

White-Rodgers


36J/G Series Gas Valves

Business and Product Overview

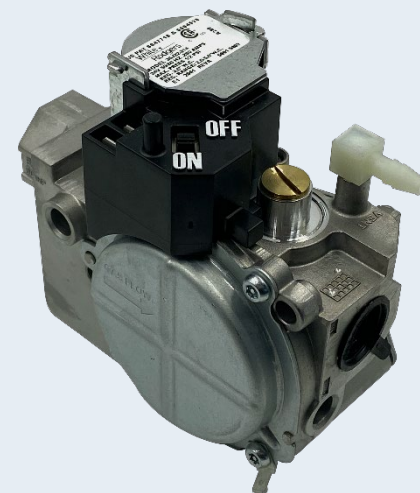
Introduction – 36J/G

36J/G Series gas valves are designed for furnace and appliance applications requiring a compact footprint and versatile gas regulation range.

Models include fast and slow open, single, two-stage, and modulating with straight-thru or bottom outlet configuration.

 **WR production alone = Over 40 million 36J/G**

 **10 Models replace over 800 WR/OEM/Competitive Sku's**



36J Series

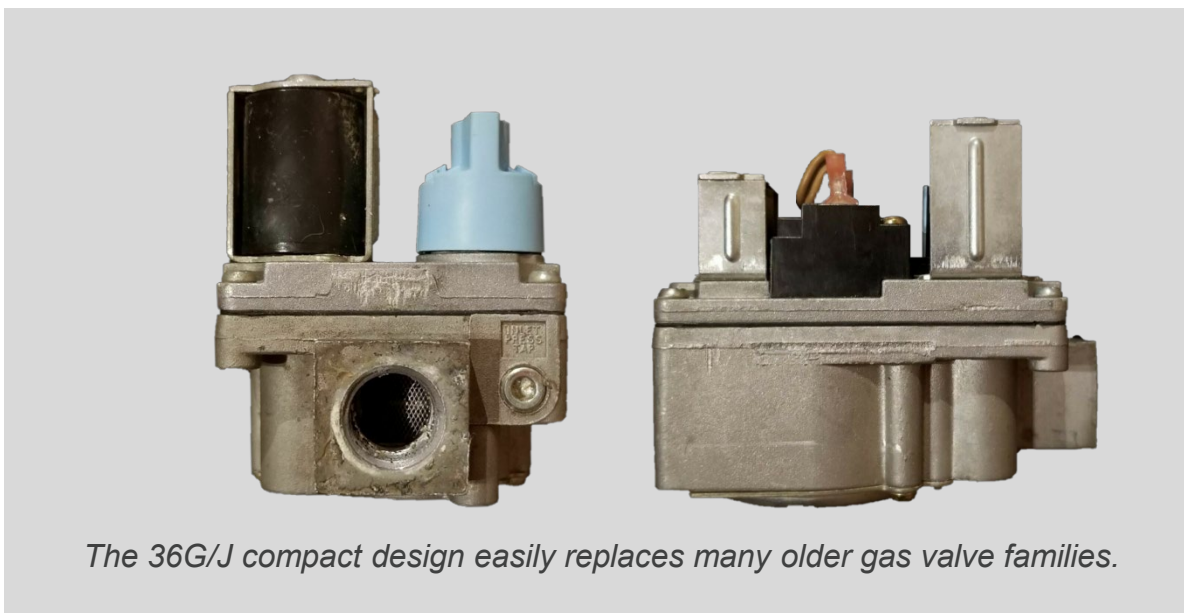


36G Series

Gas Valve Market

These valves were introduced to the OEM market in early 2000, and have been in continuous production since.

An increasing number of aging controls are no longer under warranty, creating the demand for aftermarket replacements.



The 36G/J compact design easily replaces many older gas valve families.

Applications and Brands

- Residential HVAC
- Commercial HVAC
- Space and Unit Heaters
- Residential Boilers
- Convection Ovens
- Gas Fryers/Gas Kettles



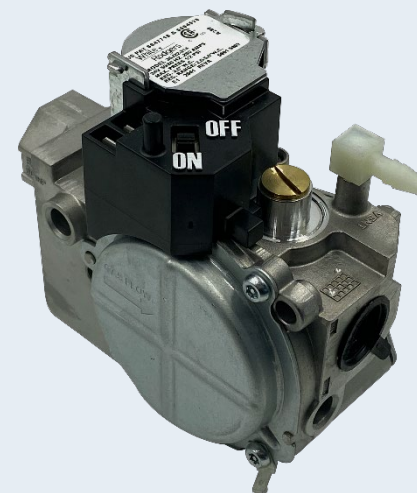
36J and 36G at a Glance

36J Series

- Hot Surface and Direct Spark Ignition (HSI/DSI) no pilot port
- Slightly longer than 36G
- Overall Dims L 4.7" X W 2.4" H 4.2"

36G Series

- Intermittent/Proven Pilot/HSI/DSI or HSI/DSI only models
- Slightly more compact (shorter) than 36J
- Overall Dims L 4.0" X W 2.4" H 4.2"



36J Series



36G Series

36J Features and Specs

SPECIFICATIONS

Gas Range of Regulation

Nat. Gas – 40-210 KBtu/hr

HSI/DSI

1/2" X 1/2" NPT

Single Stage, Two-Stage, Fast Open, Slow Open and Modulating

Nat. Gas (LP Conversion Kit Included)



Reduction of Inventory

Universal design services HSI, and DSI applications



Versatile

Small footprint, versatile gas regulation range



Ease of Service

Tower pressure taps for easy access

Control Type	Stages / Opening	Flow Direction	Regulator Setting	Natural Gas Adj. Range (wc)	LP Gas Adj. Range (wc)	Model Number
Universal HSI/DSI	1 - Stage Fast Open	Str. Thru	3.5"	2.5"-5.0"	7.0"-12.0"	36J22-214
Universal HSI/DSI	1 - Stage Slow Open	Str. Thru	3.5"	2.5"-5.0"	7.0"-12.0"	36J24-214
Universal HSI/DSI	Modulating	Str. Thru	3.5"	0.4"-4.0"	1.3"-11.5"	36J27-554
Universal HSI/DSI	2 - Stage Fast Open	Str. Thru	1.5" Low 3.5" High	1.0"-4.0" Low 2.0"-5.0" High	4.0"-10.0" Low 6.0"-12.0" High	36J54-214
Universal HSI/DSI	2 - Stage Slow Open	Str. Thru	1.5" Low 3.5" High	1.0"-4.0" Low 2.0"-5.0" High	4.0"-10.0" Low 6.0"-12.0" High	36J55-214
Direct OEM Replacement HSI/DSI (Primary Volume on Carrier)	1 - Stage Slow Open	90° Bottom Outlet	3.5"	2.5"-5.0"	7.0"-12.0"	36J24-614
Direct OEM Replacement HSI/DSI (Primary Volume on Carrier)	2 - Stage Slow Open	90° Bottom Outlet	1.5" Low 3.5" High	1.0"-4.0" Low 2.0"-5.0" High	4.0"-10.0" Low 6.0"-12.0" High	36J55-614

36G Features and Specs

SPECIFICATIONS

Gas Range of Regulation

Nat. Gas – 40-210 KBtu/hr

HSI/DSI or Intermittent/Proven Pilot

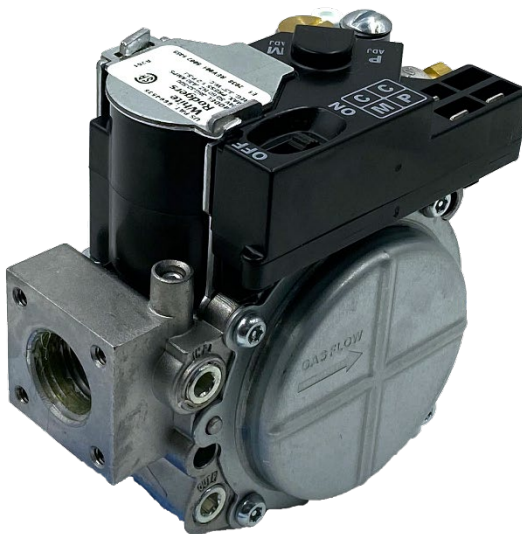
(Includes Pilot Plug and Pilot Fitting)

½ X ½ NPT & Flange Mount Option

Single Stage Fast or Slow Open

Nat. Gas (LP Conversion Kit Included)

NPT and Tower Pressure Taps



Reduction of Inventory

Universal design services
intermittent/proven pilot, HSI
and DSI applications



Versatile

Small footprint
Flange mount option, side NPT and
tower pressure taps in one valve

