

## VCV – Venturi Check Valve Catalogue

Sizes 2” (50mm) to 48” (1,200mm)

Classes 150 to 2500

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### Introduction

Welcome to Europa Valve, manufacturer of high integrity axial flow non slam check valves.

Europa Valve is a long established privately owned UK company with a range of valves designed and manufactured in the UK utilising state of the art technology.

With a management team of over 120 years experience in the valve business, Europa Valve bring a new dimension to valves with a dynamic, flexible approach offering a high quality product at a competitive price.

### About Europa Valve

The company was founded in 1947. In 1990 diversification took place into the manufacture of Valves on behalf of leading valve suppliers to the Oil & Gas Industry.

A major investment was required to enable manufacture of valves of the size and rating demanded by the industry, as a result Europa Valve now manufacture valves from 2” through 60”, weight range 3kg to 10 tonnes. Valves are available in a wide range of materials ranging from Carbon Steel to Titanium.

Utilising the experience gained in 15 years of valve manufacturing the decision was taken to launch the Europa Valve Non Slam Check Valve designed by a highly respected design house based in the UK.

The valve is a High Integrity Axial Flow Non Slam

type suited for severe service, custom built to match service requirements.

Europa Valve management has a combined experience of 120 years in the Valve Industry with an in depth knowledge of the industry requirements.

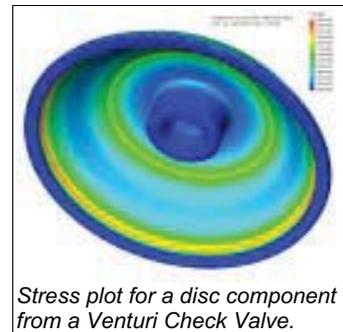
Europa Valve is approved to ISO 9001:2000 by Lloyds Register Quality Assurance.

### Research and Development

Europa Valve designs are developed using the latest software based analysis tools.

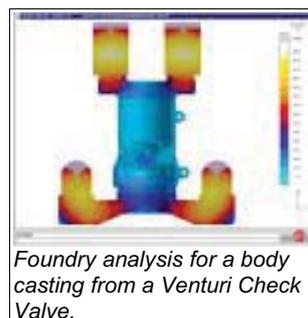
Using Computational Fluid Dynamics (CFD) a wide range of variations in physical design and operational parameters can be tested and refined until a set which gives optimum performance is identified.

Finite Element Analysis (FEA) takes place at the development stage to ensure the design gives the best possible performance. This is achieved by simulating the working conditions of the valve using computational analysis.



Stress plot for a disc component from a Venturi Check Valve.

At the design stage, cast components are analysed using the latest foundry analysis tools. This vital analysis helps to foresee problems at the casting stages such as problems with feeding and casting quality. It can also help to reduce production costs.



Foundry analysis for a body casting from a Venturi Check Valve.

Any modifications highlighted from this process can then be fed back in to the design before a single pattern has been produced.

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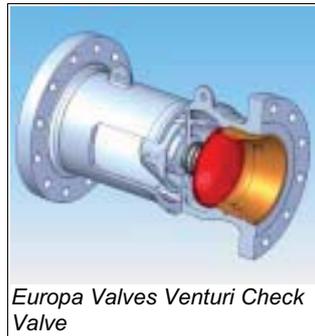
Sizes 2” (50mm) to 48” (1,200mm)

Classes 150 to 2500

### VCV – Venturi Check Valve

Check valves are primarily used to protect pumps and compressors from damage caused by back-flow.

The Europa VCV is designed for severe service applications where fast reverse flow exists and conventional check valves are unsuitable for the existing flow conditions.



Europa Valves Venturi Check Valve

Installation of VCV's offer the systems engineer the opportunity to;

- Protect equipment, particularly compressors from expensive damage caused by reverse flow.
- Reduce down time and loss of production due to failure or frequent replacement of unsuitable valves.
- Make energy savings as a result of low pressure drop.
- Eliminate chatter and reduce the possibility of sudden valve failure in reciprocating compressor applications.
- Reduce or eliminate water hammer.
- Lower maintenance costs – few moving parts.
- Reduce reverse velocity using the fast dynamic response of the Europa VCV.
- Smaller footprint than conventional check valves with associated dampers/levers.
- Flexibility to cope with variable flow conditions.
- API 6D end to end dimension permits interchangeability with most conventional swing check valves without expensive piping modification.

### Materials

Our VCV design is available in the following materials, should you require a material other than those listed, please contact us to discuss.

