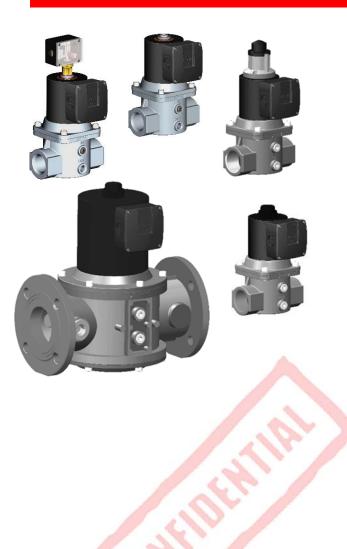
"UNIMAX"

VE- AND V429X/829X SINGLE SOLENOID VALVE SERIES

PRODUCT INTRODUCTION BULLETIN



Application

The UNIMAX **VE and V429x/829x Series** single solenoid safety shut off valves, are used for safe and tight shut off and optional manual control of gaseous fluids in gas powered burners, atmospheric gas boilers, melting furnaces, incinerators and other gas consuming appliances.

The family name "UGV" (Universal Gas Valves) has disppeared and the embedded UGV logo has been removed from the valve bodies. UGV was the name of the company that Honeywell acquired more than 20 years ago.

The new family name "UNIMAX" is a comination of UNIversal and MAXimum performance.

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1. INTRODUCTION

The UNIMAX **Series single solenoid safety shut off valve** is suitable for the control of non corrosive gaseous fuels in gas consuming appliances according to international standards. The new valves are, same as the old valves, produced in our factory in Nagykanisza, Hungary and were (re)designed under the responsibility of our Engineering centre in Emmen, The Netherlands. Over 50 years exerience in gas valve design resulted in a high quality and well balanced, state of the art product.

The UNIMAX Series offer:

- high level of reliability because of a long history and well proven design
- great flexibility to mount accessories like valve-position indicator, pressure indication switches, ¹/₈" or ¹/₄" (depending on body size) pressure taps, etc on the inlet and outlet at both sides of the valve body, with clear indication of position, by the markings "IN" and "OUT" on the valve body.
- DIN plug electrical connection or screw terminals with field selectable left or right cable entry in the connection box
- a side mounting possibilty on the VE Series valve bodies DN65..DN100 with flanged pipe connection as well as on the V4297 series, to attach a C6097 gas pressure switch with flanged connection directly to the valve body
- for the Americas only, models with factory installed Proof Of Closure switch
- a broad range of sizes (DN10..DN100) with threaded or flanged connections
- the most common voltages (24Vac, 24Vdc, 100..120Vac, 200..240Vac)
- support for inlet pressures up to 500mbar for European models and 5psi for American models
- reduced heat generation of the magnetic solenoid by using smart technology to energize the valve
- modern and robust look

For modern and easy identification, two QR Code (Quick response) tags are printed on the product label, besides the product model number.

The tag on the left shows a unique product reference number, that includes product reference, date code and serial number for tracking purposes.

The tag on the right can be scanned with for example a smartphone with QR Code reading capabilities and contains the link to the web page of the HIC technical catalogue (General European English version), where detailed product specifications, data sheets and brochures can be downloaded.

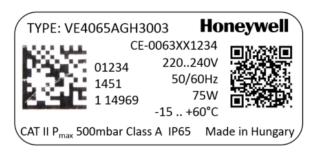


Fig 1. Label on VE-series (Global models)

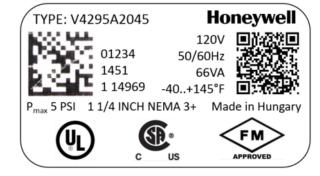


Fig 2. Label on Vx92x-series (American models)

2. MARKET INFORMATION

The European market size for commercial and industrial atmospheric or forced draught burners, using customized gas trains, is approximately 100k units. Of which 80% is of size DN50 and below, and 20% DN65 and above. The UNIMAX Series solenoid valves are available in the range 3/8" up to 3" with threaded and 2½" up to 4" with flanged connections.

In most of these applications two serial valves are mandatory (double blocking) in the gas train. Therefore, the total annual market (TAM) size in Europe for the VE Series is roughly 200k units and our market share is ca. 11%. The market is highly dominated by a few main players, like Dungs (strong in commercial applications). In addition, there are a few "price fighters", like Banico, Elektrogas and Madas (mainly in EU) or Asco (mainly in US).