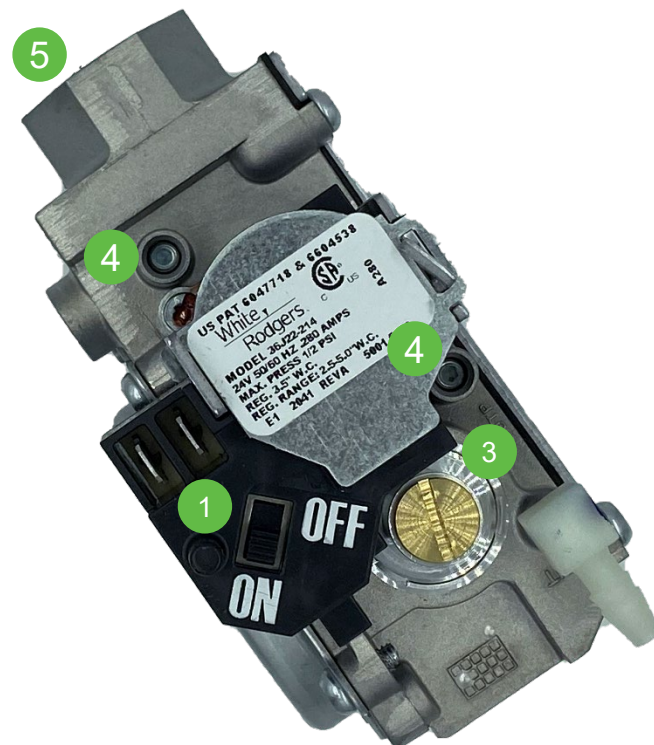
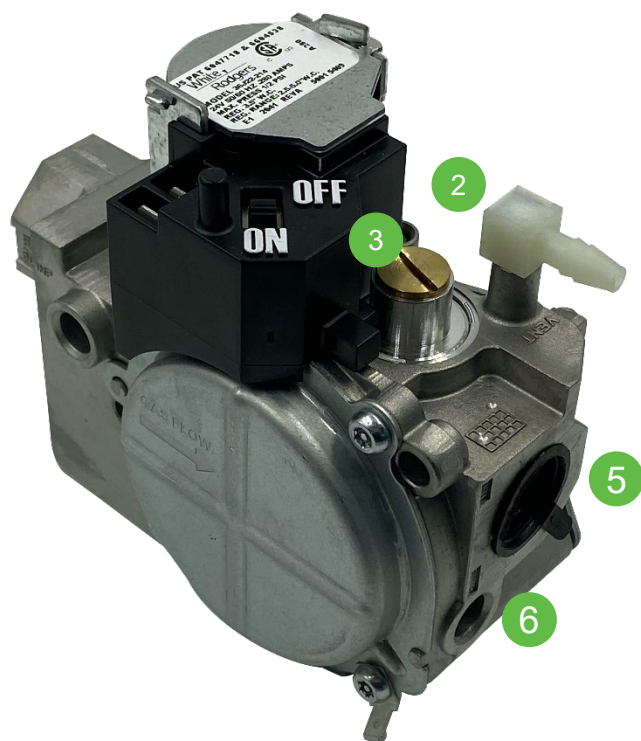


Ease of Service

Co-located NPT and tower pressure
taps for easy access
Lettering tailored for intermittent
pilot applications

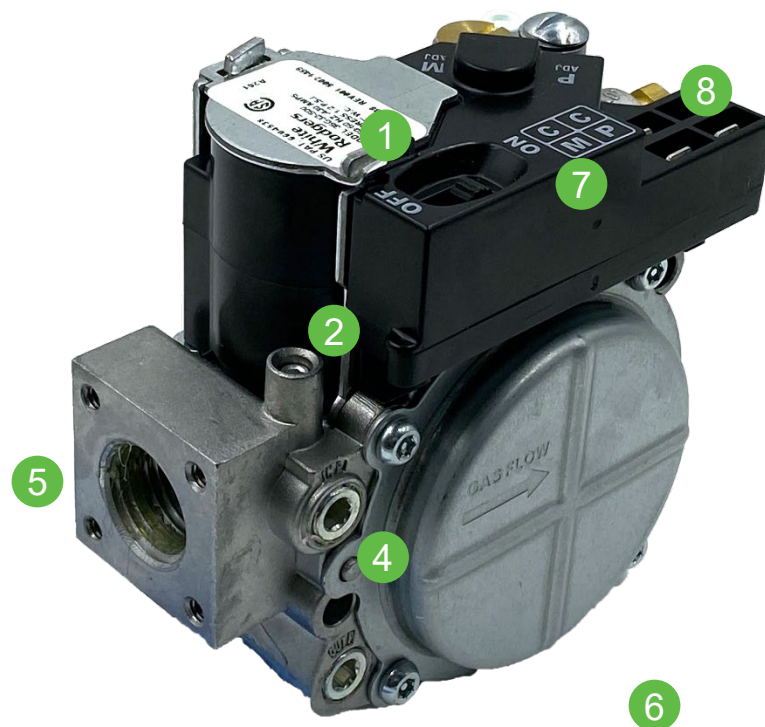
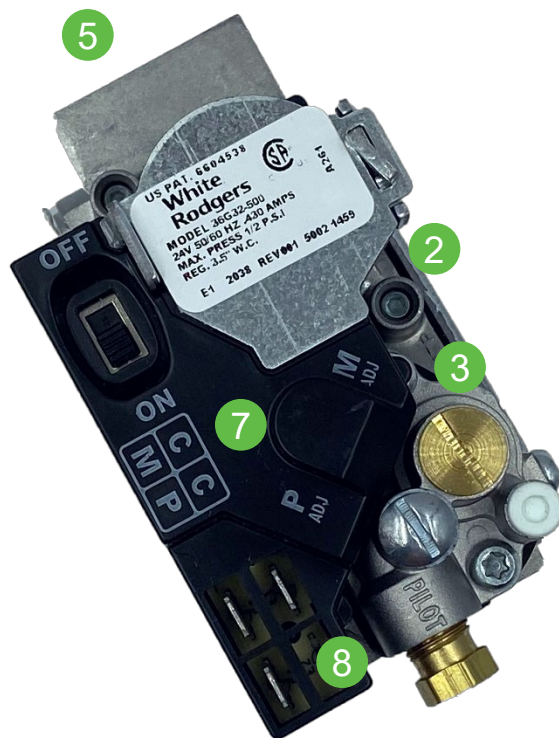
Control Type	Stages / Opening	Flow Direction	Regulator Setting	Natural Gas Adj. Range (wc)	LP Gas Adj. Range (wc)	Model Number
Universal HSI/DSI, Intermittent/Proven Pilot	1 - Stage Fast Open	Str. Thru	3.5"	2.5"-5.0"	7.0"-12.0"	36G32-500
Universal HSI/DSI, Intermittent/Proven Pilot	1 - Stage Slow Open	Str. Thru	3.5"	2.5"-5.0"	7.0"-12.0"	36G33-500
Direct OEM Replacement HSI/DSI Only (Primary Volume on Goodman)	1 - Stage Fast Open	Str. Thru	3.5"	2.5"-5.0"	7.0"-12.0"	36G22-254

Product Features – 36J Universal



- 1 Electrical Switch
- 2 Pressure Taps
- 3 Regulator Screw
- 4 Inlet/Outlet Tower Pressure Taps
- 5 1/2" NPT Inlet/Outlet
- 6 Compact Footprint

Product Features – 36G Universal



- | | | | | | |
|---|----------------------------|---|-----------------------|---|-------------------------|
| 1 | Recessed Electrical Switch | 4 | NPT Pressure Taps | 7 | Terminal Call-Outs |
| 2 | Tower Pressure Taps | 5 | 1/2" NPT Inlet/Outlet | 8 | Quick Connect Terminals |
| 3 | Regulator Screw | 6 | Compact Footprint | | |

WR Mobile App

Always up-to-date and easy to use:

- Mobile App
- White-Rodgers Website



Your resource for:

- Product information and spec sheets
- Complete Cross Reference
- OEM compatibility
- Installation information and videos
- Wiring diagrams

Download:

- Go to your app store
- Type in **WR Mobile**
- Install the app



OR

- Open your camera
- Hold it over the QR code
- Tap “Open” on the pop-down
- Install the app



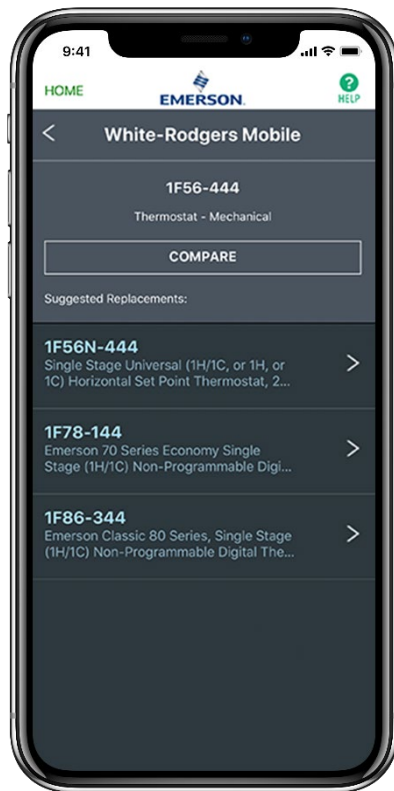
WR Mobile App

Easy to use!