#### Disc Materials

Stainless Steel

Alloy Steel

Stainless Steel

11-13 Chrome

Duplex

#### Body Materials

ASTM A 395a

Ductile Iron

BS2789 GR 420/12

ASTM A 352 GR LCC

Low Temperature Carbon Steel

ASTM A 216 GR WCB

Carbon Steel

ASTM A 351 GR CF8M 316

Stainless Steel

ASTM A 217 GR CA15 410

Stainless Steel

UNS S 31803

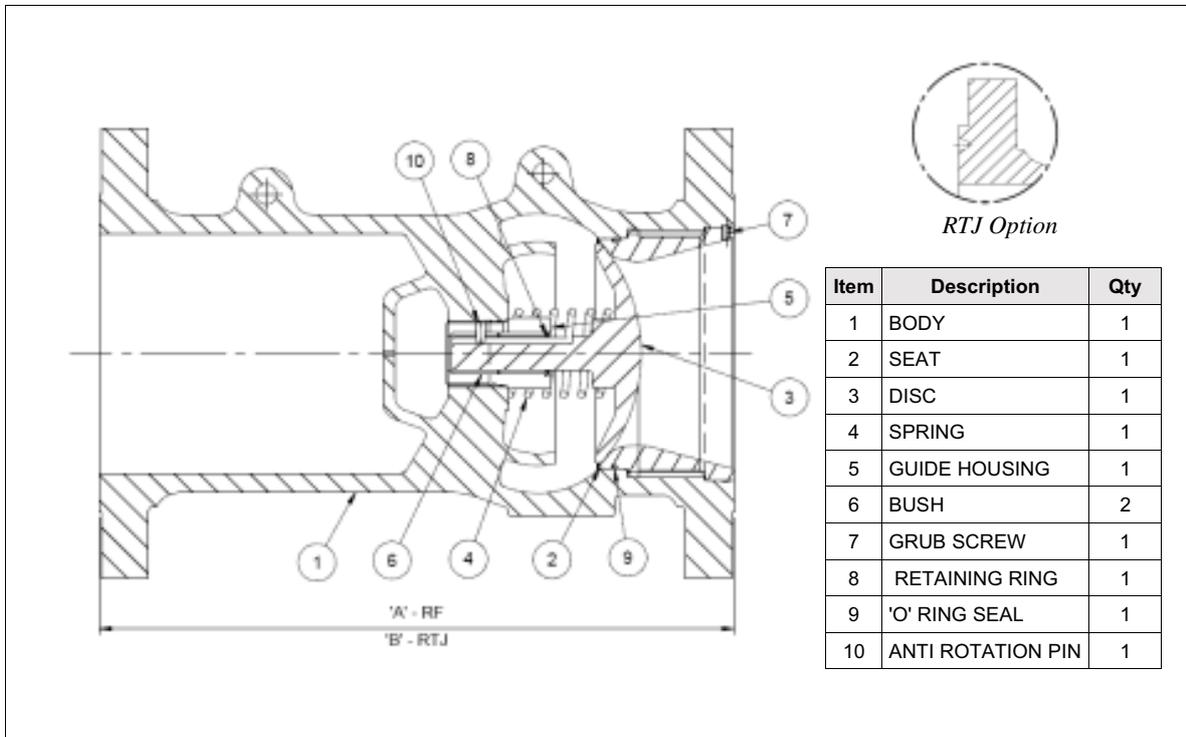
Duplex Stainless Steel

### End Connections

The VCV is available with the following end connections:

- Flanged
- Hub Ended
- Weld Ended

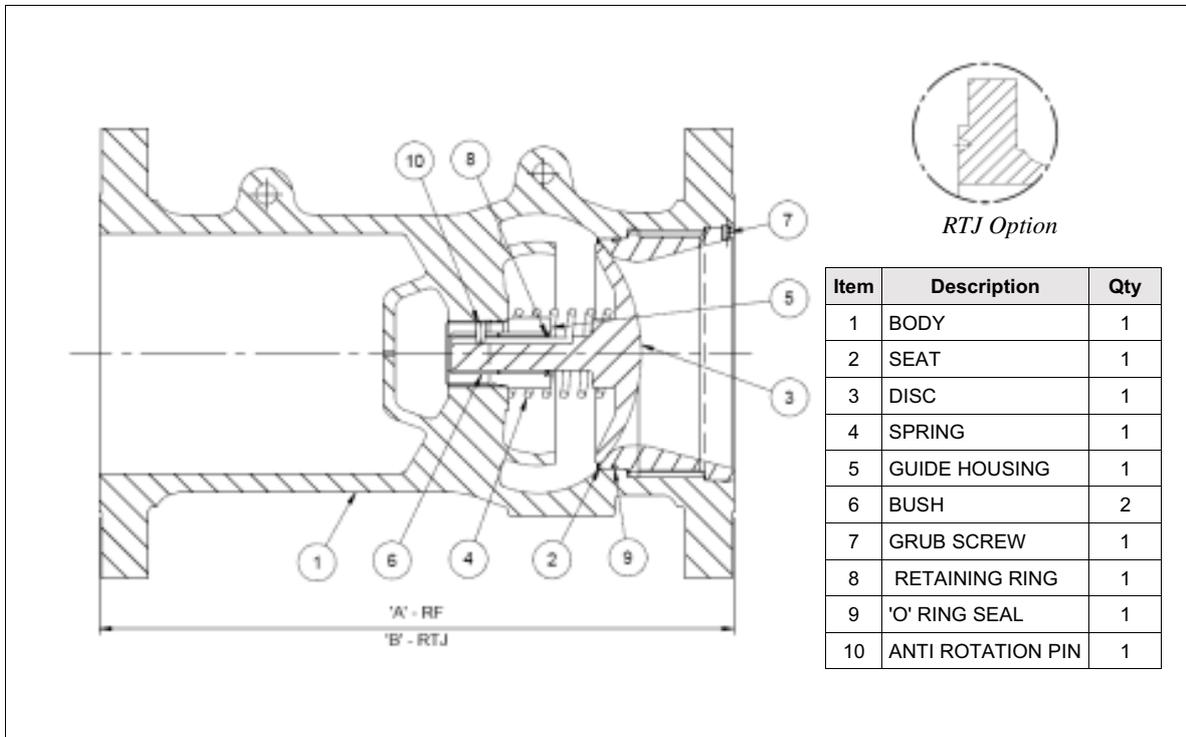
## VCV – Venturi Check Valve 150 Series



Size		Face to Face Dimension				Estimated Weight	
		'A' RF		'B' RTJ			
mm	inches	mm	inches	mm	inches	Kg	lbs
50	2	203	8	216	8½	10	22
65	2 ½	203	8	216	8½	12	26
80	3	241	9 ½	254	10	18	40
100	4	292	11 ½	305	12	37	82
150	6	356	14	368	14½	46	101
200	8	495	19 ½	508	20	106	234
250	10	622	24 ½	635	25	212	467
300	12	699	27 ½	711	28	330	728
350	14	787	31	800	31½	411	906
400	16	864	34	876	34½	666	1,468
450	18	978	38 ½	991	39	792	1,746
500	20	978	38 ½	991	39	904	1,993
600	24	1,295	51	1,308	51½	1,754	3,867
700	28	1,448	57	-	-	2,300	5,071
750	30	1,524	60	-	-	1,906	4,202
800	32	1,651	65	-	-	3,000	6,614
900	36	1,956	77	-	-	3,925	8,653

For materials of construction and other details see quotation attached. Pictorial view above may change at manufacturers discretion depending upon size or rating. Due to our policy of continuous improvement, the above information may change without notice.

