/Ph/Hz	115/1/60
FLA	8.4
COMBUSTION FAN - Type	Centrifugal
Drive - No. Speeds	Direct - 1
Motor HP - RPM	1/20 - 3450
Volts/Ph/Hz	115/1/60
F.L. Amps	.70
FILTER — Furnished?	Yes
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 20x25 - 1in.

VENT PIPE DIAMETER — Min. (in.) ⑥⑦	3 Round
HEAT EXCHANGER	
Type-Fired	Alum. Steel
-Unfired	
Gauge (Fired)	20
ORIFICES — Main	
Nat. Gas Qty. — Drill Size	5 — 45
L.P. Gas Qty. — Drill Size	5 — 56
GAS VALVE	Redundant - Single Stage
PILOT SAFETY DEVICE	
Type	Hot Surface Ignition
BURNERS — Type	Multiport Inshot
Number	5
POWER CONN. — V/Ph/Hz ④	115/1/60
Ampacity (In Amps)	11.4
Max. Overcurrent Protection (amps)	15
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Crated (In.)	41 - 3/4 x 23 x 30-1/2
Uncrated (In.)	40 x 21 x 28-1/2
WEIGHT	
Shipping (Lbs.)/Net (Lbs.)	171 / 160

① Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3.

② For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level.

③ For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4% per 1,000 feet for elevations above 4,500 feet above sea level.

④ Based on U.S. government standard tests.

⑤ The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

⑥ Constant torque ECM blower motor

⑦ Refer to the Vent Length Table in the Installer's Guide or the Allowable Vent Length label located on the furnace.

⑧ All TUH1 and TDH1 furnace models have a vent outlet diameter that equals 2".

⑨ 4 Speed, direct drive X13 style high efficiency DC motor

⑩ Energy Star

Mechanical Specifications

NATURAL GAS MODELS — Central heating furnace designs are certified to ANSI Z21.47 / CSA 2.3 for both natural and L.P. gas. Limit setting and rating data were established and approved under standard rating conditions using American National Standards Institute standards.

SAFE OPERATION — The Integrated System Control has solid state devices, which continuously monitor for presence of flame, when the system is in the heating mode of operation. Slow opening, dual solenoid combination gas valve and regulator provide extra safety and quieter operation.

QUICK HEATING — Durable, cycle tested, heavy gauge aluminized steel heat exchanger and stainless steel secondary heat exchanger quickly transfer over 90% of the heat to provide warm conditioned air to the structure. **Low energy power vent blower**, to increase efficiency and provide a positive discharge of gas fumes to the outside as it draws outdoor air in for sealed combustion, which means it uses no indoor air for combustion.

BURNERS — Multi-port, in-shot burners will give years of quiet and efficient service. All models can be converted to **L.P. gas** without changing burners.

Technical Literature - Printed in U.S.A.

Ingersoll Rand
6200 Troup Highway
Tyler, TX 75707

ENERGY EFFICIENT OPERATION

Furnace is certified to leak 2% or less of nominal air conditioning CFM delivered when pressurized to .5" water column with all inlets, outlets, and drains sealed.

INTEGRATED SYSTEM CONTROL—

Exclusively designed operational program provides total control of furnace limit sensors, blowers, gas valve, flame control and includes self diagnostics for ease of service. The built-in, selectable "**Cooling Fan Off**" feature provides time-delay capability like a BAY24X045 Time-Delay Kit for cooling operation. Also contains connection points for E.A.C./humidifier.

AIR DELIVERY — The multispeed, direct-drive blower motor, with sufficient airflow range for most heating and cooling requirements, will switch from heating to cooling speeds on demand from room thermostat. The blower door safety switch will prevent or terminate furnace operation when the blower door is removed. (Fan relay and 35VA control transformer is standard).

STYLING — Heavy gauge steel and "wrap-around" cabinet construction is used in the cabinet with baked-on enamel finish for strength and beauty. The heat exchanger section of the cabinet is completely lined with foil-faced fiberglass insulation. This results in quiet and efficient operation due to the excellent acoustical and insulating qualities of fiberglass.

FEATURES AND GENERAL OPERATION

— These High Efficiency, Direct Vent, Condensing Gas Furnaces employ a Hot Surface Ignition system, which eliminates the waste of a constantly burning pilot. They are convertible for HORIZONTAL use by rotating the unit to its right side. The integrated system control lights the main burners upon a demand for heat from the room thermostat. Complete front service access.

- Low energy power venter.
- Vent proving differential switch.

