

**Acceptance Note**

Date of issue : 21 July 2015  
Customer : Gate Way Valve & Fitting Ltd.  
Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Lup Hop Street, San Po Kong, Kowloon, H.K.  
Manufacturer : VIR Valvoindustria Ing. Rizzio S.p.A.  
Subject : Inspection of ductile iron regulating valve  
Date of inspection : 6 July 2015  
Location of inspection : Customer's warehouse at San Po Kong, H.K.

## Product description :

Item no.	Sample description	Nominal size (DN)	Quantity Supplied (no.)
1	"VIR" 9557K variable orifice ductile iron double regulating valve flanged, PN16	65	1
2		80	1
3		100	1
4		125	1
5		150	1
6		200	1
7		250	1
8		300	1


## Conclusion :

Based on our inspection results and reviewing the relevant documents, it was found that the above-mentioned for this delivery complied with the requirements of :

1. Standard requirement (as agreed with customer) : BS EN12266-1 : 2012, BS EN 1092-2 : 1997 and
2. Manufacturer's drawing

**The inspected items are recommended for acceptance.**

Inspected by :   
W.K. Leung  
(Inspector)

Approved by :   
K.K. Ho  
(Approved Signatory)

# Inspection Report

of

## Ductile Iron Regulating Valve

**Location of inspection:** Customer's warehouse at San Po Kong, H.K.

**Date of inspection:** 6 July 2015

**To:**  
Gate Way Valve & Fitting Ltd.  
(Attn: Mr. Thomas Kwong)

**Inspected by:**

\_\_\_\_\_  
W.K. Leung  
(Inspector)

**Approved by:**

\_\_\_\_\_  
K.K. Ho  
(Approved Signatory)

**Inspection Report**

Customer : Gate Way Valve & Fitting Ltd.  
 Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Lup Hop Street, San Po Kong, Kowloon, H.K.  
 Manufacturer : VIR Valvoindustria Ing. Rizzio S.p.A.  
 Subject : Inspection of ductile iron regulating valve  
 Assigned inspector : Mr. W.K. Leung

At the request of "Gate Way Valve & Fitting Ltd., a local inspection of the manufactured products for installation at the project has been carried out with details as follow:

1. Date of inspection : 6 July 2015
2. Location of inspection : Customer's warehouse at San Po Kong, H.K.
3. Applicable standard (as agreed with customer) : BS EN12266-1 : 2012, BS EN 1092-2 : 1997 and the manufacturer's drawing
4. Scope of works :
  - (1) Sampling for inspection
  - (2) Visual appearance check
  - (3) Dimensional measurement, protective coating thickness check and marking check
  - (4) Witnessing hydrostatic pressure test
  - (5) Review of customer's provide drawing and verification of measuring & testing equipments for validity
  - (6) Conclusion
  - (7) Issue acceptance note
  - (8) Issue inspection report

**5. Inspection details & results:-****(1) Sampling for inspection:**

Item no.	Sample description	Nominal size (DN)	Quantity supplied (no.)	Quantity of sample for inspection	
				Hydrostatic pressure test (no.)	Other test (no.)
1	"VIR" 9557K variable orifice ductile iron double regulating valve flanged, PN16	65	1	1	1
2		80	1	1	1
3		100	1	1	1
4		125	1	1	1
5		150	1	1	1
6		200	1	1	1
7		250	1	1	1
8		300	1	1	1

Sampling procedure for the above inspection:-

- A) For hydrostatic pressure test
    - For lot size less than 20 nos, the sample size shall be equal to lot size. For lot size equal to or more than 20 nos, the sample size shall be 20 nos.
  - B) For other tests (Visual appearance, dimensional measurement, protective coating thickness check & marking check)
    - Sample size shall be determined in accordance with BS 6001-1 : 1999 inspection level II, single sampling plan, A.Q.L. = 4.0
- (2) Visual appearance check
- There were no obvious defect observed on the inspected samples of ductile iron regulating valves and they were all generally acceptable. The valves were coated with blue waterpaint coating.