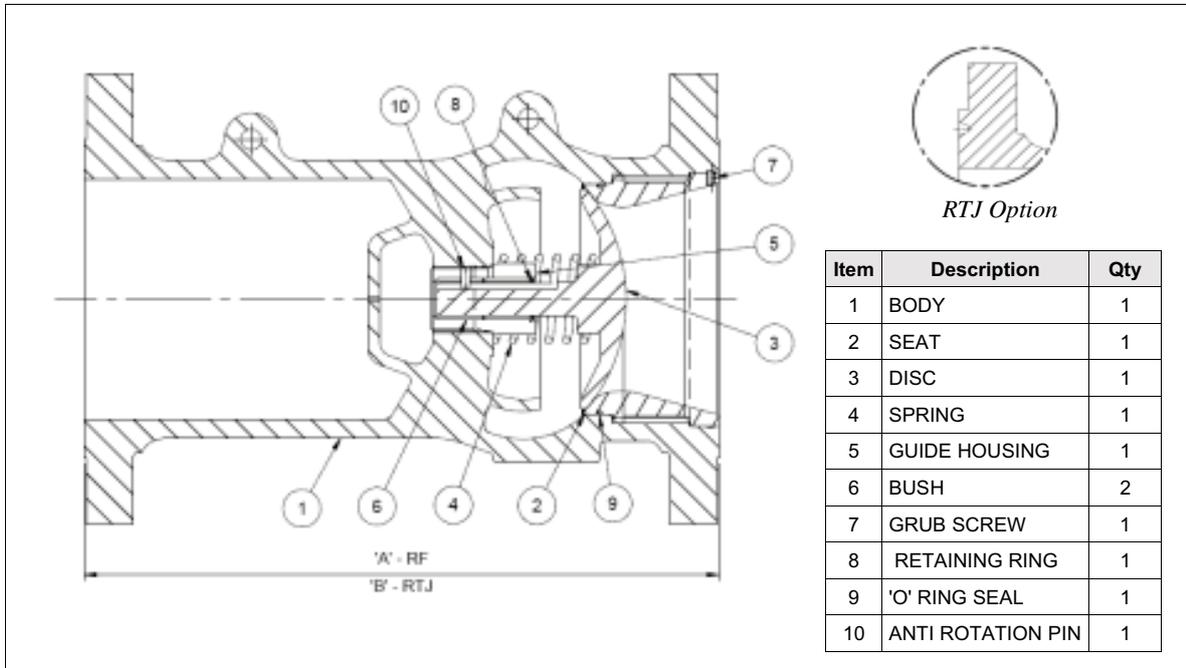
## VCV – Venturi Check Valve 300 Series



Size		Face to Face Dimension				Estimated Weight	
		'A' RF		'B' RTJ			
mm	inches	mm	inches	mm	inches	Kg	lbs
50	2	267	10 ½	283	11 ⅛	13	29
80	3	318	12 ½	333	13 ⅛	30	66
100	4	356	14	372	14 ⅝	48	106
150	6	445	17 ½	460	18 ⅛	83	183
200	8	533	21	549	21 ⅝	133	293
250	10	622	24 ½	638	25 ⅛	243	536
300	12	711	28	727	28 ⅝	372	820
350	14	838	33	854	33 ⅝	510	1,124
400	16	864	34	880	34 ⅝	728	1,605
450	18	978	38 ½	994	39 ⅛	862	1,900
500	20	1,016	40	1,035	40 ¾	1,077	2,374
600	24	1,346	53	1,368	53 ⅞	2,075	4,575
700	28	1,499	59	1,524	60	2,500	5,512
750	30	1,594	62.75				
⅞							
900	36	2,083	82	2,083	⅞	4,487	9,892
1,200	48	2,083	82	-	-	-	-

For materials of construction and other details see quotation attached. Pictorial view above may change at manufacturers discretion depending upon size or rating. Due to our policy of continuous improvement, the above information may change without notice.

