

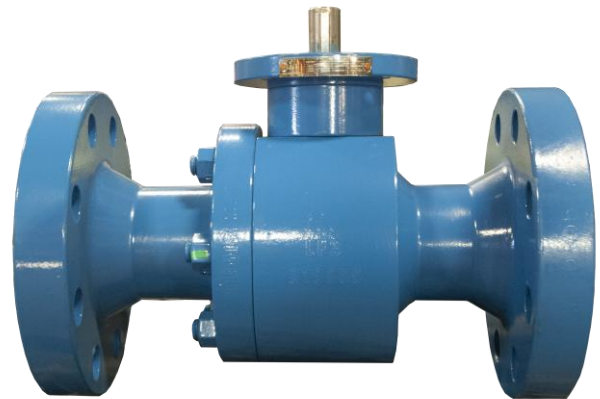
### CM Controls Series Floating Flanged Ball Valves

The CM Controls Floating Flanged Ball Valves are available in a variety of configurations and materials to meet specific applications.

The CM Controls Floating Flanged Ball Valves are available in 2 Inch through 4 inch, ASME Class 150/300 and 600, both full and regular port. A 2 inch reduced port ASME Class 900/1500 floating flanged ball valve design is also available.

Standard features include:

- Blowout Proof Stem
- Ball Position Indicator
- Tight Sealing
- Bi-Directional Design and Sealing
- Equalized Cavity Pressure
- Fire Safe Design
- Manufactured to API 6D Specifications, NACE MRO175 and ASME B16.34-latest edition standards



CM 3 Inch Class 600 Reduced Port



CM 3 Inch Class 600

ABSA CRN# 0C21698.2

## SPECIFICATIONS

### CM Controls Floating Flanged Ball Valve Product Range Full and Reduced Port, Flanged End Connection

Body Material	Class	Port	Valve Size (inches)						
			1	1.5	2	3	4	6	8
Carbon Steel and Stainless Steel	150	Reduced	X	X	X	X	X	X	
		Full	X	X	X	X	X	X	
	300	Reduced	X	X	X	X	X	X	
		Full	X	X	X	X	X		
	600	Reduced			X	X	X		
		Full	X	X	X	X	X		
	900/1500	Full	X	X	X	-	-		
	2500	Full	X						

### How To Order:

Model number identification CM Controls Floating Flanged Ball Valves

Standard materials configuration is: LF2 Body, PTFE Seat, Viton Seal: for Class 150 and Class 300

Class 600 through 2500 standard material is: LF2 Body, Nylon Seat, Viton Seal

3"	R	30	1	R	2	S	N	F	4			
Valve Size	Port Config.	Pressure Class	Design	End Connection	Body Material	Trim Material	Seat Material	Seal Material	End Connection	Drive Type		
Inch	R Reduced	10 150	1 Floating	R RF	Blank A105	E ENP	P PTFE	F PTFE	1 Female Thread	Blank Manual		
		30 300			1 LF2		N Nylon	N Nylon	2 FNPT			
				60 600			J RTJ	2 LCC	V Viton		V Viton	4 Flange End
		F Full			N NPT				3 SSt		S Stainless Steel	S Stainless Steel
	M Molon					M FFKM						
	D Devlon											

\*2 Inch Class 1500 only available in reduced port

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## FLOW COEFFICIENTS

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### CM Controls Floating Flanged Ball Valves

The flow coefficients (Cv) factor for CM Controls Floating Flanged Ball Valves are to be used for reference to correctly size valve for desired applications. Cv is equal to volume of water @ 60°F in gallons per minute that will flow through an opening while producing a 1 psi pressure drop across the valve.

Flow Coefficients - Cv							
Series	Class	Valve Size					
		1	2	3	4	6	8
Reduced Port	150		105	200	600	800	2150
	300		105	200	600	800	2150
	600		100	200	600	790	
	1500		85	180			
Full Port	150	95	420	1200	2200	5150	9500
	300	95	420	1050	2100	5100	9400
	600	64	400	1000	1850		
	1500	55	330				

\* Includes all ASME Class Valves in the series.