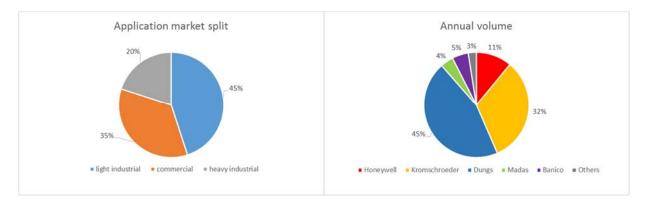


Fig 3. Market split

In the Americas for the V4295/V8295 series, the TAM roughly 475k units and our market share is currently ca. 5%.

Gas Train Market

 UNIMAX Series gas valves target segments are gas trains used for fuel supply in all commercial and industrial gas fired heating systems, where customers require flexibility in building their gas train, up to 500mbar operational pressure and for the Americas 5psi. For commercial building applications in Europe, there are special line voltage models (ON/OFF) rated 200mbar.

Commercial Burner Market

In general, the target market for the UNIMAX Series single solenoid gas valves is the standard efficiency burner market.

Applications can be:

- Mounted upstream of a combination gas valve when because of legislation an additional shut off valve is required.
- Simple pilot valve trains in commercial power burners
- Main valve trains up to 4" pipe size (Americas 3"), used in combination with a
 gas pressure regulator such as the HUPF series.

Industrial Burner Market

The target markets for the UNIMAX Series single solenoid gas valves can be all single and multiple low to medium temperature process gas burner systems in most of the identified vertical market segments. Applications are, but not limited to, for example ovens, kilns, air heaters, incinerators, dryers and more, where a gas filter gas filter and pressure regulator such as our HUF-series gas filters and HUPF-series pressure regulators, are used.

3. APPLICATION OVERVIEW

Target Applications for the UNIMAX Series single solenoid valves

The UNIMAX Series single solenoid valves have been designed for use in (but not limited to) commercial or industrial package and power burner applications or gas trains.

Gas trains & burner applications



Fig 4. Industrial burner



Fig 6. Multi burner oven application



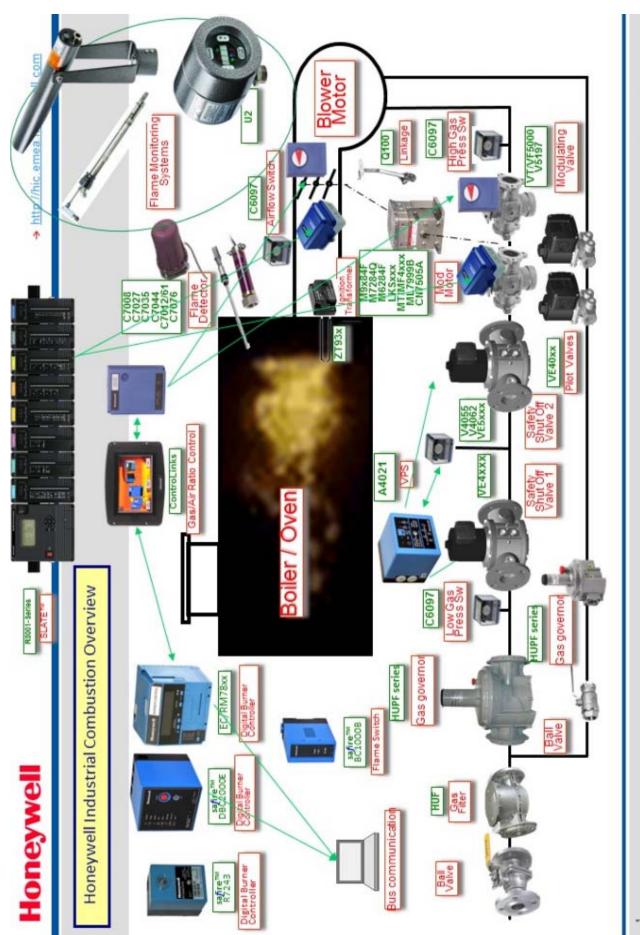
Fig 5. Small gas train



Fig 7. Commercial burner (USA)