- (3) Dimensional measurement, protective coating thickness check & marking check  
 - The dimensions & coating thickness of the inspected samples were measured by the inspector. The actual dimensions & coating thickness were tabulated as following:

**“VIR” 9557K variable orifice ductile iron double regulating valve**

Item no.	Nominal size	Castco's identification mark on sample	øF (mm)	øE (mm)	N×øD (mm)	L (mm)	H (mm)	øV (mm)	Protective coating thickness (µm)
1	DN65	INS0150706-2-MISCEL-1-1 CAS-WK	185	145	4 x 19	289	189	140	68~98
2	DN80	INS0150706-2-MISCEL-2-1 CAS-WK	200	160	8 x 19	311	205	139	69~94
3	DN100	INS0150706-2-MISCEL-3-1 CAS-WK	221	180	8 x 19	350	227	140	72~88
4	DN125	INS0150706-2-MISCEL-4-1 CAS-WK	250	210	8 x 19	400	251	140	63~97
5	DN150	INS0150706-2-MISCEL-5-1 CAS-WK	286	241	8 x 23	481	256	140	66~95
6	DN200	INS0150706-2-MISCEL-6-1 CAS-WK	341	296	12 x 23	600	385	300	70~99
7	DN250	INS0150706-2-MISCEL-7-1 CAS-WK	406	356	12 x 28	731	525	301	67~93
8	DN300	INS0150706-2-MISCEL-8-1 CAS-WK	461	411	12 x 28	852	537	300	62~91

Body marking : DN size PN16 QT450 →

Note : The measured dimensions of the inspected samples were found to comply with the requirements of BS EN 1092-2 : 1997 and manufacturer's drawing.

- (4) Witnessing hydrostatic pressure test  
 - All the inspected sample of ductile iron regulating valves were witnessed for hydrostatic pressure test by the inspector. There was no sign of leakage, sweating and defect observed during the tests and the test results were found to comply with the requirement of BS EN12266-1 : 2012.

Castco identification mark on sample	Nominal size (DN)	Shell Test		Seat Test	
		Pressure (MPa)	Duration (sec.)	Pressure (MPa)	Duration (sec.)
INS0150706-2-MISCEL-1-1 CAS-WK	65	2.4	60	1.76	60
INS0150706-2-MISCEL-2-1 CAS-WK	80				
INS0150706-2-MISCEL-3-1 CAS-WK	100				
INS0150706-2-MISCEL-4-1 CAS-WK	125		120		
INS0150706-2-MISCEL-5-1 CAS-WK	150				
INS0150706-2-MISCEL-6-1 CAS-WK	200				
INS0150706-2-MISCEL-7-1 CAS-WK	250				
INS0150706-2-MISCEL-8-1 CAS-WK	300				

- (5) Review of customer's provide drawing and verification of measuring & testing equipments for validity

Appendix no.	Document type	Remark
A	Manufacturer's drawing	For review and information
B	Calibration certificate of pressure gauge	Check for validity
C	Calibration certificate of measuring tape	Check for validity
D	Calibration certificate of coating thickness gauge	Check for validity
E	Calibration certificate of vernier caliper	Check for validity

- (6) Conclusion  
 - Based on our inspection results and reviewing the relevant documents, the ductile iron regulating valves for this delivery were found to comply with the requirements of BS EN12266-1 : 2012, BS EN 1092-2 : 1997 and manufacturer's drawing respectively.

~ End of Report ~

**APPENDIX A**

# 9557K

Variable Orifice Ductile Iron Double Regulating Valve



Via Circonvallazione, 10  
13018 Valduggia (VC), Italy  
Tel: +39 0163 47891  
Fax: +39 0163 47895  
www.vironline.com

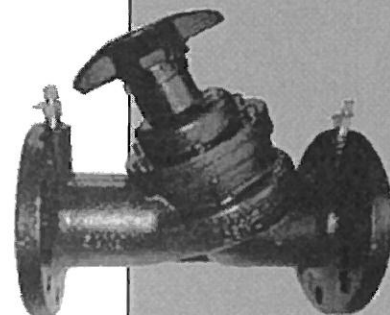


Variable orifice ductile iron double regulating valve  
Flanged PN16 according to EN1092-2 (ex DIN2533)  
Lengths according to EN558-1 series 1 (ex DIN3202 F1)  
With plugged threaded drains (1/4" ISO 7/1Rp) for test points  
Provided with test points (given unmounted)