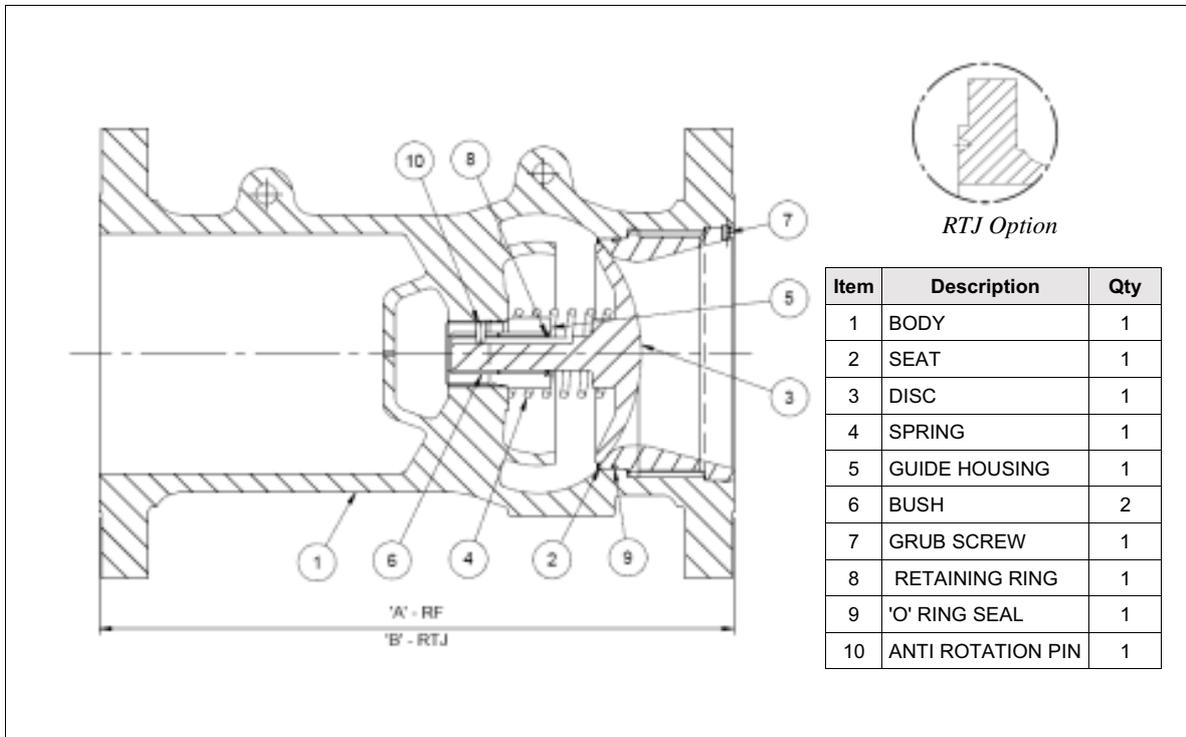
## VCV – Venturi Check Valve 600 Series



Size		Face to Face Dimension				Estimated Weight	
		'A' RF		'B' RTJ			
mm	inches	mm	inches	mm	inches	Kg	lbs
50	2	292	11 1/2	295	11 5/8	15	33
80	3	356	14	359	14 1/8	27	60
100	4	432	17	435	17 1/8	65	143
150	6	559	22	562	22 1/8	122	269
200	8	660	26	664	26 1/8	210	463
250	10	787	31	791	31 1/8	360	794
300	12	838	33	841	33 1/8	520	1,146
350	14	889	35	892	35 1/8	660	1,455
400	16	991	39	994	39 1/8	840	1,852
450	18	1,092	43	1,095	43 1/8	1,070	2,359
500	20	1,194	47	1,200	47 1/4	1,140	2,513
600	24	1,397	55	1,407	55 3/8	1,830	4,034
650	26	1,448	57	1,460	57 1/2	2,700	5,952
700	28	1,600	63	1,613	63 1/2	3,250	7,165
750	30	1,651	65	1,661	65 1/2	3,182	7,015
800	32	1,778	70	1,794	70 5/8	4,590	10,119
900	36	2,083	82	2,099	82 5/8	7,361	16,228
1,000	40	2,083					
1,050	42	2,083					
1,200	48	2,083	-				

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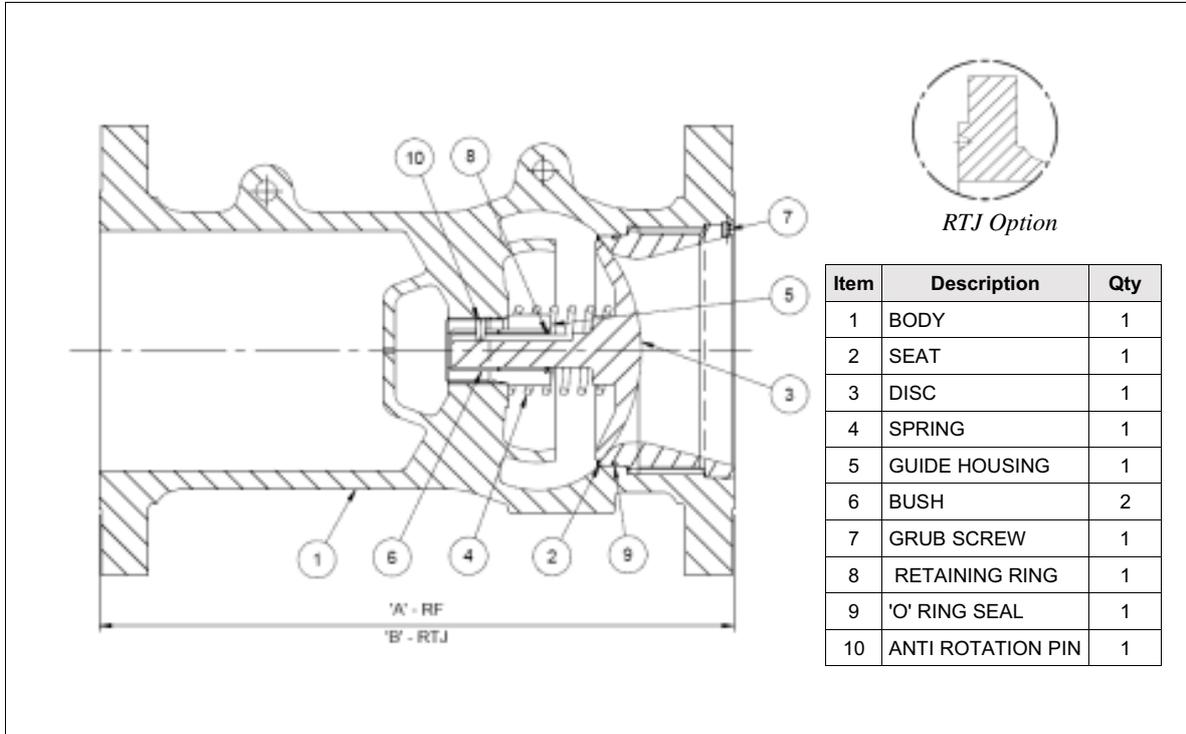
## VCV – Venturi Check Valve 900 Series