### CM Controls Repair Kits

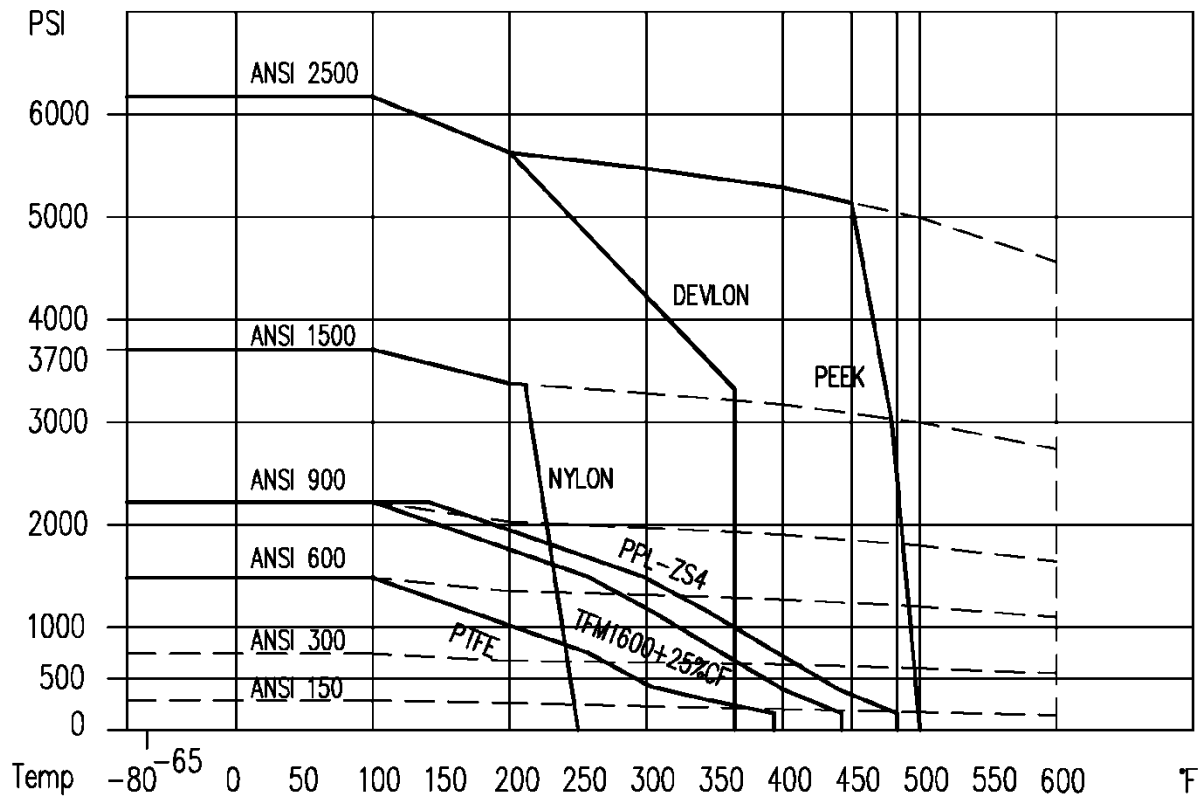
When ordering replacement parts for the Floating Flanged Ball Valve, please reference the model and serial number indicated on the nameplate. For more information contact a CM Controls Sales Representative.

## Pressure/Temperature Ratings – Material Selection

CM Series 8000/8100 Floating Flanged Ball Valves come standard with PTFE seat materials, and Viton seal materials. Additional materials may be available upon request, contact a CM Controls representative for more information.

Material	Low Temperature Capabilities
RPTFE	-40°C (-40F)
Devlon	-53°C (-63.4F)
Peek	-60°C (-76F)
Nylon	-46°C (-50.8F)

\*Pressure and temperature limits determined by class and body material selection



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## FEATURES

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### **Blowout Proof Stems**

Anti-Blowout protection is standard on all CM Floating Flanged Ball Valves.