PN16

Working conditions

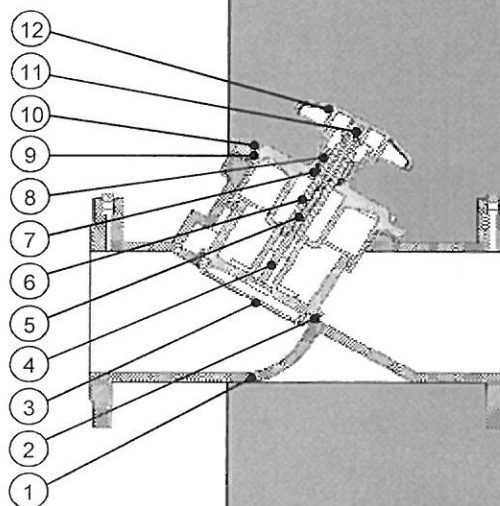
- Suitable for: water, 0°C to +120°C  
over 100°C only for water with added anti-boiling fluids
- Not suitable for: gases group 1 & 2, liquids group 1 (Dir.97/23/CE)



## PARTLIST

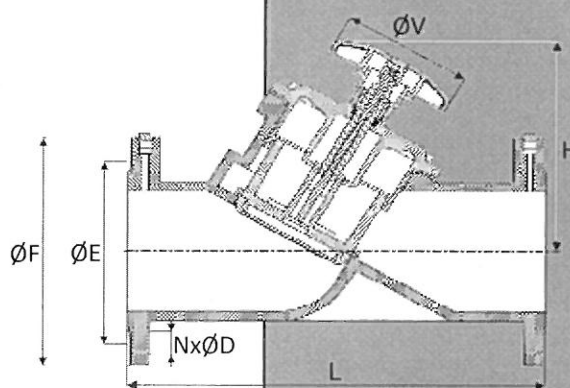
N.	Part	Material	Norm
1	Body	Ductile iron	QT450
2	Disk gasket	EPDM	-
3	Disc	Brass <sup>1</sup>	-
4	Position stem	Brass	-
5	Memory stop	Stainless steel	2Cr13
6	Stem	Stainless steel	2Cr13
7	Stem gaskets	EPDM	-
8	Bushing	Brass	-
9	Bonnet	Cast iron	GG25
10	Screws	Steel	-
11	Handwheel	Plastic	-
12	Handwheel screw	Steel	-

<sup>1</sup>stainless steel for DN ≥ 150



## DIMENSIONS

DN	ØF (mm)	ØE (mm)	NxØD (mm)	L (mm)	H (mm)	ØV (mm)	Weight (kg)
065	185	145	4x19	290	188	140	15
080	200	160	8x19	310	205	140	19
100	220	180	8x19	350	225	140	26
125	250	210	8x19	400	250	140	40
150	285	240	8x23	480	255	140	50
200	340	295	12x23	600	385	300	114
250	405	355	12x28	730	525	300	165
300	460	410	12x28	850	535	300	215



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**APPENDIX B**



CALIBRATION CERTIFICATE

Cert. No.: LC-41204-J3205

04 Dec. 2014

Client : 基法水管配件有限公司

Due Date : 03 Dec. 2015

ORIGINAL

Test Item : Pressure Gauge

Owner's Marking : P891

Quantity : 1 Set

Capacity : 0 - 1000 Lb/sq. in.

Gradation: 20 Lb/sq. in.

Brand / Model : KKK

Serial No : N/M

Test Criteria : Calibration check according to BS EN837-1

Test Procedure : STP-502-rev.A

Test Equipment : Pressure Calibration Set (STE-025)

Test Result : The test item was tested in accordance with approved test procedures which are traceable to national international standards.