Size		Face to Face Dimension				Estimated Weight	
		'A' RF		'B' RTJ			
mm	inches	mm	inches	mm	inches	Kg	lbs
50	2	368	14 ½	372	14 ⅝	32	71
80	3	381	15	384	15 ⅛	47	104
100	4	457	18	460	18 ⅛	90	198
150	6	610	24	613	24 ⅛	180	397
200	8	737	29	740	29 ⅛	340	750
250	10	838	33	841	33 ⅛	470	1,036
300	12	965	38	968	38 ⅛	740	1,631
350	14	1,029	40 ½	1,038	40 ⅞	985	2,172
400	16	1,130	44 ½	1,140	44 ⅞	1,065	2,348
450	18	1,219	48	1,232	48 ½	1,550	3,417
500	20	1,321	52	1,334	52 ½	2,090	4,608
600	24	1,549	61	1,569	61 ¾	2,760	6,085
⅞							
⅞							
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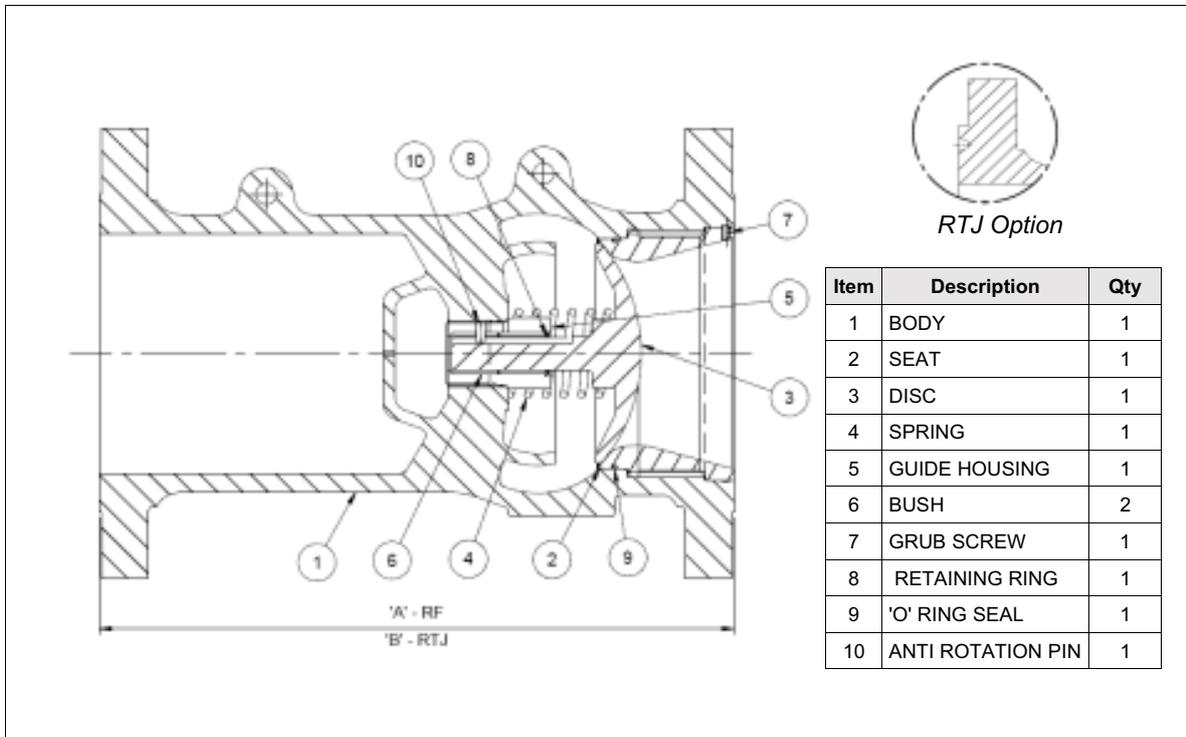
## VCV – Venturi Check Valve 1500 Series



Size		Face to Face Dimension				Estimated Weight	
		'A' RF		'B' RTJ			
mm	inches	mm	inches	mm	inches	Kg	lbs
50	2	368	14 ½	372	14 ⅝	32.4	71
80	3	470	18 ½	473	18 ⅝	70	154
100	4	546	21 ½	549	21 ⅝	110	243
150	6	705	27 ¾	711	28	250	551
200	8	832	32 ¾	841	33 ⅝	496	1,093
250	10	991	39	1,000	39 ⅝	820	1,808
300	12	1,130	44 ½	1,146	45 ⅝	1350	2,976
350	14	1,257	49 ½	1,276	50 ¼	1,760	3,880
400	16	1,384	54 ½	1,470	55 ⅝	1,950	4,299
450	18	1,537	60 ½	1,559	61 ⅝	2,600	5,732
500	20	1,664	65 ½	1,686	66 ⅝	2,990	6,592
600	24	1,943	76 ½	1,972	77 ⅝	5,100	11,244

For materials of construction and other details see quotation attached. Pictorial view above may change at manufacturers discretion depending upon size or rating. Due to our policy of continuous improvement, the above information may change without notice.

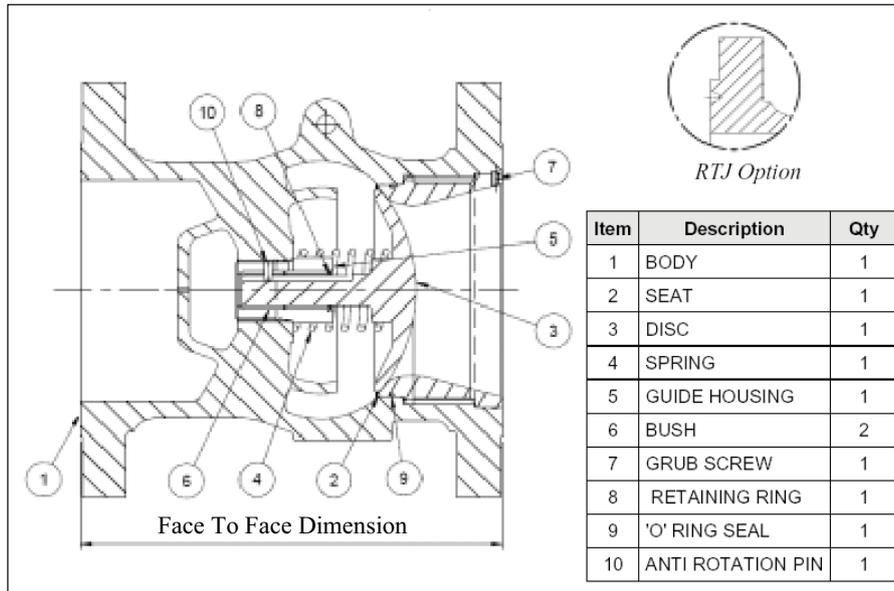
## VCV – Venturi Check Valve 2500 Series



Size		Face to Face Dimension				Estimated Weight	
		'A' RF		'B' RTJ			
mm	inches	mm	inches	mm	inches	Kg	lbs
50	2	451	17 ¾	454	17 7/8	47	104
80	3	578	22 ¾	584	23	108	238
100	4	673	26 ½	683	26 7/8	152	335
150	6	914	36	927	36 ½	440	970
200	8	1,022	40 ¼	1,038	40 7/8	650	1,433
250	10	1,270	50	1,292	50 7/8	1,340	2,954
300	12	1,422	56	1,445	56 7/8	1,600	3,527
350	14	1,257	49 ½	1,279	50 3/8	2,170	4,784
400	16	1,384	54 ½	1,412	55 5/8	2,990	6,592

For materials of construction and other details see quotation attached. Pictorial view above may change at manufacturers discretion depending upon size or rating. Due to our policy of continuous improvement, the above information may change without notice.