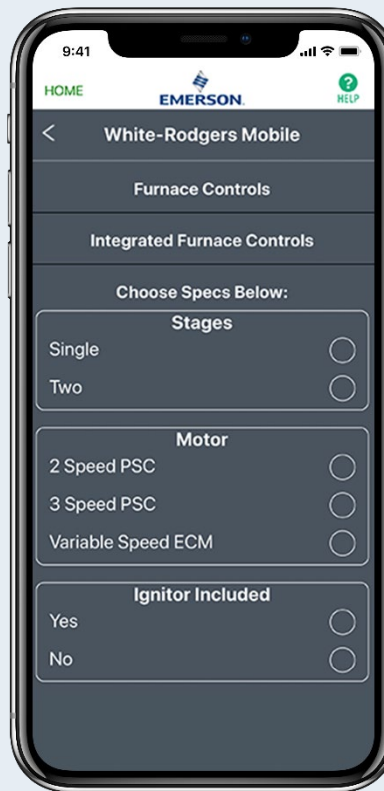
Search by OEM, Competitive, or White-Rodgers Model Number



Product Number

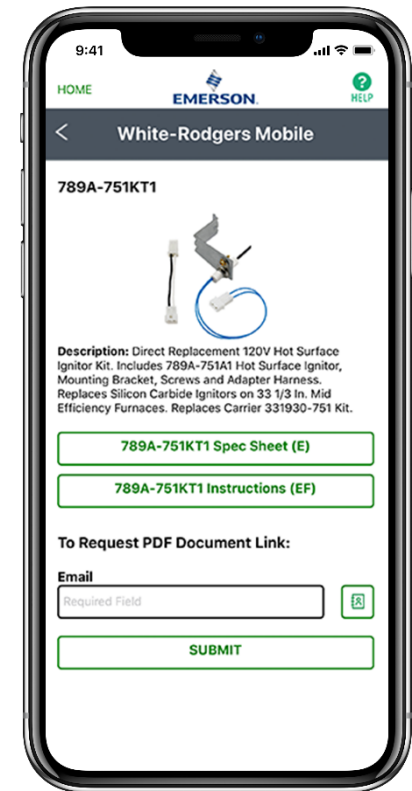


Scrollable Product List



36J/G Series Gas Valves

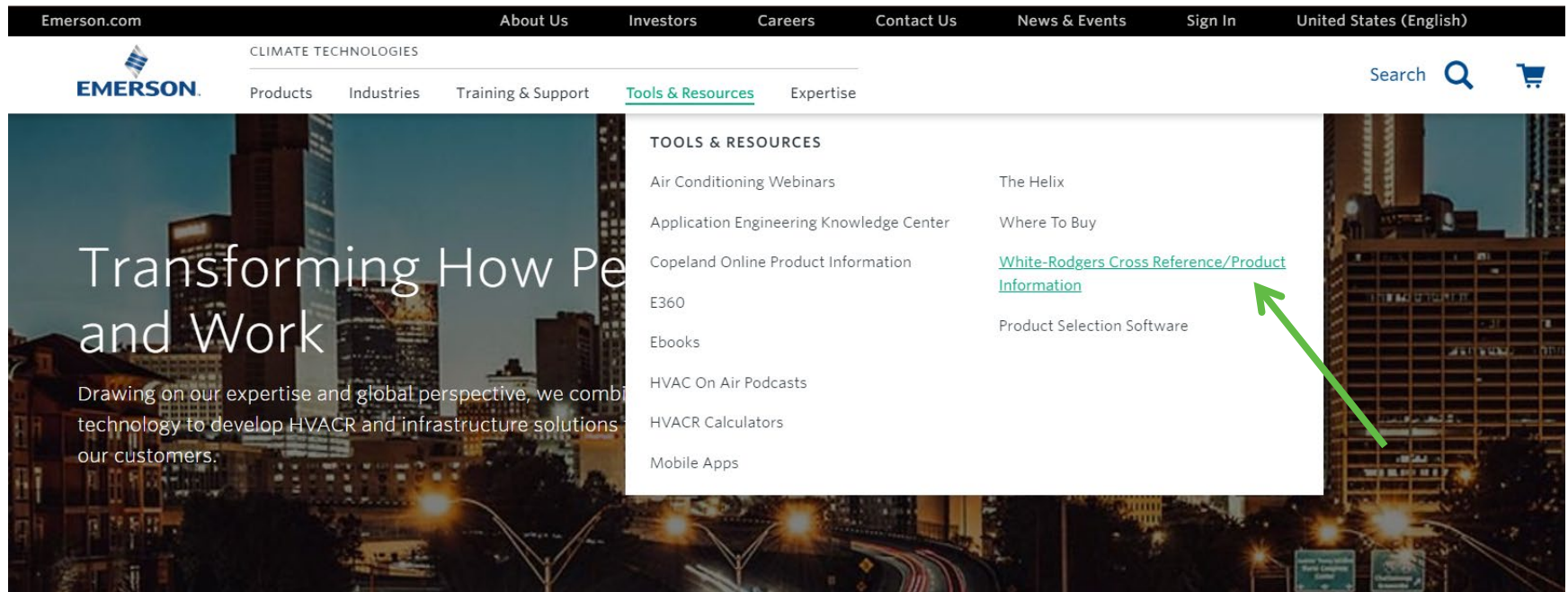
WR Replacement



White-Rodgers Cross Reference

Go to: www.whiterodgers.com

- Hover over Tools & Resources
- Click on: White-Rodgers Cross Reference/Product Information
- Enter the Model Number or click on: Search Replacement Heating Controls by Major OEM Brand



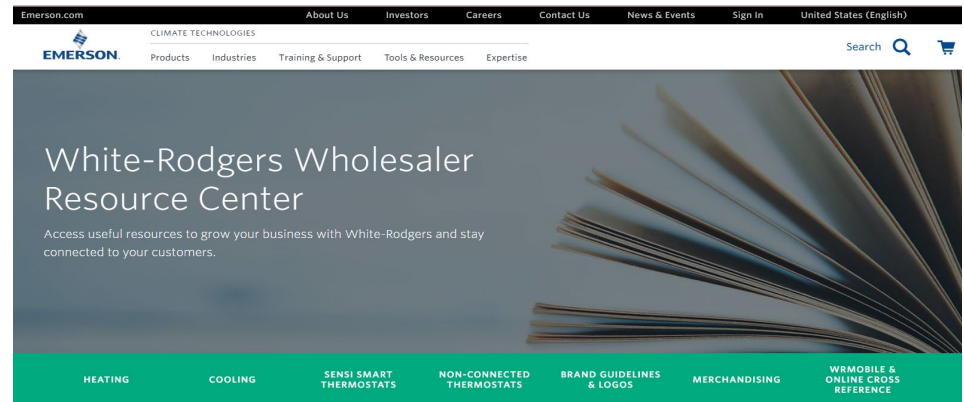
Wholesale Resource Site

Access useful resources to grow your business.

Visit: <https://climate.emerson.com/en-us/brands/white-rodgers/white-rodgers-wholesaler-resource-center>

You'll find videos, stocking lists and product launch information for the following product families:

- Heating Controls
- Cooling Controls
- Sensi Smart™ Thermostats
- Traditional Thermostats
- Contractor Rewards
- Product Merchandising



The comfort in knowing Emerson is there.

Confidence comes from knowing your reputation is in good hands; that you have the stability of an industry leader by your side; that they've been in the game for 125 years and they'll be around for a whole lot longer. That's the comfort you feel when you recommend Emerson, because you know you're working with the best for your customers and your business.