Test Item Reading Lb/sq. in.	Correction Lb/sq. in.		Tolerance
	Pressurizing	De-pressurizing	
0	0	0	+/- 2.5%
200	+1.0	+1.0	+/- 2.5%
400	+2.0	+2.5	+/- 2.5%
500	+3.0	+3.5	+/- 2.5%
700	+4.0	+4.5	+/- 2.5%
850	+5.0	+5.0	+/- 2.5%

The test was **Satisfactory**, and the test item is in good and sound condition, and in compliance with the test criteria.

END

RPE (Marine) – RP0141925  
BSc, MSc, MBA, MHKIE

Frederick K. W. Chan  
STP-502-FM1



**APPENDIX C**



香港粉嶺安居街33號 33, On Kui Street, Fanling, Hong Kong. Tel : 2677 2138  
香港粉嶺安全街29A號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2677 0351  
E-mail: castco@netvigator.com Website: www.castco.com.hk

HOKLAS 032  
CAL

**Calibration Certificate**  
**Calibration of Measuring Tape (Pocket Type)**  
[Calibration Procedure No. CAL-MTAPE]

Date of issue : 11 March 2015

Page 1 of 1 page

Castco LRN : CL0150206-6

**Information supplied by customer :-**

Customer : Castco Testing Centre Ltd.

Customer's ref. no. : --

Address : No.29A, On Chuen Street, On Lok Tsuen, Fanling, New Territories, Hong Kong.

Location of equipment : Inspection Section

Description of equipment (UUT) : - (Equipment I.D. No. : INS-MT02)

Manufacturer : Stanley

Range : 0 m to 3.5 m

Serial no. : --

Resolution : 1 mm/div.

**CERTIFIED COPY**

Castco Testing Centre Ltd.

**Equipment used for calibration :-**

1. Reference measuring tape, Castco I.D. No. : CL-RSST01
2. Thermometer, Castco I.D. No. : CL-WT34

**Calibration results :-**

Date of calibration : 6 February 2015

Average ambient temperature : 20°C

Range verified : 0 m to 3.5 m

Average relative humidity : 47%

Reference length (mm)	UUT reading (mm) Mean of 3 tests	Error (mm)	Measurement uncertainty	
			U (mm)	k
1000.0	1000.0	0.0	0.3	2.01
2000.0	2000.0	0.0	0.3	2.01
3000.0	3000.0	0.0	0.3	2.01
3500.0	3500.0	0.0	0.3	2.01

Note : Tensioning weight loaded to the UUT in this calibration : no load applied.

Remarks : -

1. All standards used for calibration are traceable to internationally recognized standard laboratories.
2. Next calibration due date : (1 year) 5 February 2016 (specified by customer)
3. The reported uncertainties are the expanded uncertainties U for 95% confidence level, together with their coverage factors k.

Checked by :

CHENG CHI HANG  
Technical Officer

Approved signatory :

End of Report  
HO KUI KONG  
Technical Manager

**APPENDIX D**



香港粉嶺安居街33號 33, On Kui Street, Fanling, Hong Kong. Tel: 2677 2138  
香港粉嶺安全街29A號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2677 0351  
E-mail: castco@netvigator.com Website: www.castco.com.hk

**Calibration Certificate**  
**Calibration on Coating Thickness Gauge for Accuracy of Reading**  
[Calibration Procedure No. CAL-ELCO]

Date of issue : 31 July 2014

Page 1 of 1 page

Castco LRN : CL0140728-4

**Information supplied by customer :-**

Customer : Castco Testing Centre Ltd.

Customer's ref. no. : --

Address : No.29A, On Chuen Street, On Lok Tsuen, Fanling, New Territories, Hong Kong.

Location of equipment : Inspection Section

Description of equipment (UUT) : - (Equipment I.D. No. : INS-CTG01)

Manufacturer : Elcometer

Model No. : 456

Serial No. : HL1020

Range : F - 0 to 1500  $\mu\text{m}$  (ferrous base);  
N - 0 to 1500  $\mu\text{m}$  (non-ferrous base)

Resolution : F - 0.1  $\mu\text{m}$   
N - 0.1  $\mu\text{m}$

**CERTIFIED COPY**

Castco Testing Centre Ltd.