Library	Unitary
Product Section	Furnaces
Product	Furnace
Model	TUH1-H
Literature Type	Submittal
Sequence	-
Date	02/18
File No.	TUH1C100-H-SUB-1E
Supersedes	TUH1C100-H-SUB-1D



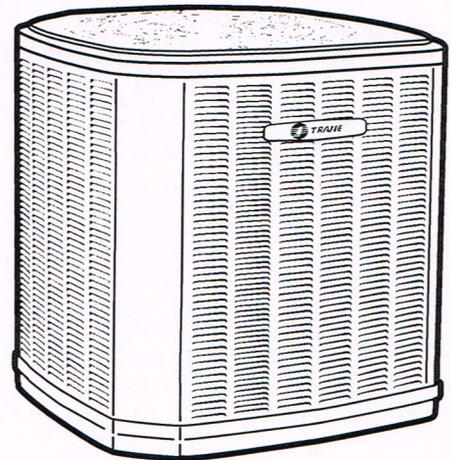
The Manufacturer has a policy of continuous product and product data improvement and reserves the right to change specifications and design without notice.



Submittal

Split System Cooling 3.5 Ton

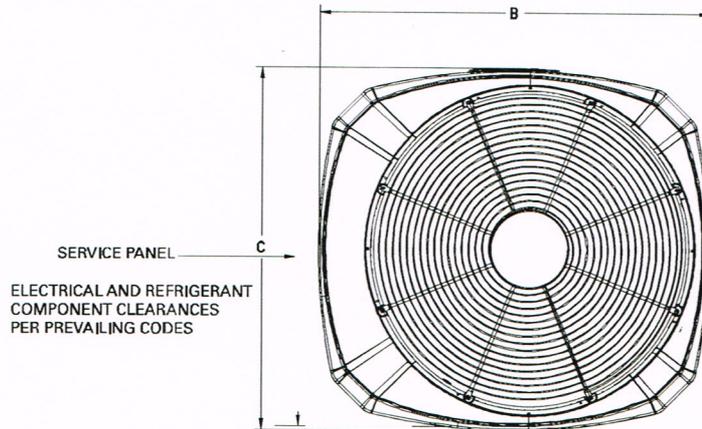
4TTR3042E1000N



TAG: _____

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.



TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR AT LEAST 1524 (5 FEET) ABOVE UNIT. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR DIRECTLY ON UNIT AND SHOULD BE AT LEAST 305 (12") FROM WALL AND ALL SURROUNDING SHRUBBERY ON TWO SIDES. OTHER TWO SIDES UNRESTRICTED

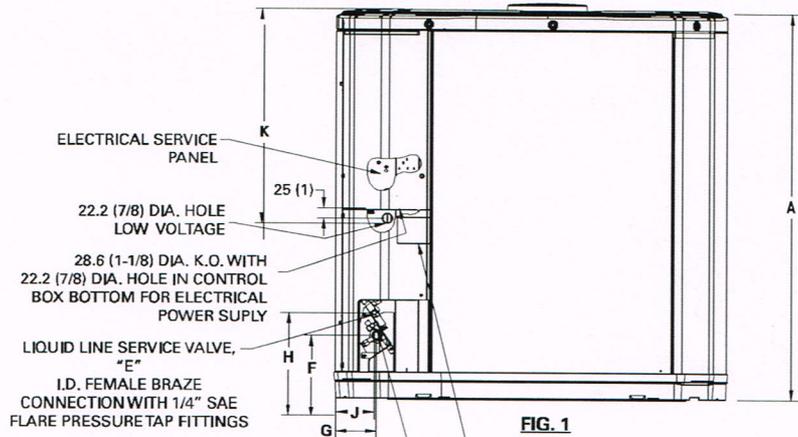


FIG. 1

From Dwg. D152898

Model	Base	A	B	C	D	E	F	G	H	J	K
4TTR3042E	3	730 (28-3/4)	829 (32-5/8)	756 (29-3/4)	7/8	3/8	152 (6)	98 (3-7/8)	219 (8-5/8)	86 (3-3/8)	508 (20)

SOUND POWER LEVEL									
Model	A-Weighted Sound Power Level [dB(A)]	Full Octave Sound Power [dB]							
		63 Hz*	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
4TTR3042D	72	77.6	68.3	67.4	65.6	67.4	58.2	54.1	47.6