### **Ball Position Indicator**

Ball position is easily determined and identified in either full open or full close position.

### **Lockout Protection**

All CM Floating Flanged Ball Valves come standard with lockout protection.

### **Actuation**

Pneumatic, hydraulic, and electric actuators are easily adaptable to CM 8000/8100 Series Ball Valves. CM Controls is able to supply and assemble the correct ball valve/actuator solution best suited for any application.

### **Bi-Directional Sealing**

CM Floating Flanged Ball Valves may be installed in either direction, without compromising the integrity of the seal.

### **Equal Cavity Pressure**

Both line pressure and the ball valve cavity pressure is maintained equally while the valve is in the open position.

### **Bubble Tight Seal**

Downstream process flow is cut off by upstream pressure pushing against the ball in the closed position.

### **Firesafe ISO Design**

All CM Floating Flanged Ball Valves have been proven to meet Firesafe API607 or API 6FA Design Standards.

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## Specifications/Certifications

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All CM Controls Ball Valves are manufactured in accordance of applicable standards.

API6D certifications are maintained and current.

All CM Floating Flanged Ball Valves conform to NACE MRO 175 design standards.

ABSA, The Pressure Equipment Safety Authority - CRN # 0C21698.2

CM Controls Ltd. is a certified and registered ISO 9001-2015 manufacturing facility. Our in house quality assurance program is dedicated to continually improve the efficiency and the effectiveness of our quality management system. Our product is confirmed by a rigid quality control program which utilizes the most up to date methods of testing and inspection.

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## Application and Design

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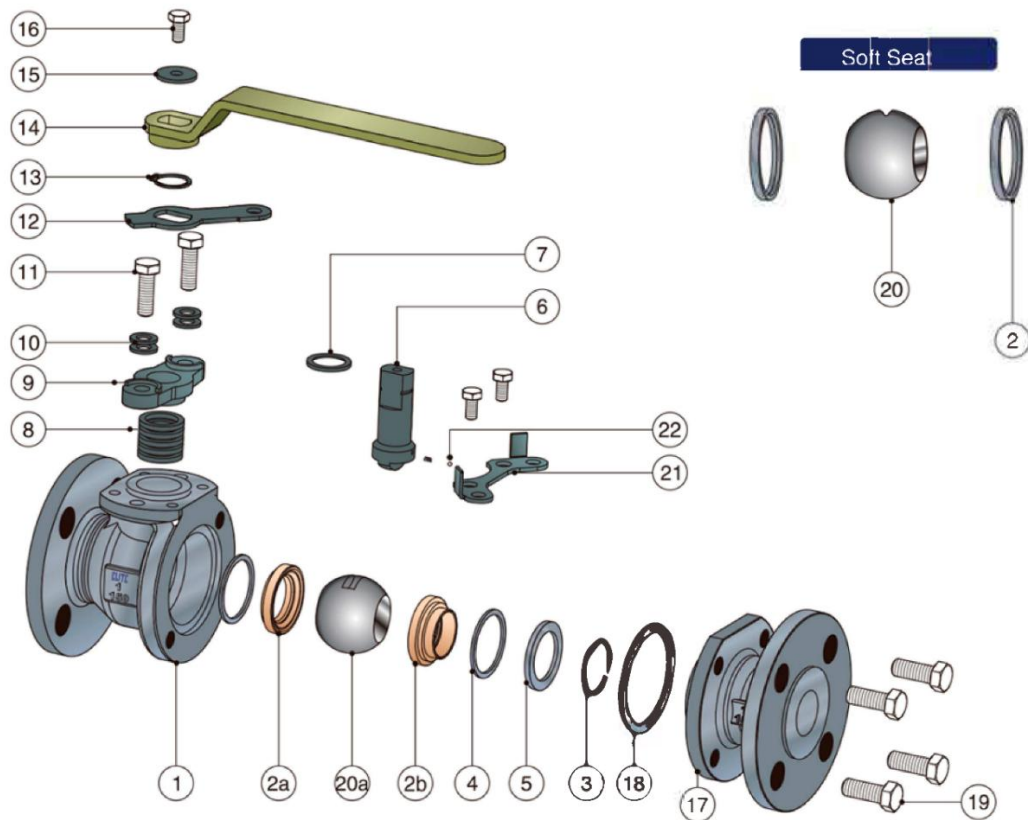
CM Controls in house engineering and application design can assist in finding the right solution best suited for your application.