**Equipment used for calibration :-**

Set of standard calibration foils, Castco I.D. No. : CL-RTF04

Thermohygrometer, Castco I.D. No. : CL-WTH02

**Laboratory calibration results :-**

Date of calibration : 28 July 2014

Average ambient temperature : 20°C

Average relative humidity : 39%

**I. Range F (using ferrous probe)**

Actual thickness of standard foil ( $\mu\text{m}$ )	UUT measured mean reading ( $\mu\text{m}$ )	Error ( $\mu\text{m}$ )	Deviation (%)
12.4	12.4	0.0	-0.3
24.1	24.9	+0.8	+3.3
49.2	50.3	+1.1	+2.3
123.5	125.7	+2.2	+1.8
250.6	255.0	+4.4	+1.8
507.0	515.3	+8.3	+1.6
1021.4	1025.3	+3.9	+0.4
1479.0	1482.3	+3.3	+0.2

**II. Range N (using non-ferrous probe)**

Actual thickness of standard foil ( $\mu\text{m}$ )	UUT measured mean reading ( $\mu\text{m}$ )	Error ( $\mu\text{m}$ )	Deviation (%)
12.4	12.3	-0.1	-1.1
24.1	23.9	-0.2	-0.7
49.2	48.5	-0.7	-1.4
123.5	124.3	+0.8	+0.7
250.6	247.3	-3.3	-1.3
507.0	501.0	-6.0	-1.2
1021.4	1019.7	-1.7	-0.2
1479.0	1476.0	-3.0	-0.2

Remark(s) :-

- All standards used for calibration are traceable to internationally recognized standard laboratories.
- Next calibration due date : (1 year) 27 July 2015 (specified by customer)
- The expanded uncertainty is  $\pm 3.0 \mu\text{m}$  with a coverage factor  $k = 1.99$ , providing a level of confidence approximately 95%.

Checked by :

CHENG CHI HANG  
Technical Officer

Approved signatory :

HO KUI KONG  
Technical Manager

End of Report

**APPENDIX E**



香港粉嶺安居街33號 33, On Kui Street, Fanling, Hong Kong. Tel: 2677 2138  
香港粉嶺安全街29A號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2677 0351  
E-mail: castco@netvigator.com Website: www.castco.com.hk

**Calibration Certificate**

**Calibration of Vernier Caliper for Deviation of Reading**  
[BS 887 : 2008 clause 6; Calibration Procedure No. CAL-CALLIPER-DVR]

Date of issue : 4 September 2014

Page 1 of 1 page

Castco LRN : CL0140809-8

Information supplied by customer :-

Customer : Castco Testing Centre Ltd.

Customer's ref. no. : --

Address : No.29A, On Chuen Street, On Lok Tsuen, Fanling, New Territories, Hong Kong.

Location of equipment : Inspection Section

Description of equipment : - (Equipment I.D. No. : INS-VC01)

Manufacturer : Mitutoyo , Japan

Model No. : --

Type : Graduated Scale

Serial No. : 60114167

Measuring range : 0 to 200 mm

Readability : 0.02 mm/div.

**CERTIFIED COPY**

Castco Testing Centre Ltd.

Equipment used for calibration :-

Set of gauge blocks S/N 13495, Castco I.D. No. : CL-RSGB01

Calibration result :-

Date of calibration : 9 August 2014

Average ambient temperature : 20°C

Measured by the faces for external measurement

Average relative humidity : 38%

Gauge block actual length (mm)	Reading of caliper (mm)	Deviation of reading (mm)
	Mean of 3 tests	
0	0.00	0.000
39.99994	40.00	+0.000
79.99978	80.00	+0.000
119.99970	120.00	+0.000
159.99996	160.00	+0.000
199.99990	200.00	+0.000

- Remarks : 1. All standards used for calibration are traceable to internationally recognized standard laboratories.  
2. Next calibration due date : (1 year) 8 August 2015 (specified by customer)  
3. The expanded uncertainty is  $\pm 23 \mu\text{m}$  with a coverage factor  $k = 2$ , providing a level of confidence 95%.

Checked by :

CHENG CHI HANG  
Technical Officer

Approved signatory :

End of Report

HO KUI KONG  
Technical Manager