



Certificate of Compliance

Certificate: 1310361

Master Contract: 189664

Project: 2257095

Date Issued: 2010/02/12

Issued to: Bryan Donkin RMG Canada Limited

50 Clarke Street South
Woodstock, ON N4S 0A8
Canada
Attention: Neil Hinchley

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Richard Clark

Issued by: Richard Clark

PRODUCTS

CLASS 3331 85 - REGULATORS (GAS) - Line Pressure-Certified to U.S. Standards

CLASS 3331 05 - REGULATORS (GAS) - Line Pressure

CLASS 3331 84 - REGULATORS (GAS) - Service-Certified to U.S. Standards

CLASS 3331 04 - REGULATORS (GAS) - Service

Models: Fig. 240, Fig. 241, Fig. 260 & Fig. 274 - Straight & Angle Type

The above models are also employed with optional "Over Pressure Cut Off (OPCO)" Device - Fig. 290 & Fig. 309

APPLICABLE REQUIREMENTS

CSA 6.18-02 Service Regulators For Natural Gas.

ANSI B109.4-1998 Self Operated Diaphragm Type Natural Gas Service Regulators

ANSI Z21.80a / CSA 6.22a-2005(R2008) Line Pressure Regulators



Supplement to Certificate of Compliance

Certificate: 1310361

Master Contract: 189664

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
2257095	2010/02/12	Addition of classes 3331-05 & 331-85 to the scope of certification
1579518	2005/01/12	Certification of OPEC/OPCO Features - Fig.290 & 309

History

1310361 Aug. 12, 2002 Certified to comply with US requirement "ANSI B109.4" and amalgamation of reports LM 112921-1 & LM 112921-2.



Descriptive Report and Test Results

MASTER CONTRACT: 189664

REPORT: 1310361

PROJECT: 2257095

Edition 1: August 12, 2002 ; Project 1310361 - Toronto
Issued by K. Sivakumaran, C.E.T.

Edition 2: January 12, 2005 ; Project 1579518 - Toronto
Issued by K. Sivakumaran, C.E.T.

Edition 3: February 12, 2010; Project 2257095 – Toronto
Issued by Richard Clark
Add Classes 3331 05 and 3331 85.
Add drawings 137 to 147
Report pages reissued

Contents: Certificate of Compliance - Page 1
Supplement to Certificate of Compliance - Page 1
Description and Tests - Pages 1 to 9
Att1 Illustrations –1 to 147
Att2 Factory Tests – 1 to 52

PRODUCTS

CLASS 3331 04 - REGULATORS(GAS) - Service.

CLASS 3331 84 - REGULATORS(GAS) – Service – Certified to US requirements

CLASS 3331 05 - REGULATORS (GAS) - Line Pressure

CLASS 3331 85 - REGULATORS (GAS) - Line Pressure-Certified to U.S. Standards

APPLICABLE REQUIREMENTS

CSA 6.18-02 Service Regulators for Natural Gas

ANSI Z21.80a / CSA 6.22a-2005(R2008) Line Pressure Regulators

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DESCRIPTION

Fig. 240, Fig. 241 & Fig. 260 are single valve service regulators with an internal relief valve. The variations between models are dimensional in nature. They are similar in their operational feature.

Fig. 290 & Fig. 309 are “Over Pressure Cut Off (OPCO)” Device

MARKINGS

CSA 6.18

- Manufacturer’s or Dealers’s name, trademark or symbol.
- Model number/model designation.
- Date code. (Month and year of manufacture).
- Orifice size.
- Pressure adjusting spring range.
- Direction of gas flow and the “VENT” marking.
- CSA Monogram.
- Marking identify the standard “CGA 6.18”.

See Att1 Illustrations Page 137

ANSI Z21.80/ CSA 6.22

- Manufacturer’s or Dealers’s name, trademark or symbol.
- Model number/model designation.
- Outlet pressure setting or adjustment range
- Date code. (Month and year of manufacture).
- Rated Inlet Pressure
- CSA C/US Monogram
- Direction of Gas Flow
- Regulator Class

ALTERATIONS

Optional “Over Pressure Cut Off (OPCO)” Device - Fig. 290 & Fig. 309 included in the design of the regulator.

Project 2257095 – Temperature ratings for OPCO 290 & 309 evaluated against standard Z21.80/CSA 6.22 were increased from -40°C to 0°C. The was due to test failures at -40°C.

FACTORY TESTS

Please refer to Att2 Factory Tests.