Note: Rated in accordance with AHRI Standard 270-2008 *For reference only66



Product Specifications

OUTDOOR UNIT ^(a) ^(b)	4TTR3042E1000N
POWER CONNS. — V/PH/HZ ^(c)	208/230/1/60
MIN. BRCH. CIR. AMPACITY	22
BR. CIR. PROT. RTG. — MAX. (AMPS)	35
COMPRESSOR	CLIMATUFF®-SCROLL
NO. USED — NO. STAGES	1 — 1
VOLTS/PH/HZ	208/230/1/60
R.L. AMPS ^(d) — L.R. AMPS	17.0 — 124
FACTORY INSTALLED	
START COMPONENTS ^(e)	NO
INSULATION/SOUND BLANKET	NO
COMPRESSOR HEAT	NO
OUTDOOR FAN	PROPELLER
DIA. (IN.) — NO. USED	23 — 1
TYPE DRIVE — NO. SPEEDS	DIRECT — 1
CFM @ 0.0 IN. W.G. ^(f)	3100
NO. MOTORS — HP	1 — 1/8
MOTOR SPEED R.P.M.	835
VOLTS/PH/HZ	200/230/1/60
F.L. AMPS	0.7
OUTDOOR COIL — TYPE	SPINE FIN™
ROWS — F.P.I.	1 — 24
FACE AREA (SQ. FT.)	19.07
TUBE SIZE (IN.)	3/8
REFRIGERANT	
LBS. — R-410A (O.D. UNIT) ^(g)	5 LBS., 8 OZ
FACTORY SUPPLIED	YES
LINE SIZE — IN. O.D. GAS ^(h)	7/8
LINE SIZE — IN. O.D. LIQ.	3/8
CHARGING SPECIFICATIONS	
SUBCOOLING	10°F
DIMENSIONS	H X W X D
CRATED (IN.)	34 x 30.1 x 33
WEIGHT	
SHIPPING (LBS.)	200
NET (LBS.)	172

- (a) Certified in accordance with the Air-Source Unitary Air-conditioner Equipment certification program, which is based on AHRI standard 210/240.
- (b) Rated in accordance with AHRI standard 270.
- (c) Calculated in accordance with Natl. Elec. Codes. Use only HACR circuit breakers or fuses.
- (d) This value shown for compressor RLA on the unit nameplate and on this specification sheet is used to compute minimum branch circuit ampacity and max. fuse size. The value shown is the branch circuit selection current.
- (e) No means no start components. Yes means quick start kit components. PTC means positive temperature coefficient starter.
- (f) Standard Air — Dry Coil — Outdoor
- (g) This value approximate. For more precise value see unit nameplate.
- (h) Max. linear length 60 ft.; Max. lift — Suction 60 ft.; Max. lift — Liquid 60 ft. For greater length consult refrigerant piping software Pub. No. 32-3312-0* (* denotes latest revision).



Mechanical Specification Options

General

The Outdoor Units are fully charged from the factory for up to 15 feet of piping. This unit is designed to operate at outdoor ambient temperatures as high as 115°F. Cooling capacities are matched with a wide selection of air handlers and furnace coils that are AHRI certified. The unit is certified to UL 1995. Exterior is designed for outdoor application.

Casing

Unit casing is constructed of heavy gauge, galvanized steel and painted with a weather-resistant powder paint finish on all louvered panels and the fan top panel. The corner panels are prepainted. All panels are subjected to our 1,000 hour salt spray test. The base is made of a CMBP-G30 weatherproof material to resist corrosion.

Refrigerant Controls

Refrigeration system controls include condenser fan, compressor contactor and high pressure switch. High and low pressure controls are inherent to the compressor. A factory supplied liquid line drier is standard. Some models may require field installation.

Compressor

The compressor features internal over temperature, pressure protection and total dipped hermetic motor. Other features include: Centrifugal oil pump and low vibration and noise.

Condenser Coil

The outdoor coil provides low airflow resistance and efficient heat transfer. The coil is protected on all four sides by louvered panels.

Low Ambient Cooling

As manufactured, this system has a cooling capacity to 55°F. The addition of an evaporator defrost control permits operation to 40°F. The addition of an evaporator defrost control with TXV permits low ambient cooling to 30°F.

Thermostats—Cooling only and heat/cooling (manual and automatic change over). Sub-base to match thermostat and locking thermostat cover.

Evaporator Defrost Control — See Low Ambient Cooling.



Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands—including Club Car®, Ingersoll Rand®, Thermo King® and Trane®—work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a global business committed to a world of sustainable progress and enduring results. For more information, visit www.ingersollrand.com.

Ingersoll Rand has a policy of continuous product and product data improvements and reserves the right to change design and specifications without notice.

©2012 Ingersoll Rand All rights reserved

4TTR3042E-SUB-1C-EN 29 Aug 2016

Supersedes 4TTR3042D-SUB-1B-EN (December 2014)