## VCVS – Venturi Check Valve Short 150 Series

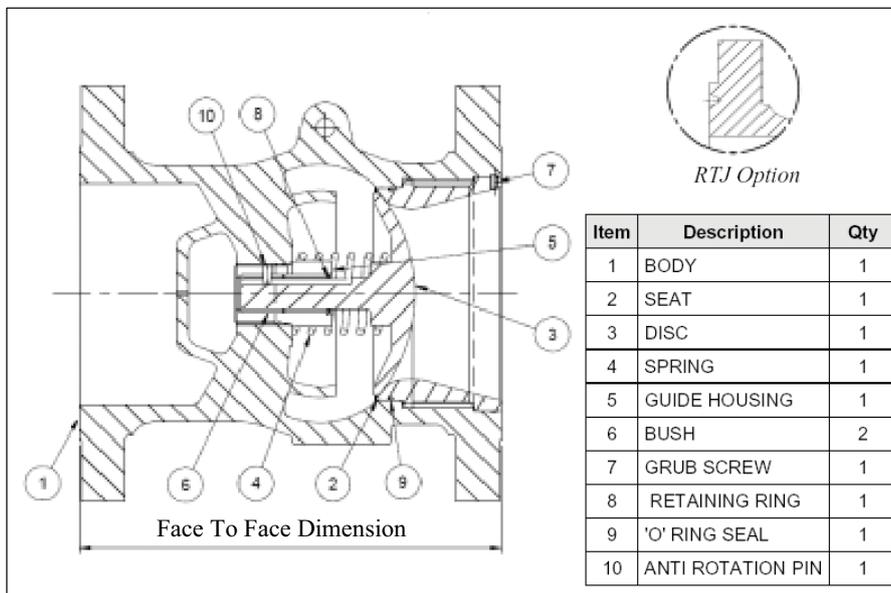


Size		Face To Face Dimensions (Short Pattern Valves)					
		RF		RTJ		Weld End	
mm	inches	mm	inches	mm	inches	mm	inches
150	6	254	10	254	10	254	10
200	8	300	11.13/16	300	11.13/16	300	11.13/16
250	10	365	14.3/8	365	14.3/8	365	14.3/8
300	12	441	17.3/8	441	17.3/8	441	17.3/8
350	14	495	19.1/2	495	19.1/2	495	19.1/2
400	16	546	21.1/2	546	21.1/2	546	21.1/2
450	18	610	24	610	24	610	24
500	20	680	26.3/4	680	26.3/4	680	26.3/4
600	24	810	31.7/8	810	31.7/8	810	31.7/8
700	28	940	37	940	37	940	37
750	30	940	37	940	37	940	37
800	32	940	37	940	37	940	37
900	36	1216	47.7/8	1216	47.7/8	1216	47.7/8
1000	40	1350	53.3/16	1350	53.3/16	1350	53.3/16
1050	42	1350	53.3/16	1350	53.3/16	1350	53.3/16
1200	48	1450	57.1/16	1450	57.1/16	1450	57.1/16
1300	52	1450	57.1/16	1450	57.1/16	1450	57.1/16
1400	56	1450	57.1/16	1450	57.1/16	1450	57.1/16
1500	60	1450	57.1/16	1450	57.1/16	1450	57.1/16

\*Larger Sizes Available Please Consult Europa For Details. Valves can also be designed to customer face to face dimensions and sizes for specific applications.

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## VCVS – Venturi Check Valve Short 300 Series