[BROCHURE](#)

Why Contractors Trust White-Rodgers

Industry Leading Products

- Used by more OEM's
- Offering the widest range of Universal Replacement Controls

Ease of Installation

- Simple, easy to understand instructions

Product Reliability

- Quality Control assures reliable products

Affordable

- Competitive pricing

Supported by Knowledgeable Representatives

- Contractor direct phone support




Technical

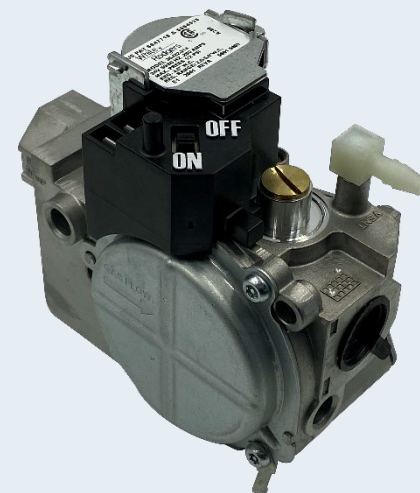
Introduction – 36J/G

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Models include fast and slow open, single, two-stage, and modulating with straight-thru or bottom outlet configuration.

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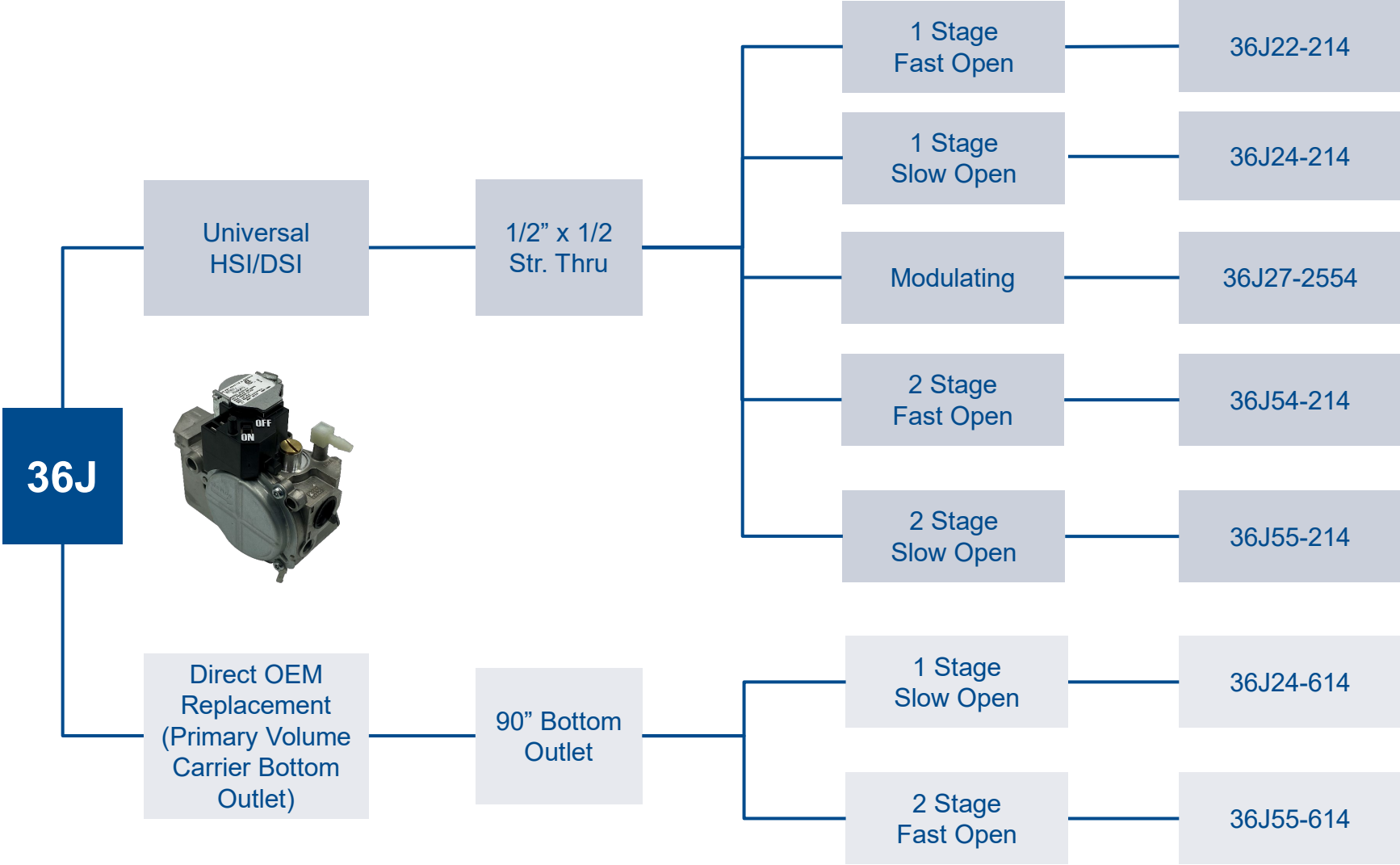