Honeywell Proprietary

4. SYSTEM OVERVIEW



Document control number

5. PRODUCT SPECIFICATION

Pipe connections

Threaded (ISO7-1) pipe connections:

Rp 3/8" ... 3" (DN10 ... DN80)

- 200 ... 240 Vac: VE4xxxXXX1xxx
- 100 ... 120 Vac: VE6xxxXXX1xxx
- 24Vac or 24Vdc: VE8xxxXXX1xxx (24V up to 2")

Threaded (NPT) pipe connections (only for the Americas):

Rp 3/8" ... 3"

120 Vac: V4295Axxxx24Vac: V8295Axxxx

Flanged (ISO7005) pipe connections:

FL 2 ½" ... 4" (DN65 ... DN100)

200 ... 240 Vac: VE4xxxXXX3xxx
100 ... 120 Vac: VE6xxxXXX3xxx

Inlet pressure and electrical connection

The standard rating for the maximum inlet pressure of the UNIMAX VE Series valves is **500mbar**. All models have standard IP65 protection and are available as models with:

- 1. **M20 x 1.5** cable gland electrical connection and screw terminals.
- 2. **DIN** connector electrical connection. The DIN connector CO020012 must be ordered separately

Especially for European commercial building applications there are VE series models with on/off control only that are specified for 200mbar inlet pressure.

The low voltage UNIMAX VE Series valves are rated for 360mbar maximum inlet pressure for valve diameters up to and including DN40 and 200mbar up to and including DN100.

All UNIMAX V4295 and V8295 series valves (for Americas only) have **5psi** maximum inlet pressure and have NEMA 4 protection. These models all have screw terminals and right or left conduit cable entry (field selectable).

5. PRODUCT SPECIFICATION (cont.)

Openings characteristics:

The UNIMAX VE series single solenoid valves are available in:

- VEx0xxAXX: ON/OFF
- VEx0xxBXX: With flow adjuster.
- VEx0xxCXX: Characterized opening and flow adjuster, up to and including DN50.
- VEx0xxSXX: OFF/ON Normally Open vent valve, DN20 and DN25 only.

In the size range from 3/8" up to and including 3" NPT threaded connection the UNIMAX V4295 and V8295 series single solenoid valves (only for the Americas) are available in

Vx925A2: ON/OFF

• Vx925A3: ON/OFF with Proof Of Closure (POC)