There shall be adequate quality control and assurance programs to ensure safe and uniform products identical to the certified design.

The following test shall be performed on 100% of production:

	TEST	PASS/FAIL CRITERIA
Regulator	Leakage	Zero Leakage
	Outlet Pressure Setting	+/- 15%
	Lock-up Test	Shall be within 150% of initial outlet pressure
OPCO	Leakage	Zero Leakage
	Overpressure Protection	+10% / -5%
	Start-to-Discharge	

The following audit test program shall be performed as indicated below:

TEST	FREQUENCY	PASS/FAIL CRITERIA
Continued Operation	One Basic Model Per Year	90,000 cycles at room temperature followed by 10,000 cycles at -40°C. Check leakage, and lock-up on completion of cycles.
Outlet Pressure Range	One Basic Model Per Year	+/- 15%
Range of Regulation Capacity	One Basic Model Per Year	Compare to historical data
Strength	One Basic Model Per Year	Shall not show signs of breakage, deformation or leakage.
Performance at High and Low Temperatures	One Basic Model Per Year	Shall not leak >200 cc/hr when tested maximum operating pressure at -40°C and 51.5°C.

NOTE: It is the submitter's responsibility to ensure the factory tests are conducted as specified above and the complete test records are to be available for review by CSA field service representatives. Test methods should relate back to those in the performance standard.

DRAWING INDEX

<u>Mfr's Part/ Drawing No.</u>	<u>Rev. No.</u>	<u>Ill. No.</u>	<u>Description</u>
CPL 0548	G	1 -2	Fig. 240'R – Parts List
FA/002 E	E	3	Fig. 240 Top Cap 'Peg Type'
200/LS/012	D	4	Spring Carrier Fig. 240
200/LC/004 X	-	5	Machining Details Fig. 240 Top Half Casing
201/LN/039	B	6	Vent Valve Spindle
973	B	7	Spring Data Sheet – Fig.240 Vent Valve Spring
200/LN/029	B	8	Fig. 240 Vent Plate
200/LN/001	C	9	Fig. 240 Vent Seat
201/LN/036	A	10	Vent Screen
200/LP/025	B	11	Circlip
200/LS/017	E	12	'R Type Diaphragm Carrier for Fig. 240
200/LV/020	E	13	Lever for Fig. 240
200/LV/021	C	14	Fulcrum Pin for Fig. 240
KB/001 X	-	15	Machining Details – Tapped Fig.240 Bottom Half Casing
200/LN-006	D	16	Fig. 240 Valve Assembly
200/LN/032	B	17	Fig. 240 Valve Insert
200/LN/031	C	18	Fig. 240 Valve Cap
200/LN/030	C	19	Fig. 240 Valve Stem – Machining
KA/001	B	20	Machining Details fo Fig. 240 Straight Thro' Body
201/LZ/034	B	21	Orifice for Fig. 240, 241 & 260
200/LR/005	F	22	Fig. 240 Union Nut
200/LJ/052	D	23	Fig. 240 'R Moulded Diaphragm
200/LJ/040	E	24	Fig. 240'R Diaphragm Plate
998	A	25	Spring Data Sheet – Fig. 240/241 RV Spring
Blank		26	
CPL 0128	B	27-28	Fig. 241'R – Parts List
201/LF/010	C	29	Nylon O-Ring Top Cap Fig. 241
201/LF/008	E	30	Top Cap Fig. 241
201/LC/009	C	31	Fig. 241 Top Half Casing – Machining Details
201/LN/039	B	32	Vent Valve Spindle
967	B	33	Spring Data Sheet – Fig. 241 (Vent Valve Spring)
201/LN/037	B	34	Vent Valve Plate
201/LN/038	B	35	Vent Valve Seat
201/LN/036	A	36	Vent Screen
200/LP/025	B	37	Circlip
201/LB/008	C	38	Fig. 241 BHC – Machining Details
201/LJ-002	C	39	R' Type Diaphragm Assembly Fig. 241
201/LJ/009	F	40	Diaphragm Fig. 241
201/LJ/010	C	41	Diaphragm Plate Fig. 241
998	A	42	Spring Data Sheet – Fig. 240/241 RV Spring
200/LS/033	B	43	Spring Divider
201/LS/021	C	44	Diaphragm Carrier (Fig. 241)
201/LN/042	D	45	Lever Fig. 241

200/VS/003 D 90 Spring Adjuster

DRAWING INDEX - Continued

Mfr's Part/

Drawing No.

Rev. No.

Ill. No.