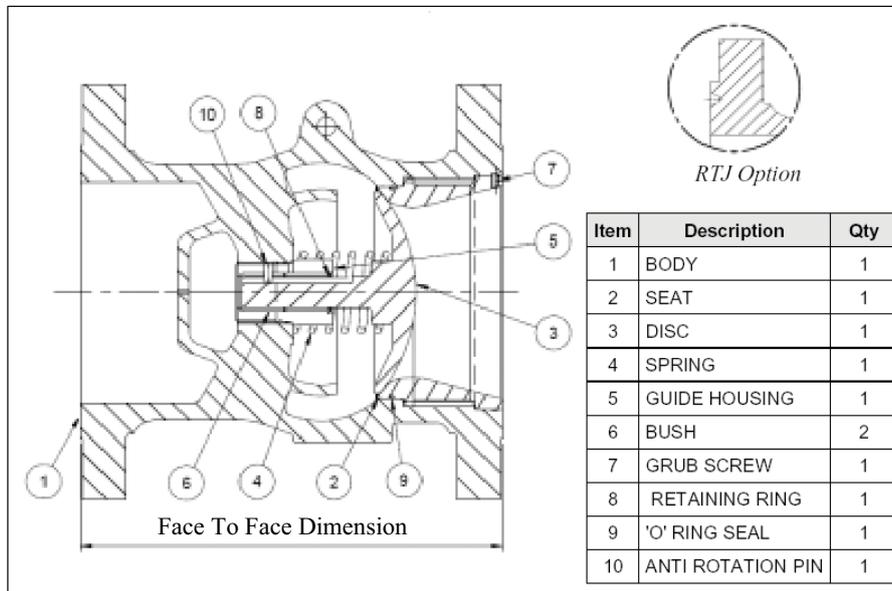


Size		Face To Face Dimensions (Short Pattern Valves)					
		RF		RTJ		Weld End	
mm	inches	mm	inches	mm	inches	mm	inches
150	6	254	10	254	10	254	10
200	8	300	11.13/16	300	11.13/16	300	11.13/16
250	10	365	14.3/8	365	14.3/8	365	14.3/8
300	12	441	17.3/8	441	17.3/8	441	17.3/8
350	14	495	19.1/2	495	19.1/2	495	19.1/2
400	16	546	21.1/2	546	21.1/2	546	21.1/2
450	18	610	24	610	24	610	24
500	20	680	26.3/4	680	26.3/4	680	26.3/4
600	24	810	31.7/8	810	31.7/8	810	31.7/8
700	28	940	37	940	37	940	37
750	30	940	37	940	37	940	37
800	32	940	37	940	37	940	37
900	36	1216	47.7/8	1216	47.7/8	1216	47.7/8
1000	40	1350	53.3/16	1350	53.3/16	1350	53.3/16
1050	42	1350	53.3/16	1350	53.3/16	1350	53.3/16
1200	48	1450	57.1/16	1450	57.1/16	1450	57.1/16
1300	52	1450	57.1/16	1450	57.1/16	1450	57.1/16
1400	56	1450	57.1/16	1450	57.1/16	1450	57.1/16
1500	60	1450	57.1/16	1450	57.1/16	1450	57.1/16

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## VCVS – Venturi Check Valve Short 600 Series

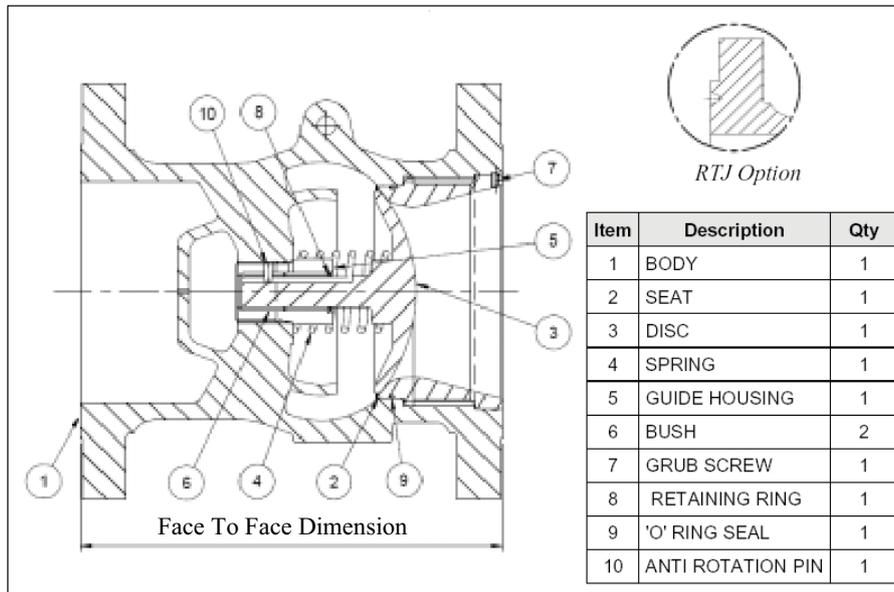


Size		Face To Face Dimensions (Short Pattern Valves)					
		RF		RTJ		Weld End	
mm	inches	mm	inches	mm	inches	mm	inches
150	6	254	10	254	10	254	10
200	8	343	13.1/2	300	11.13/16	300	11.13/16
250	10	365	14.3/8	365	14.3/8	365	14.3/8
300	12	441	17.3/8	441	17.3/8	441	17.3/8
350	14	495	19.1/2	495	19.1/2	495	19.1/2
400	16	546	21.1/2	546	21.1/2	546	21.1/2
450	18	610	24	610	24	610	24
500	20	680	26.3/4	680	26.3/4	680	26.3/4
600	24	850	33 1/2	850	33 1/2	850	33 1/2
700	28	940	37	940	37	940	37
750	30	940	37	940	37	940	37
800	32	940	37	940	37	940	37
900	36	1216	47.7/8	1216	47.7/8	1216	47.7/8
1000	40	1415	55.3/4	1415	55.3/4	1415	55.3/4
1050	42	1415	55.3/4	1415	55.3/4	1415	55.3/4
1200	48	1500	59	1500	59	1500	59
1300	52	1500	59	1500	59	1500	59
1400	56	1500	59	1500	59	1500	59
1500	60	1500	59	1500	59	1500	59

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## VCVS – Venturi Check Valve Short 900 Series