36J Series



36G Series

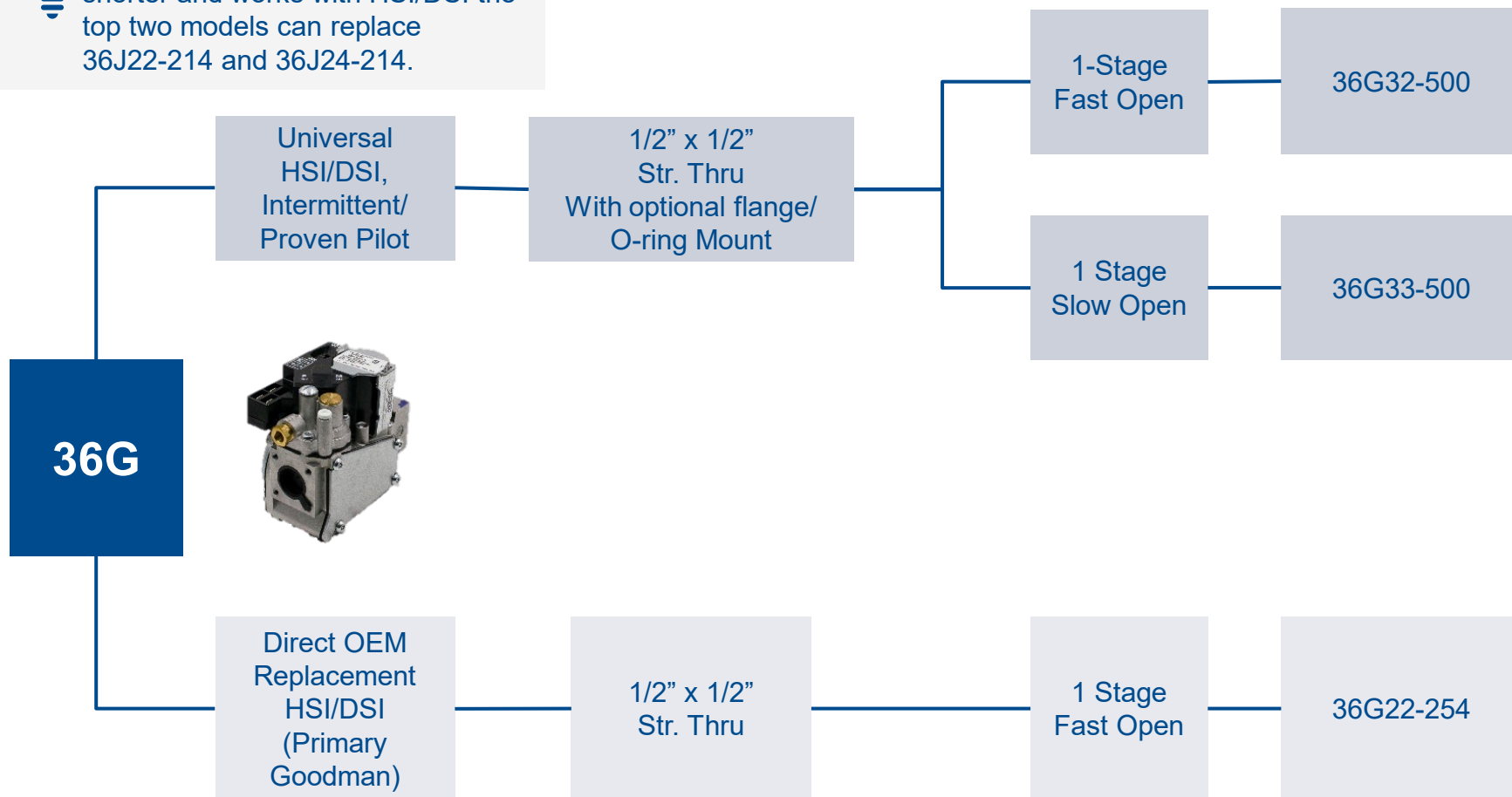
36J Quick Select



36G Quick Select

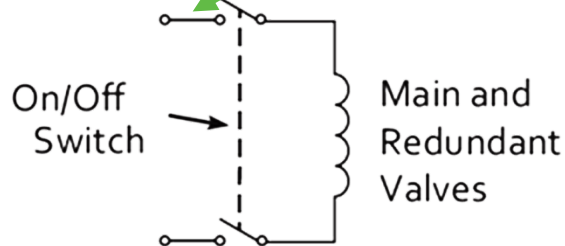
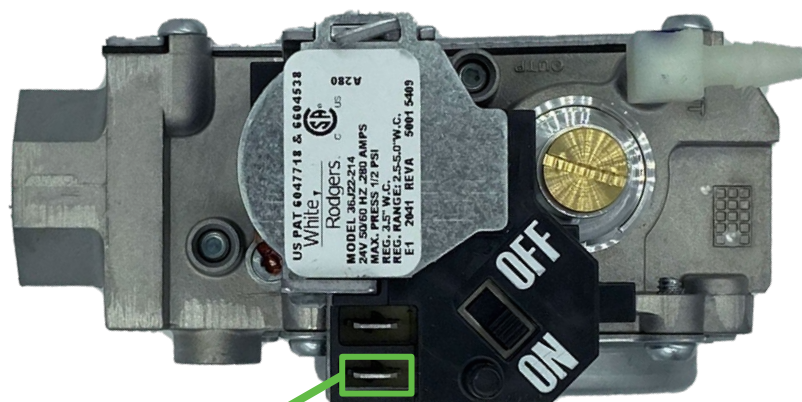


TECH TIP: Since 36G is a little shorter and works with HSI/DSI the top two models can replace 36J22-214 and 36J24-214.



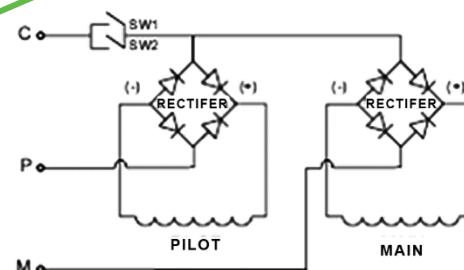
Wiring/Connections

36J HSI/DSI Single Stage



*Terminal Connection
Callouts*

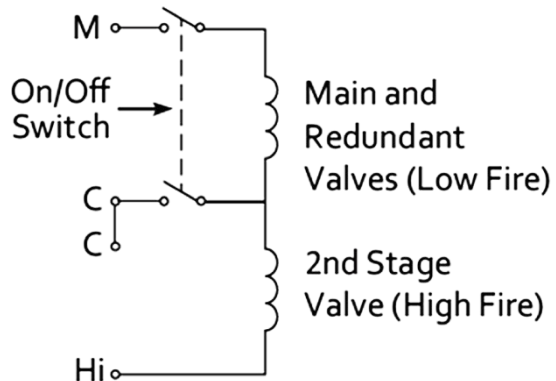
36G Intermittent/Proven Pilot Single Stage



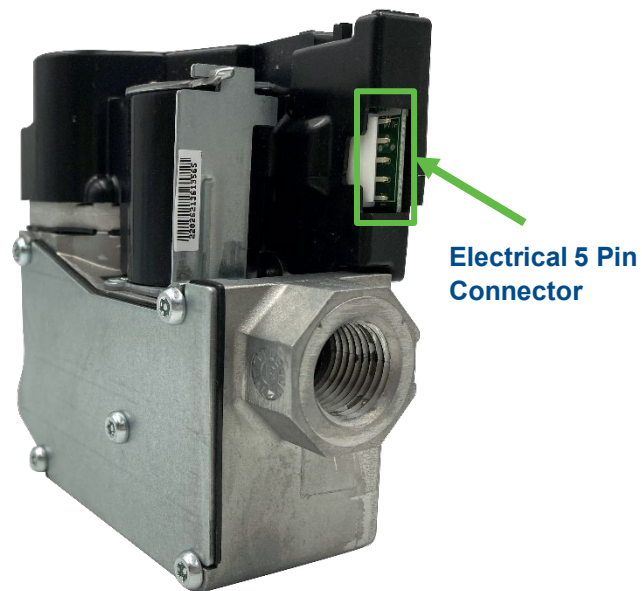
36G HSI/DSI Install pilot plug,
pilot terminal (P) is not used.

Wiring/Connections

36J HSI/DSI Two-Stage



36J Modulating



Electrical 5 PIN Connector Pin Out

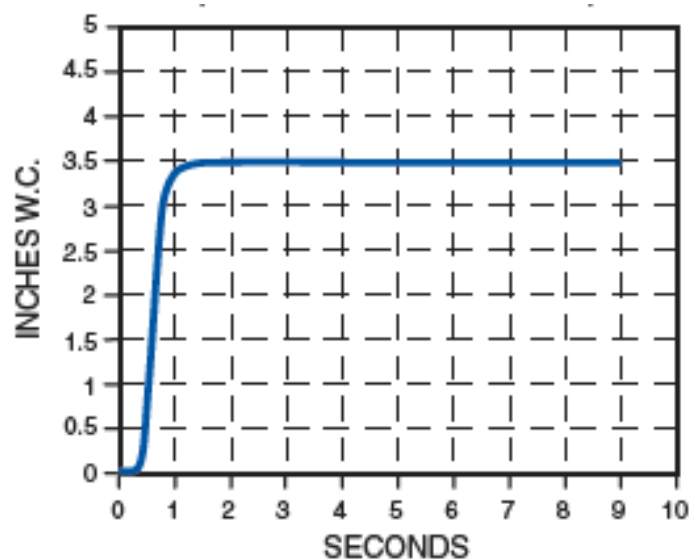
Pin 5	TH	Main Valve 24 VAC
PIN 4	TR	Ground
PIN 3	TX	Communication to IFC
PIN 2	RX	Communication to Stepper
PIN 1	TH	Board 24VAC

36J/G Range Spec's

		Natural Gas			LP Gas		
Valve (Stages)	Pipe Size	Natural Gas Adj. Range (WC)	#1 Pressure Drop Capacity Natural Gas	Range of Regulation Natural Gas .64 SP. GR. (1000 BTU/FT3)	LP GAS ADJ. Range (WC)	1" Pressure Drop Capacity LP Gas 1.53	Range of Regulation LP Gas 1.53 SP. GR. (2500 BTU/FT3)
36J/G Single	1/2" x 12"	2.5"-5.0"	140,000	40,000-210,000	7.0"-12.0"	226,800	60,000-340,000
36J/G Two-Stage	1/2" x 12"	2.5"-5.0"	140,000	20,000 Low-210,000 High	7.0"-12.0"	226,800	32,000 Low-340,000 High
36J Modulating	1/2" x 12"	4.0"-4.0"	140,000	20,000-210,000	1.3"-11.5"	226,800	32,600-340,000