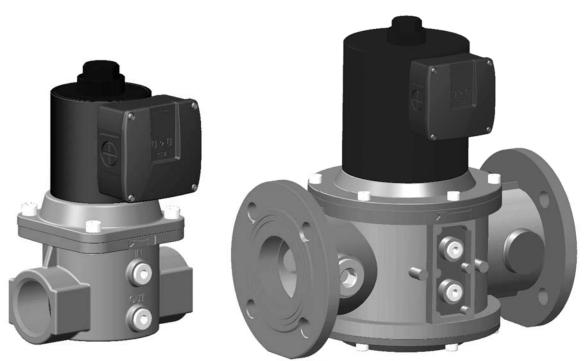


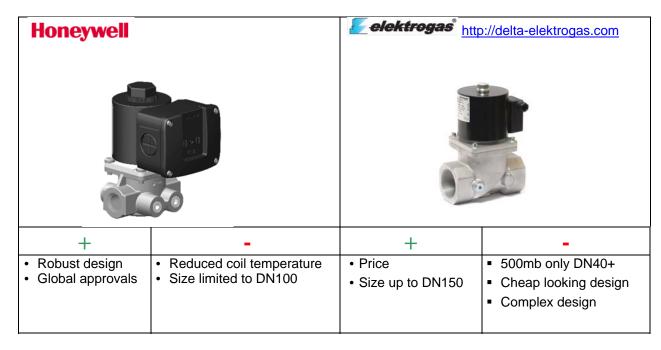
Fig 8. Threaded gasvalve

Fig 9. Flanged gas valve

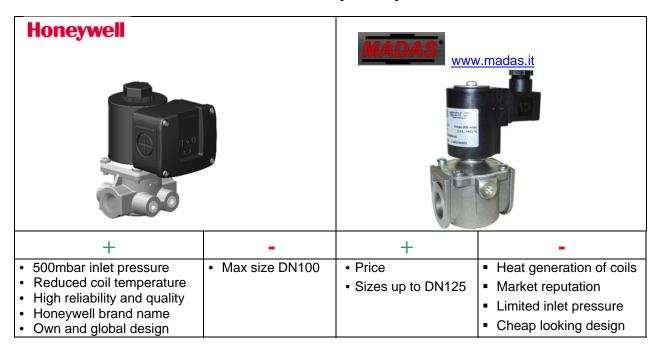
6. COMPETITOR ANALYSIS

Comparison Honeywell vs Competitors

Honeywell		DUNGS® Combustion Controls WWV	v.dungs.de	
		DIE STATE OF THE PARTY OF THE P		
+	-	+	-	
 Proven reliability Reduced coil temperature Less electrical power consumption Standard 500mbar (A: 5psi) Standard IP65 	Size limited to DN100	Market acceptance Size up to DN200	High coil temperature IP65 optional	



6. COMPETITOR ANALYSIS (cont)





6. COMPETITOR ANALYSIS (cont)

Why should a customer buy the Honeywell product?

The UNIMAX Series is a completely redesigned platform of single solenoid valves, based on an existing more than 25 years well proven design. During the Six Sigma design processes special focus was applied on the heat generation of the coils when they are energized for a longer period, as well as there was special attention to reduce the electrical power consumption. The standard protection is IP65 or NEMA 4. Customer suggestions for improvements were applied, such as pressure taps on both the inlet as the outlet side of the valve body for increased flexibility. The electrical connection box was completely redesigned to improve the IP protection.

This makes the valves very suitable when used in continuous operation and/or under harsh environmental conditions.

By designing smart power supply circuitry for line voltage models, the UNIMAX series are now capable to be powered from a wide supply voltage range, 100..120Vac or 200..240Vac, which makes the UNIMAX series a real global valve, including Japan where special voltages are present. And of course there are models for 24Vac and 24Vdc power sources.

There are 2 basic models: a range of models with screw terminals and conduit cable entry and models for using a DIN Plug. The models with cable entry can have a field selectable left or right cable entrance.

Most models will be available from stock for optimal delivery.

7. Features - Functions - Benefits

Features	Functions	Benefits
Global design	One basic design used for all versions and variations used around the globe.	Less part numbers Easier to obtain service replacements anywhere, except the Americas (different approval standards)
Global approvals	All valves are approved (or approvable) for use in all countries on the globe, except the Americas, because different standards apply.	Less stock of models and less parts lists for appliances for customers who export globally.
Robust design	Meets commercial and industrial standards	Less issues over time when used under harsh environmental conditions.
High inlet pressure	Inlet pressure increased to max. 500mbar	Broader applicability
Improved protection	Standard protection IP65/NEMA 4	Less part numbers
Smart technology to energize the valve (DN25 and larger)	Use electrical energy only when needed: during opening of the valve	Less heat generation and electrical power consumption
Modern label with tags for product identification and information beside the product reference	Easy product identification by using a barcode scanner (EAN).	Less cost of service
p.104401 101010100	Easy product details and datasheet lookup over the internet using a smartphone	

8. VALUE PROPOSITION

What's in it for me?

Value Proposition for the OEM

Broad range of valve models according the highest quality standards and at competitive prices

Benefits for OEM customers

- · Global design: one basic design for all countries on the globe
- We offer a safety family of shut of valve in all applicable sizes and connections to meet the OEM's demand at a competitive price
- Well known and proven design
- One to one replacement for existing VE (US: V4295) with more flexibility
- Clear portfolio
- Modern identification labels offer easy traceability and retrieval of information
- Wide specification of supply voltages results in more flexibility and lower handling cost for the OEM
- Worldwide support due to global Honeywell combustion representatives
- Honeywell Application Centre in Emmen (NL) supports to reduce the design time of the application by providing dedicated application support