Description

201/WC/007	AD	91	OPCO Top Half Casing Machining Details
AG/018	-	92	Machining Details for MkII OPCO
200/VV/014	C	93	Re-Set Knob
AG/019	A	94	Seal Bushing
AG/003	A	95	Fig. 290 OPCO Spindle Assembly
200/VL/050	F	96	Reset Spindle
200/VL/028	A	97	OPCO Reset Collar
200/VX/005	B	98	Spindle Bush
200/VX/006	B	99	Precision Washer
939	X	100	Spring Data Sheet (Fig. 260 /Valve Spring)
200/VN/046	C	101	Valve for OPCO (Fig. 241 & 240 Body)
200/VL-002	B	102	Diaphragm Spindle for OPCO
201/WJ/004	F	103	Diaphragm Fig. 290
202/XH/070	F	104	Top Diaphragm Plate
200/VM/010	-	105	Spring Locating Washer
Blank		106	
CPL1028	B	107-108	Fig. 309's OPCO – Parts List
OL-004	-	109	Assembly of Threaded Insert
AG/011	B	110	Threaded Insert
AG/017	-	111	Washer
AF/005	D	112	Fig. 309's Body – Machining Details
201/WJ/312	B	113	Diaphragm Fig. 309
200/XH/126	-	114	Diaphragm Plate Fig. 309
201/WC/007	AD	115	OPCO Top Half Casing Machining Details
200/VL/041	D	116	Reset Spindle – Fig. 309 OPCO
200/WF/011	B	117	Top Cap for Fig. 309's
200/VS/017	F	118	Spring Adjuster for Fig. 309 OPCO
200/VH/005	C	119	Location Ring – Fig. 309 OPCO
200/VH/003	B	120	Retention Plate for Fig. 309
200/VH/004	B	121	Bearing Plate for Fig. 309
200/VS/013	I	122	OPCO Latch Block
200/VU/001	A	123	Rollers for Fig. 309
939	X	124	Spring Data Sheet (Fig. 290/Valve Spring)
200/VG/005	-	125	Fig. 309 Retention Ring
200/VY/001	A	126	Retention Pin (Fig. 309)
200/VN/062	D	127	Valve Head for Fig 309's
200/VN/065	D	128	Valve for Fig. 309 (Fig. 274 Body)
200/VN/066	G	129	Fig. 309 Valve Spindle Extension for 270 Type Body
ON/001	C	130	Fig. 309's Valve Head for 1 ¼" & 1 ½" Body
Blank		131	

DRAWING INDEX - Continued

<u>Mfr's Part/ Drawing No.</u>	<u>Rev. No.</u>	<u>Ill. No.</u>	<u>Description</u>
C.I.C. 0002	A	132-135	Installation and Commissioning Instructions For a Regulator with an OPCO
Blank		136	
Markings	-	137	Regulator Marking Label
200/LC/006	D	138	Casting Details – Fig. 240 Top Half Casing
200/LB/007	D	139	Casting Details – Fig. 240 Bottom Half Casing
201/LC/004	D	140	Top Half Casing
201/LB/003	D	141	Bottom Half Casing – Fig. 241
200/LC/007	B	142	Top Half Casing for Fig. 260
200/LB/0115	B	143	Bottom Half Casing for Fig. 260
CIC 9000A	Oct 2006	144-145	Installation and Commissioning Instructions Regulator Relief Valve
CIC 9002A	Oct 2006	146-147	Installation and Commissioning Instructions Safety Slam-Shut Valves (OPCO / UPCO)

TESTS

The test report sections are retained in the CSA file 189664-1310361 & 189664 - 1579518.

Project 2257095

The following tests were conducted at CSA International in Toronto. Satisfactory results were obtained in all tests. Test data is retained at CSA Rexdale.

Testing performed in accordance with standard ANSI Z21.80a / CSA 6.22a-2005(R2008) Line Pressure Regulators

Clause	Test	Pass/Fail	Sample
2.4	Leakage	Pass	Models 240, 260 & 274
2.8.2	Range of Regulation Capacity	Pass	Model 240 w/ OPCO Model 309 Model 260 Model 274 w/ OPCO Model 290
3.8	Overpressure Protection	Pass	Model 240 w/ OPCO 290 Model 240 w/ OPCO 309
3.9	Continued Operation	Pass	Model 240 w/ OPCO 290 Model 240 w/ OPCO 309

All other test were deemed not applicable because they were deemed already satisfied and the original test testing of against CSA 6.18. Project 1579518