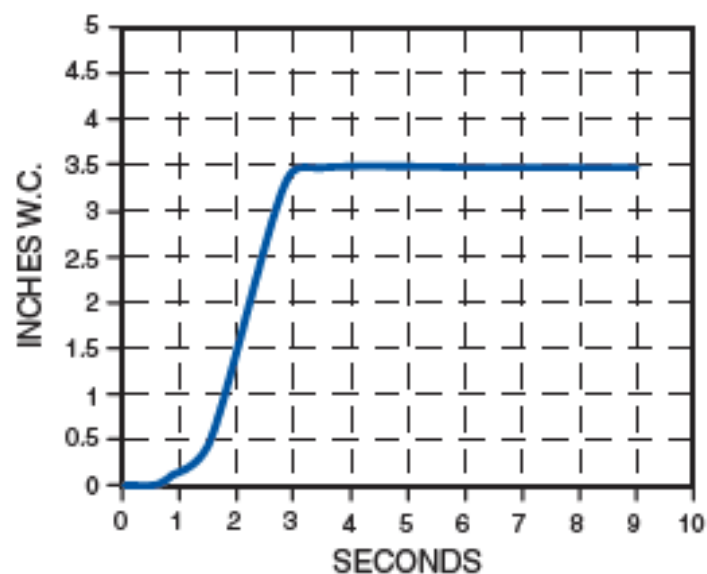
36J/G Opening Curves – Single Stage

Single Stage Fast



NOTE: TYPICAL OPENING CURVE NATURAL GAS
100,000 BTU/HR. 7" W.C. INLET / 3.5" W.C. OUTLET

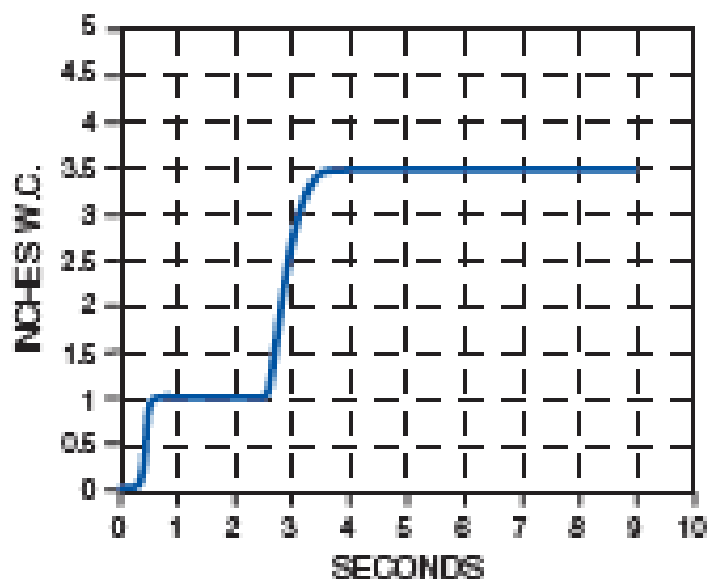
Single Stage Slow



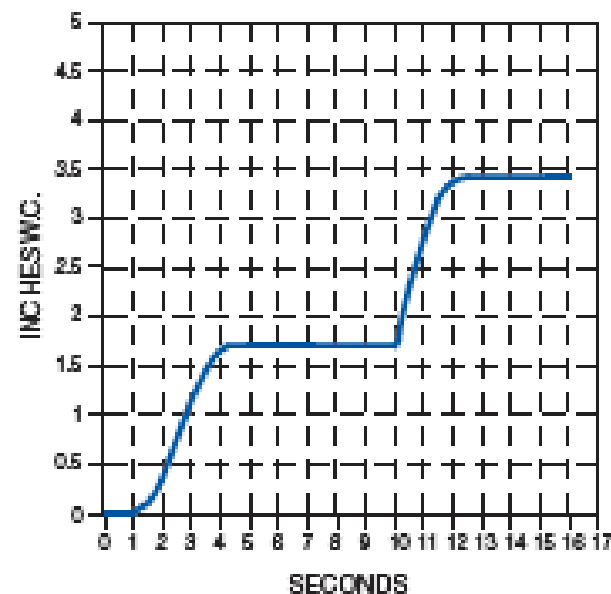
TECH TIP: Even fast opening models provide soft lighting characteristics, even in compact furnaces.

36J/G Opening Curves – Two-Stage

Two-Stage Fast



Two-Stage Slow



TECH TIP: Two-Stage Models used in higher efficiency and higher capacity furnaces are independently adjustable for 1st and 2nd stage outlet pressure.

36J/G Accessories

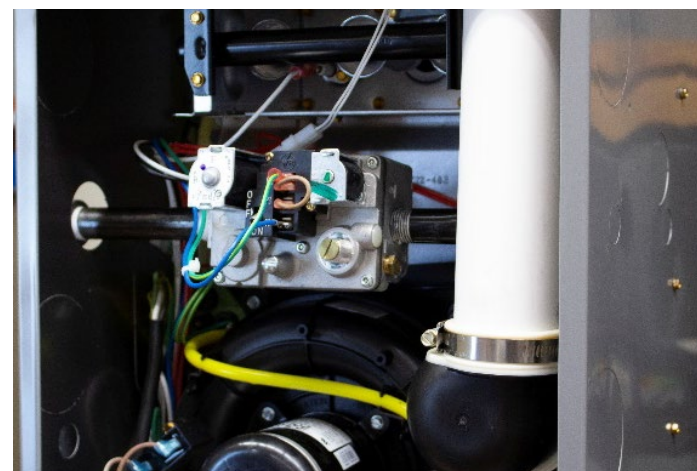
36J/G Models come with most everything required for the job, but parts and accessories are also available separately as shown below:

Accessories	Description	Model Number	Usage
Natural Gas to LP Conversion Kits	Natural to Regulated LP Gas Conversion Kit, Single Stage, Regulation Range 7.0" to 12.0" WC	F92-0659	36J/G
	Natural to Regulated LP Gas Conversion Kit, Two Stage Regulation Range 4.0" to 10.0" WC Low Fire, 6.0" to 12.0" WC High Fire	F92-1008	36J/G
	Natural to Unregulated LP Gas Conversion Kit, Use with External Regulator Set for LP Gas	F92-0737	36J/G
LP to Natural Gas Conversion Kits	LP to Natural Gas Conversion Kit, Regulation Range 2.5" to 5.0" WC	F92-0656	36J/G
	Regulated LP to Natural Gas Conversion Kit Two Stage 36G, Regulation Range 1.0" to 4.0" WC Low Fire, 2.0" to 5.0" WC High Fire	F92-1011	36J/G
Tower Hose Barb Adapter	Adapter Kit for Tower Pressure Taps, Connector (5/16" to 1/4" Hose Barb), Tube (5/16" O.D.) and Hex Wrench (3/32")	F92-1003	36J/G
Fittings, Bushings, Mounting Kits	Pilot Fitting for 1/4" O.D. Pilot Tube	F69-0727	36G
	1/2" NPT to 3/8" NPT Reducer Bushings (2)	F92-0983	36G/J
	3/8 NPT Inlet/Outlet Flange Kit. Adapts Flange Style 36G or 36J Valve Inlet or Outlet to a 90° angle 3/8" NPT connection. Includes Flange, O-ring and 4 mounting screws.	F27-0400	36G/J

Install

Installation – Step 1

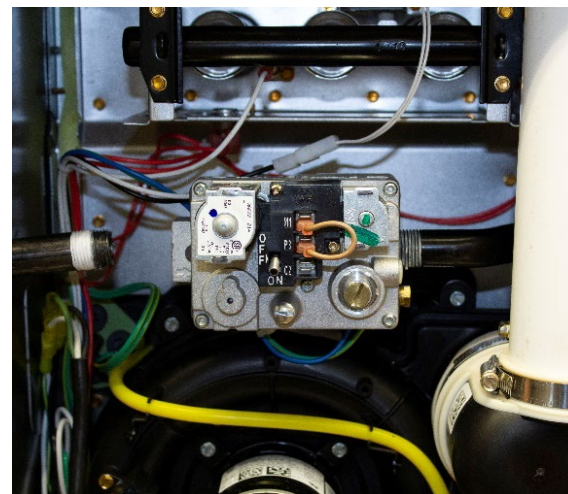
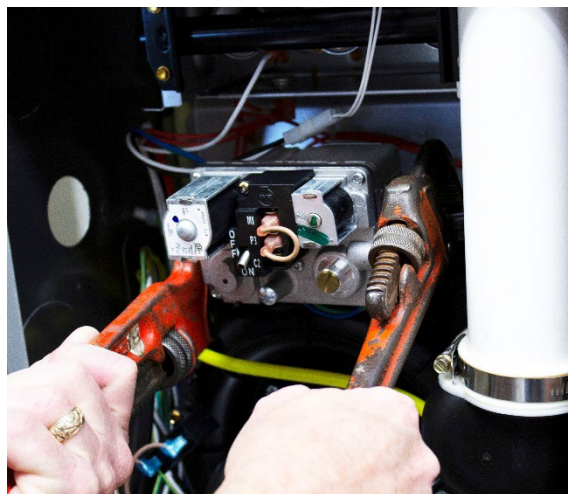
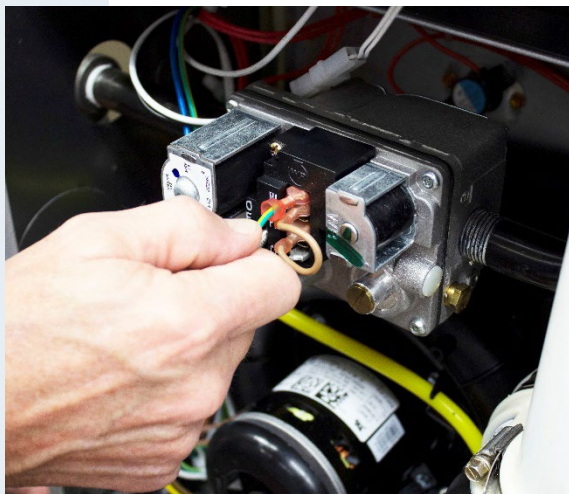
- 1 Turn off the power to the appliance.



Original gas valve in furnace

Installation – Step 2

2 Disconnect electrical and piping from old control.



Installation – Step 3

3 Most replacement valves can be mounted in any position but always check instructions to verify approved positions and assure proper regulation and function.

WHITE-RODGERS

36G32 & 36G33
Intermittent Pilot Single Stage
Gemin® Combination Gas Valve
INSTALLATION INSTRUCTIONS

Operator: Save these instructions for future use!

FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.

The 36G32 & 36G33 Gemin® combination gas valves are designed for intermittent pilot (IP) system applications. These valves are equipped with redundant and main solenoid valves that control gas flow to the main burners, a solenoid valve that controls gas flow to the pilot burner, a main outlet gas pressure regulator and a two-position on/off switch for electrical shut-off of the solenoid valves. The 36G33 gas valve is equipped with a slow-opening feature for softer lighting characteristics.

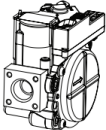


Figure 1 – 36G32 / 36G33 Gas Valve

DESCRIPTION

SPECIFICATIONS

Pressure Regulator Setting: Refer to control label
Pressure Regulator Adjustment Range:
Nat. Gas – 2.5" to 5.0" W.C.
LP Gas – 7.0" to 10.0" W.C.
Ambient Temperature: -40° to 175° F
Pressure Rating: 14" W.C. (1/2 PSI) max.
Voltage: 24 VAC
Frequency: 50/60 Hz


Current: .430 amps
Mounting Positions: Multipoise – Control may be mounted in any position.
Pipe Size: 1/2" x 1/2" NPT
Capacity (at 1" pressure drop across valve):
Nat. Gas (1,000 BTU/hr. ft.) – 140,000 BTU/hr.
LP Gas (2,500 BTU/hr. ft.) – 226,800 BTU/hr.

PRECAUTIONS

DO NOT BEGIN INSTALLATION UNTIL YOU READ THE FOLLOWING PRECAUTIONS.

⚠ WARNING If you do not follow these instructions exactly, a fire or explosion may result, causing property damage, personal injury or loss of life.

- Failure to turn off electric or main gas supply to heating system could cause personal injury and/or property damage by shock, gas suffocation, fire, and/or explosion.
- Do not use this control on circuits exceeding specified voltage. Higher voltage will damage the control and may cause shock or fire hazard.
- NEVER USE FLAME OR ANY KIND OF SPARK TO CHECK FOR GAS LEAKS—COULD CAUSE FIRE AND/OR EXPLOSION.
- DO NOT WIRE JUMPER on pilot systems, such as standing pilot, proven pilot, or spark-to-pilot ignition. A fire and/or explosion may result.
- Do not use a control set for natural gas with LP gas, or a control set for LP gas with natural gas. Personal injury and/or property damage, gas suffocation, fire, and/or explosion may result.
- Do not use a gas valve which appears to be damaged. A damaged valve may cause personal injury and/or property damage due to shock, gas suffocation, fire, and/or explosion. Contact supplier to replace any valve that appears to have been damaged.
- Do not use a gas valve that has been in direct contact with water. Water entering gas valve may result in concealed internal damage to gas valve. Personal injury and/or property damage, gas suffocation, fire and/or explosion may result.

**EMERSON**

PART NO. 37-7815001
emerson.com/white-rodders
2011

White-Rodgers

36J22, 36J24, 36J54 and 36J55
DSI and HSI Single and Two Stage
Combination Gas Valves
INSTALLATION INSTRUCTIONS

Operator: Save these instructions for future use!

FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.

The 36J22/24/54/55 combination gas valves are designed for direct spark ignition (DSI) and hot surface ignition (HSI) system applications. These valves are equipped with redundant and main solenoid valves that control gas flow to the main burners, a pressure regulator and a two-position on/off switch for regulation and electrical shut-off of the solenoid valves. The 36J24 and 36J55 are also equipped with a slow-opening pressure regulator for softer lighting characteristics. When the second solenoid on 2-stage valves is energized the valve operates at the second stage (high) outlet pressure setting.

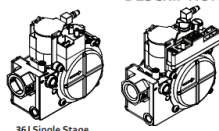


Figure 1

DESCRIPTION

Model Number	Coil Voltage	Stages	Opening Characteristics	Intermittent Pilot Proven Pilot	HSI	DSI	Standing Pilot
36J22	24V	1	Fast	No	Yes	Yes	No
36J24	24V	1	Slow	No	Yes	Yes	No
36J54	24V	2	Fast	No	Yes	Yes	No
36J55	24V	2	Slow	No	Yes	Yes	No

SPECIFICATIONS

Pressure Regulator Adjustment Range (in W.C.)

Gas Type	Single Stage	Two Stage		Min. Diff. Low to High
		Low	High	
Natural	2.5 – 5.0	1.0 – 4.0	2.0 – 5.0	1
LP	7.0 – 12.0	4.0 – 10.0	6.0 – 12.0	2


PIPE SIZES/CAPACITIES

Pipe Sizes Available (inches)	Capacity (BTU/hr. at 1" pressure drop across valve)	
AGA Std. Nat. Gas (1,000 BTU/hr. ft.)	LP Gas (2,500 BTU/hr. ft.)	
1/2" x 1/2" NPT	140,000	226,800

Contents

CONTENTS	
Description	1
Specifications	1
Precautions	2
Installation	2
System Wiring	3
Adjustment	7
Pressure Regulator Adjustment	7
Lighting Instructions	8
Contents French	9
Contents Spanish	17

Type of Gas: Natural gas
LP gas (use conversion kit)
Ambient Temperature: -40° to 175°F
Pressure Rating: 14" W.C. (½ PSI) max.
Voltage: 24 VAC
Frequency: 50/60 Hz
Current: Single Stage – 0.28A
Two Stage – 0.43A
Mounting Positions: Multipoise – Control may be mounted in any position

**EMERSON**
Climate Technologies

www.white-rodders.com
www.emersonclimate.com

PART NO. 37-73388
Replaces 37-7338A
1346

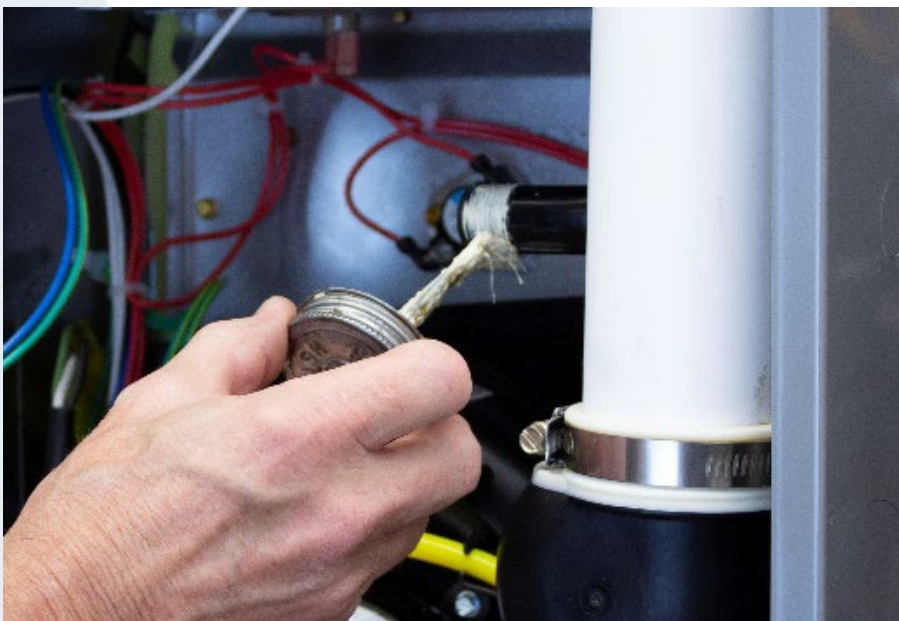
Installation – Step 4

- 4** Old pipe needs to be clean, free of rust, scale, burrs, chips, and old pipe joint compound.



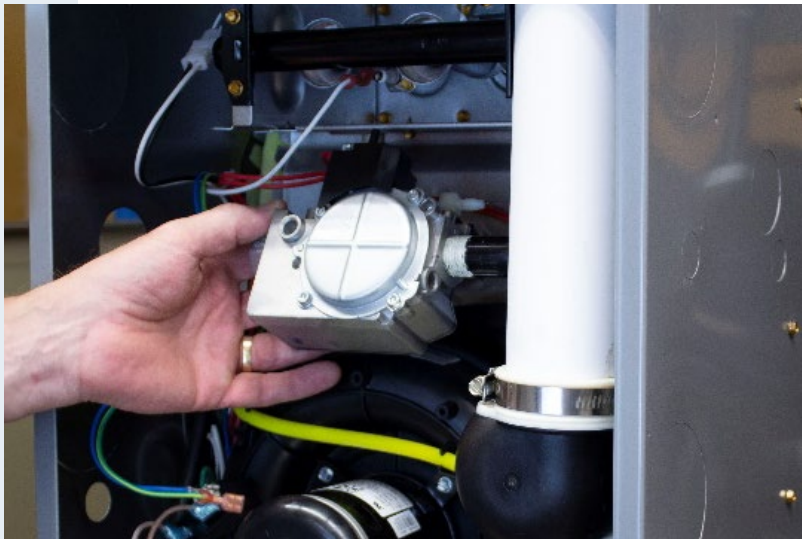
Installation – Step 5

- 5** Apply new pipe joint compound to the male threads, skipping the first two threads to keep compound out of the new valve body.