Value Proposition for the Installer

A reliable gas valve found in applications all over the world

Benefits for customers

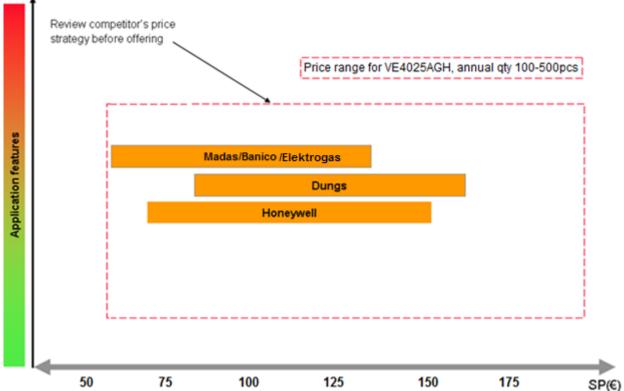
- Highly reliable due to the use of well-known and proven technology
- Easy set-up
- Clear, informative installation instructions in many local languages
- One-to-one replacement for existing VE (US: V4295) valve
- Easy component replacement (coils) in case of failures
- Worldwide technical support in case of questions or need for replacement parts
- "Easy to handle" replacement parts packaging

10. PRODUCT POSITIONING & PRICING

Product Positioning

The Unimax Series single solenoid valves have been positioned a little below the price ranges of Dungs (www.dungs.de), except with higher specifications and features.





For details on pricing, please refer to the PMF.

Note that during the transition period from the old "UGV" valve series to the "UNIMAX" series, prices and models may not yet be visible in the PMF. In that case ask Product Management for advice on proper pricing.

Warranty conditions:

The warranty period is 30 months from date code.

11. PACKAGING - LEAD TIME - MOQ

All UNIMAX Series valves have a minimum order quantity of 1pcs

Packaging: cardboard boxes, box size depends on valve size.

Leadtime (model dependent):

SIOP class A, D, C or W; leadtime CLT=5 .. 28 days.

Check PMF for exact Lead Time, carton weights and dimensions



Fig 10. Packaging

12. PRODUCT- / ORDER NUMBER (OS#):

A. Global versions, Ordering Specification number:

Format: **VExxxXYYYzzzz**

Product: Opening Characteristics:

VExxxx: Single solenoid gas valve **A**YY: on/off

(EU model) BYY: flow adjuster

CYY: flow adjuster and openings curve Supply voltage: DYY: 24Vdc models, with flow adjuster

4xxx: 200..240V, 50/60Hz **S**YY: Normally Open, off/on.

6xxx: 100..120V, 50/60Hz **8**xxx: 24V, 50/60Hz or 24Vdc Electrical Connection:

YGY: conduit and screw terminals

Valve size: YPY: DIN plug connection

x**010**: DN10 (3/8") x**015**: DN15 (1/2") Max. Inlet Pressure:

x020: DN20 (3/4") YYL: 200/360mbar maximum inlet pressure

x**025**: DN25 (1") YY**H**: 500mbar maximum inlet pressure

x**065**: DN65 (2 1/2") **2**zzz: screwed and biogas (dry) capable

x080: DN80 (3") **3**zzz: flanged

x**100**: DN100 (4") **4**zzz: flanged and biogas (dry) capable

B. American versions, Ordering Specification number:

Format: Vx29xYz***

Product: Operation:

Vx**29**x: Single solenoid gas valve A: normally closed

(NA model) S: normally open (vent valve)

Supply voltage and model: Valve Proofing:

429**5**: 120, 50/60Hz, on/off, **2*****: standard version

NPT screwed connection **3*****: with proof of closure (POC) switch

429**7**: 120, 50/60Hz, on/off,
Special flanged version

Valve Size:

829**5**: 24V, 50/60Hz, on/off, z***: number varies for different sizes

NPT screwed connection DN10 (3/8") ... DN80 (3")



12A. CROSS REFERENCE LIST

A cross reference list will become available and can be downloaded from the internet catalogue: https://doi.org//>doi.org/1001/journal.org/ or refer to the "Replacements" column in the PMF