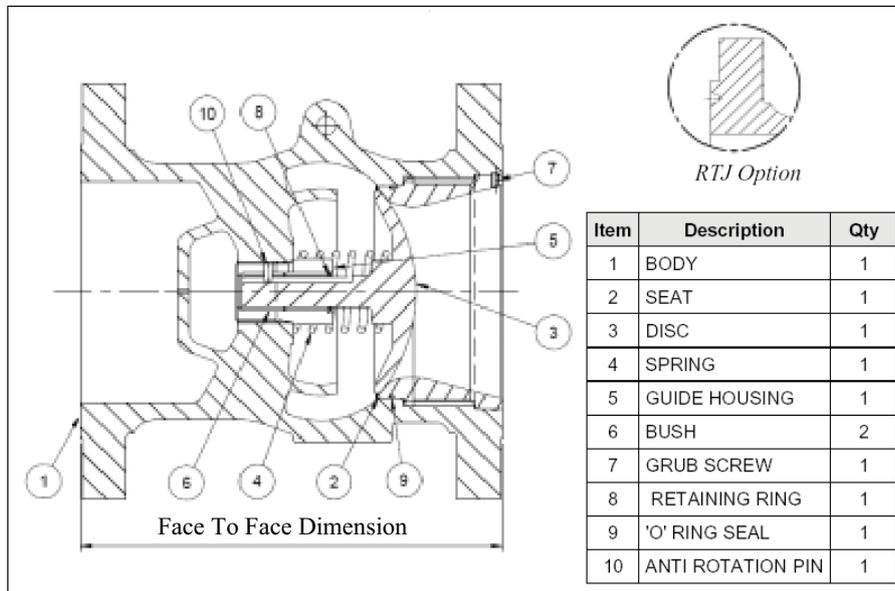


Size		Face To Face Dimensions (Short Pattern Valves)					
		RF		RTJ		Weld End	
mm	inches	mm	inches	mm	inches	mm	inches
150	6	310	12.1/4	310	12.1/4	310	12.1/4
200	8	343	13.1/2	343	13.1/2	343	13.1/2
250	10	391	15.3/8	391	15.3/8	391	15.3/8
300	12	450	17.3/4	450	17.3/4	450	17.3/4
350	14	450	17.3/4	450	17.3/4	450	17.3/4
400	16	487	19.3/16	487	19.3/16	487	19.3/16
450	18	...530	20.7/8	...530	20.7/8	..530	20.7/8
500	20	695	27.3/8	695	27.3/8	695	27.3/8
600	24	850	33 1/2	850	33 1/2	850	33 1/2
700	28	850	33.1/2	850	33.1/2	850	33.1/2
750	30	940	37	940	37	940	37
800	32	940	37	940	37	940	37
900	36	1216	47.7/8	1216	47.7/8	1216	47.7/8

\*Larger Sizes Available Please Consult Europa For Details. Valves can also be designed to customer face to face dimensions and sizes for specific applications.

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## VCVS – Venturi Check Valve Short 1500 Series

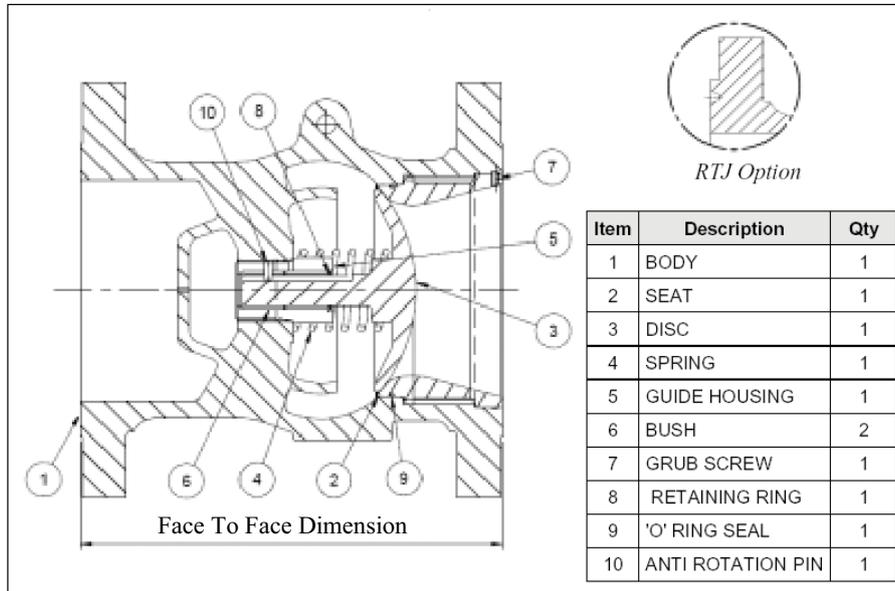


Size		Face To Face Dimensions (Short Pattern Valves)					
		RF		RTJ		Weld End	
mm	inches	mm	inches	mm	inches	mm	inches
150	6	310	12.1/4	310	12.1/4	310	12.1/4
200	8	343	13.1/2	343	13.1/2	343	13.1/2
250	10	391	15.3/8	391	15.3/8	391	15.3/8
300	12	450	17.3/4	450	17.3/4	450	17.3/4
350	14	495	19.1/2	495	19.1/2	495	19.1/2
400	16	530	20.7/8	530	20.7/8	530	20.7/8
450	18	635	25	635	25	635	25
500	20	700	27.9/16	700	27.9/16	700	27.9/16
600	24	850	33 1/2	850	33 1/2	850	33 1/2

\*Larger Sizes Available Please Consult Europa For Details. Valves can also be designed to customer face to face dimensions and sizes for specific applications.

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## VCVS – Venturi Check Valve Short 2500 Series



Size		Face To Face Dimensions (Short Pattern Valves)					
		RF		RTJ		Weld End	
mm	inches	mm	inches	mm	inches	mm	inches
150	6	400	15.3/4	400	15.3/4	400	15.3/4
200	8	450	17.3/4	450	17.3/4	450	17.3/4
250	10	562	22.1/8	562	22.1/8	562	22.1/8
300	12	625	24.5/8	625	24.5/8	625	24.5/8
350	14	635	25	635	25	635	25
400	16	650	25.9/16	650	25.9/16	650	25.9/16
450	18	695	27.3/8	695	27.3/8	695	27.3/8
500	20	800	31.1/2	800	31.1/2	800	31.1/2
600	24	950	37.3/8	950	37.3/8	950	37.3/8

\*Larger Sizes Available Please Consult Europa For Details. Valves can also be designed to customer face to face dimensions and sizes for specific applications.

For materials of construction and other details see quotation attached. Pictorial view above may change at manufacturers discretion depending upon size or rating. Due to our policy of continuous improvement, the above information may change without notice.



Lloyd's Register  
LRQA

## CERTIFICATE OF APPROVAL

This is to certify that the Quality Management System of:

**Europa Valve Ltd  
(incorporating MAK Metals)  
15 Corrigs Road, Newcastle,  
County Down, Northern Ireland  
United Kingdom**

has been approved by Lloyd's Register Quality Assurance  
to the following Quality Management System Standards:

**ISO 9001:2008**

The Quality Management System is applicable to:

**Design and manufacture of process control valves for the  
oil, gas, petrochemical and water industries.  
Manufacture of carbon, carbon-manganese, alloy, stainless  
steel and nickel based alloy castings.**

Approval  
Certificate No: LRQ 4003471

Original Approval: 21 November 2006

Current Certificate: 21 November 2015

Certificate Expiry: 14 September 2018

Issued by: Lloyd's Register Quality Assurance Limited



1 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES, United Kingdom