Hydraulic or pneumatic actuation and Emergency Shut Down Devices (ESD) can be supplied and assembled to customer specifications. CM Controls also has a wide variety of pressure pilots, limit switches, positioners as well as solenoid valves to complete the design package.

Contact a CM Controls sales representative for more information.



## CM Series Floating Ball Valve 2pc: Assembly – 1” through 6” Class 150-Class 2500

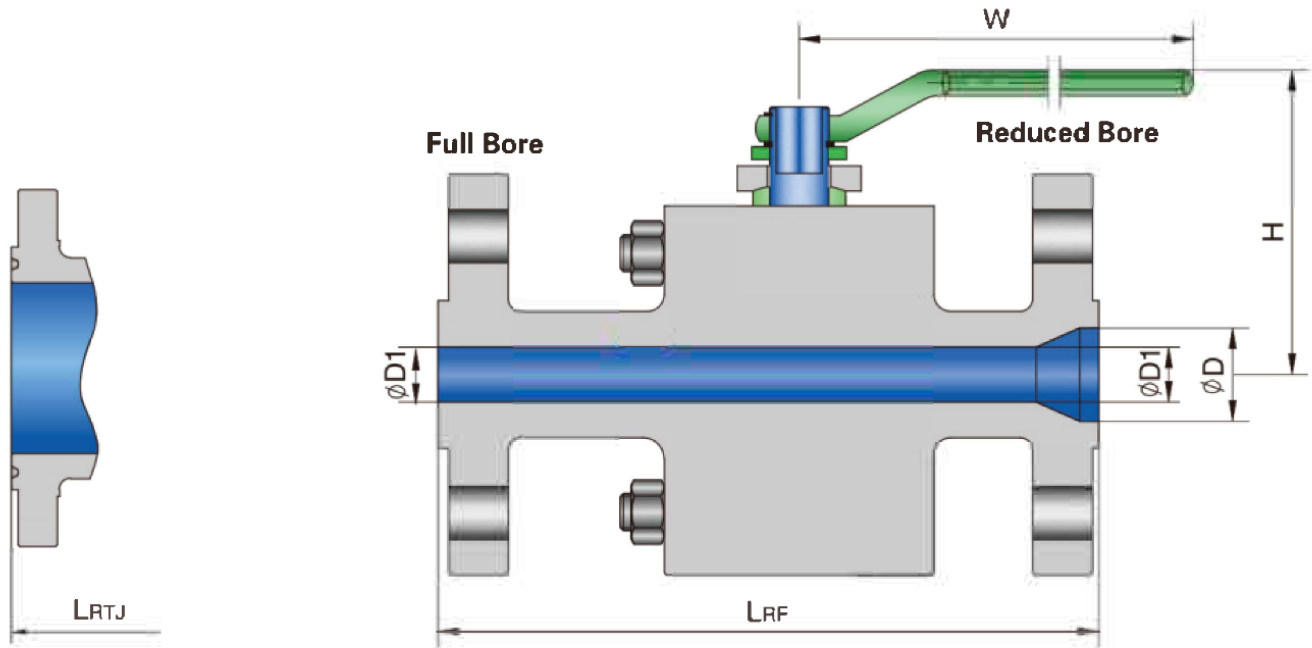


Item	Description	Standard Materials			
		Carbon Steel	Alloy Steel	Stainless Steel	Duplex Steel
1	Body	A105/A216 WCB/A350 LF2	A182 F11/A217 WC6	A182 F316/A351 CF8M	A182 F51/A995 4A
2	Seat Ring	PTFE/RPTFE			
2a	Seat Ring	A182 F304+TCC/NI55		A182 F316+TCC/NI55	A182 F51+TCC/NI55
2b	Seat Ring	A182 F304+TCC/NI55		A182 F316+TCC/NI55	A182 F51+TCC/NI55
3	Seat Spring	17-7PH/INCONELX-750			
4	Backup Seal	Graphite			
5	Retainer	SS304		SS316	A182 F51/F53/F55
6	Stem	A182 F6a/F304/F316		A182 F316/17-4PH/F51	A182 F51/F53/F55