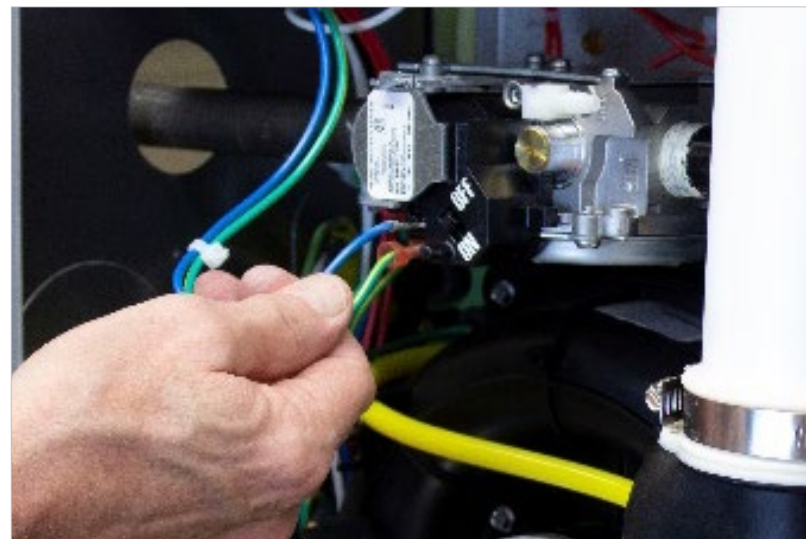
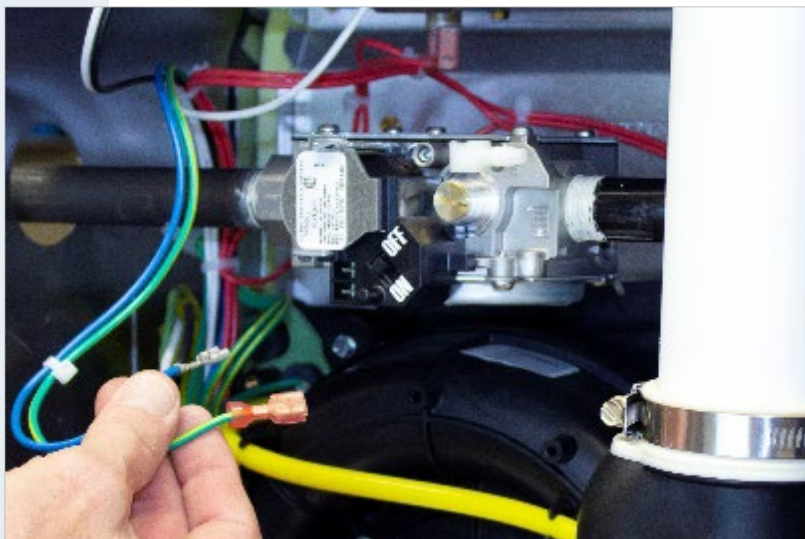
Installation – Step 6

- 6** Use a back-up wrench on the inlet boss of the valve to hold it in place when torqueing piping to spec.



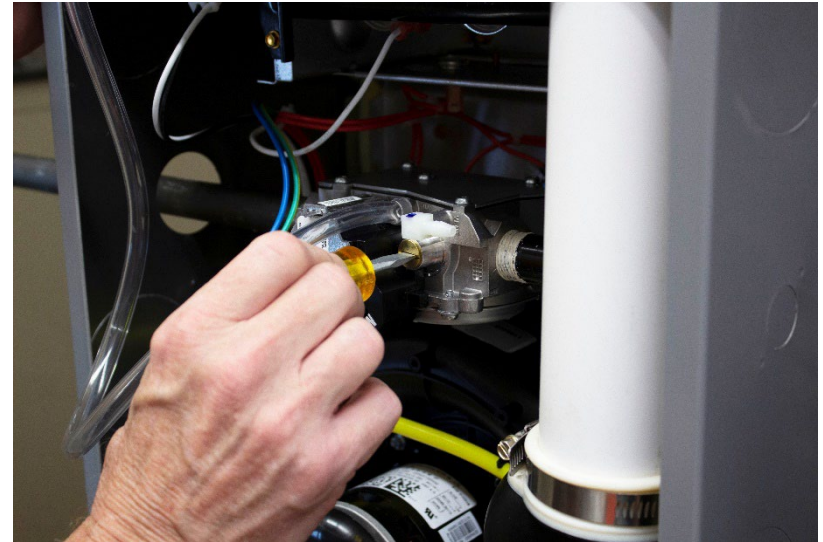
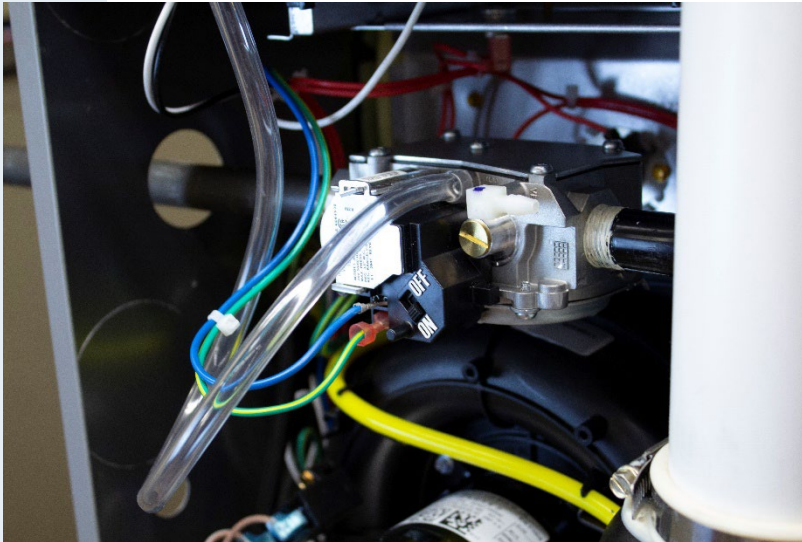
Installation – Step 7

- 7** Make electrical connections and install LP kit or adjust to LP if required. Don't forget to change orifices when converting to a different gas.



Installation – Step 8

- 8** Attach Manometer hose to the Outlet Pressure Tap, remove regulator adjustment screw cover.



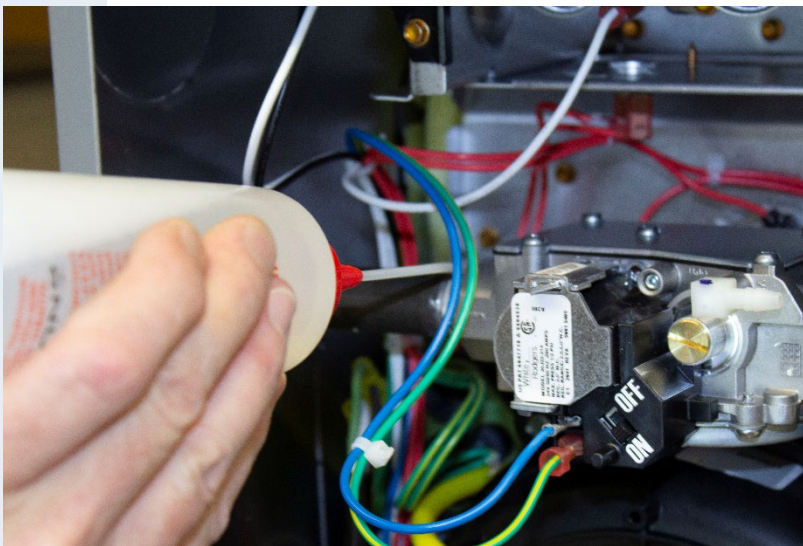
Installation – Step 9


- 9 Turn on power, call for heat and adjust the outlet pressure to the original equipment manufacturers' spec.



Installation – Step 10

- 10 Use leak check solution or soapy water to check all gas connections.



 **TECH TIP:** To check for thru leaks attach a manometer hose to the inlet pressure tap, turn off the valve and the upstream manual shut-off. See if the manometer pressure drops. It should hold steady unless there is a thru-leak indicating contamination in the valve.