			Honey	well
	UNIMAX single soleno	oid valves cross reference	e list	
Old OS number	Current SAP Status	Unimax OS number:	Size	
VE4010A1006	Active	VE4010AGH1001	DN10	
VE4010A1014	Obsolete	VE6010BPH1006	DN10	
VE4010A1030	Obsolete	VE4010AGH1001	DN10	
VE4010A1048	Obsolete	VE4010AGH2002	DN10	
VE4010B1005	Obsolete	VE4010BGH1004	DN10	
VE4010B1013	Obsolete	VE6010BGH1005	DN10	
VE4010B1054	Active	VE6010BPH1006	DN10	
VE4010B1062	Active	VE4010BPH1006	DN10	
VE4010C1004	Obsolete	VE4010CGH1007	DN10	
VE4010C1012	Obsolete	VE6010CGH1007	DN10	
VE4010C1038	Obsolete	VE4010CGH1007	DN10	
VE4010C1046	Obsolete	VE6010CGH1007	DN10	
VE4010NB1100	Active	VE6010BGH1005	DN10	
VE4010NB1200	Active	VE4010BGH1004	DN10	
VE4010NC1100	Active	VE6010CGH1007	DN10	
VE4015A1005	Active	VE4015AGH1002	DN15	
VE4015A1013	Active	VE6015AGH1004	DN15	
VE4015A1039	Obsolete	VE4015BPH1007	DN15	
VE4015A1054	Obsolete	VE6015BPH1007	DN15	
VE4015A1070	Active	VE4015APH1004	DN15	
VE4015A1138	Active	VE6015APH1005	DN15	
VE4015B1004	Active	VE4015BGH1005	DN15	
VE4015B1012	Active	VE6015BGH1006	DN15	
VE4015B1038	Obsolete	VE4015BGH1005	DN15	
VE4015B1053	Obsolete	VE6015BGH1006	DN15	
VE4015B1061	Obsolete	VE4015BGH2006	DN15	
VE4015B1087	Active	VE4015BPH1007	DN15	
VE4015B1095	Active	VE6015BPH1007	DN15	
VE4015C1003	Active	VE4015CGH1008	DN15	
VE4015C1011	Obsolete	VE6015CGH1008	DN15	
VE4015C1045	Obsolete	VE4015CGH1008	DN15	
VE4015C1052	Obsolete	VE6015CGH1008	DN15	
VE4015C1060	Obsolete	VE4015CPH1001	DN15	
VE4015C1110	Active	VE4015CPH1001	DN15	
VE4015C1128	Active	VE6015CPH1009	DN15	
VF4015NR1100	Δctive	VF6015RGH1006	DN15	\neg

12B. SPARE PARTS

Background

Until now we offered a large range of spare coils for service purposes, to repair a defective valve withing the boundaries of what the standards allow.

For every valve that we offer, also a spare coil is needed. For over 200 different sizes and variations, we almost need the same amount of different spare coil models as well. And these should all be stock items, to keep customers happy.

Keeping stock of complete coils is very cost inefficient, creates large amounts of IOS and results in unacceptable high selling prices:

From experience we have noticed that when a valve becomes defective, that in >85% of the cases the coil itself is not defetive, but that the rectifier circuit is broken.

Some customers mount a new coil on an old valve body (>10 years or >100k cycles). This is unsafe and not allowed by the standards.

No complete spare coil assemblies will be available anymore, only the printed circuit board as servicable part, including a new cover and screws and instruction.

This also applies to old valves that are already in the field.

In incidental cases that a coil becomes defective, then the complete valve must be replaced.

Overview of spare boards

OS number	For old valve series	Valve size
CS020012U	VE8xxxx (24Vac)	All
CS020020U	VE4xxx (115Vac) and VE(N)4xxx (100/200Vac)	DN10DN50
CS020021U	VE4xxx (115Vac) and VE(N)4xxx (100/200Vac)	DN65DN80
CS020070U	VE4xxx (230Vae)	DN10DN25
CS020071U	VE4xx NEEDS UPDATE	DN32DN50
CS020072U	VE4xxx (200mbar, 230Vac)	DN65DN100
CS020101U	VE4xxx (360mbar, 230Vac)	DN80DN100
CS020102U	VE4xxx (360mbar, 115Vac)	DN80DN100
CSA20001U	V429x-series	All
CSA20002U	V8295-series	DN10DN50
CSA20003U	V8295-series	DN65DN80

	Honeywe	"
Homesty	AfterMarket	



OS number	Electrical connection	For UNIMAX valve series	Valve size
CS020030U	Cable entry	VE4xxx and VE6xxx VE8xxx (24Vac)	DN10DN25 All
		V4295, V4297, V8295	All
CS020031U	DIN plug NEED	SEUPDATE VE8xxx (24Vac)	DN10DN25 All
CS020034U	Cable entry	VE4xxx and VE6xxx	DNI20 DNI400
CS020035U	DIN plug	VE4xxx and VE6xxx	DN32DN100



For a complete overview, refer to the cross reference list available from the web catalogue.

Leadtime spare boards: SIOP class A; leadtime CLT=5 days



13. DOCUMENTATION & ACTIVITIES

Documentation availability

What	Available	Source
Product Handbook	March 2016	Combustion team room http://acsnet.honeywell.com/sites/Combustion Controls EMEA HIC Teamroom http://teams.honeywell.com/sites/CC- EMEA_INDUSTRIAL_MKT-BIZ-Dev/Shared Documents/HIC Sales Launch
Product Introduction Bulletin	April 2016	Combustion team room http://acsnet.honeywell.com/sites/Combustion Controls_EMEA HIC Teamroom http://teams.honeywell.com/sites/CC- EMEA INDUSTRIAL MKT-BIZ-Dev/Shared Documents/HIC Sales Launch

REVIEWS

• All opportunities will be tracked actively attended in www.salesforce.com

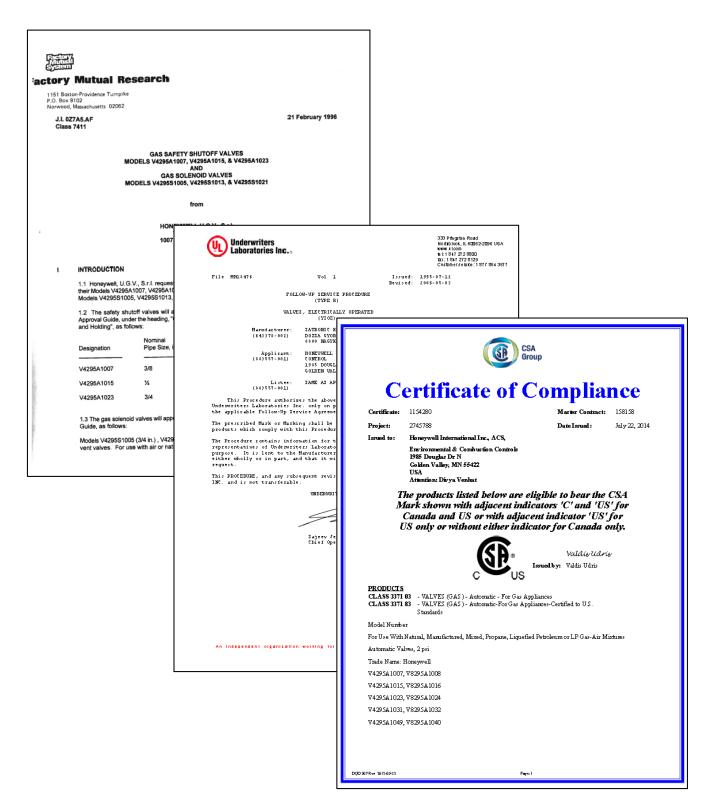
14. STANDARDS AND APROVALS

CE approval



14. STANDARDS AND APROVALS (cont)

CSA/UL/FM approval



16. YOUR HONEYWELL CONTACTS

Name	Function	Responsibility
John Janken john.janken@honeywell.com Laarderhoogtweg 18 1101 EA Amsterdam, The Netherlands +31 20 5656260	Product Marketing Specialist EMEA Industrial Combustion Controls Europe	 Business information Pricing Technical & Promotional information
Mitch Hauge mitch.hauge@honeywell.com 1985 Douglas Drive Golden Valley, MN 55422, USA +1 763 954 6934	Product Marketing Specialist NA Commercial/Industrial Combustion Controls Americas	 Business information NA Pricing NA Technical & Promotional information NA
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Piet Blaauwwiekel piet.blaauwwiekel@honeywell.com Phileas Foggstraat 7 7821 AJ Emmen, The Netherlands +31 591 695 911	Application Center Manager R&D	Application support
Attila Szabo attila.szabo@honeywell.com Doza Gy. U. 147 8800 Nagykanisza, Hungary +36 93 501 519	Sample coordinator	Sample requests (always copy PM)
Cristina Montagnino cristina.montagnino@honeywell.com Via Delle Foppe,22 Oggiono, Italy +39 011 19506000	SIOP Manager	Forecasts and planning
Peter Domotor peter.domotor@honeywell.com Doza Gy. U.147 8800 Nagykanisza, Hungary +36 93 501 474	Quality Manager	Warranty – Quality issues