7	Thrust Bearing	PTFE/RPTFE			
8	Stem Packing	PTFE/Flexible Graphite			
9	Gland Flange	A216 WCB/A350 LF2		A351 CF8/A351 CF8M	
10	Belleville Spring	17-7PH/INCONEL 625			
11	Gland Bolt	A193 B7	A193 B16	A193 B8/A193 B8M	
12	Stopper	Q235+Zn			
13	Snap Ring	AISI 1065			
14	Lever	A216 WCB			
15	Lever Washer	SS 304/SS 316			
16	Lever Set Bolt	A193 B7	A193 B16	A193 B8/A193 B8M	
17	Closure	A105/A216 WCB/A350 LF2	A182 F11/A217 WC6	A182 F316/A351 CF8M	A182 F51/A995 4A
18	Closure Gasket	PTFE/SS+PTFE/SS+Graphite			
19	Closure Bolt	A193 B7	A193 B16	A193 B8/A193 B8M	
20	Ball	A105+ENP/A182 F6a/F304/F316		A182 F316/F51	A182 F51/F52/F55
20a	Ball	A182 F304+TCC/NI60		A182 F316+TCC/NI60	A182 F51+TCC/NI60
21	Locking Plate	Q235+Zn			
22	Anti Static Device	SS316			

Material in accordance with ASTM Standards

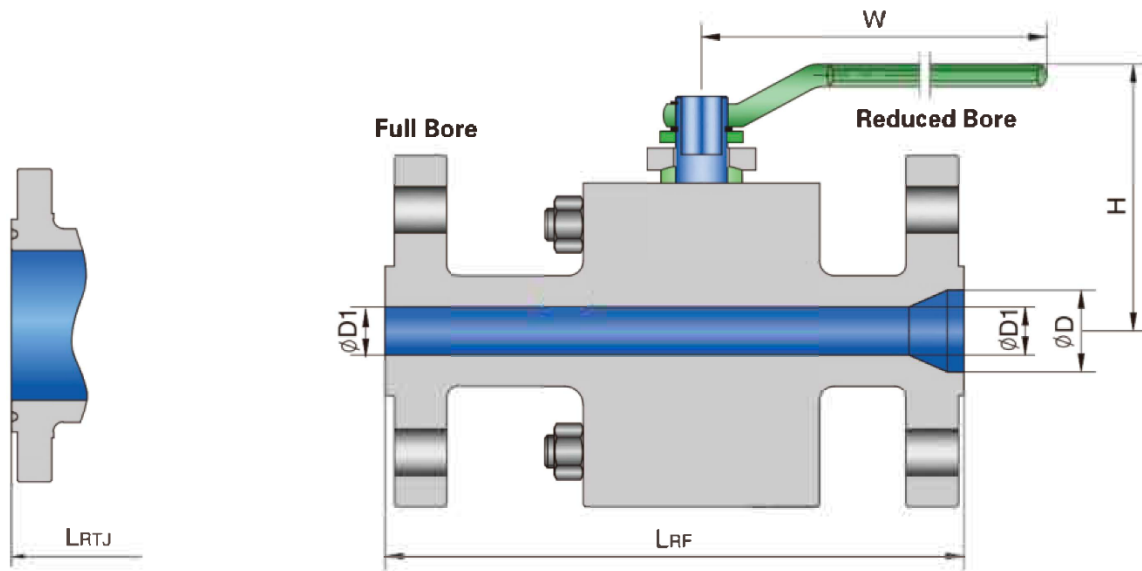


## CM Series Floating Ball Valve – Full Bore Class 150 and Class 300 - Dimensions and Weights



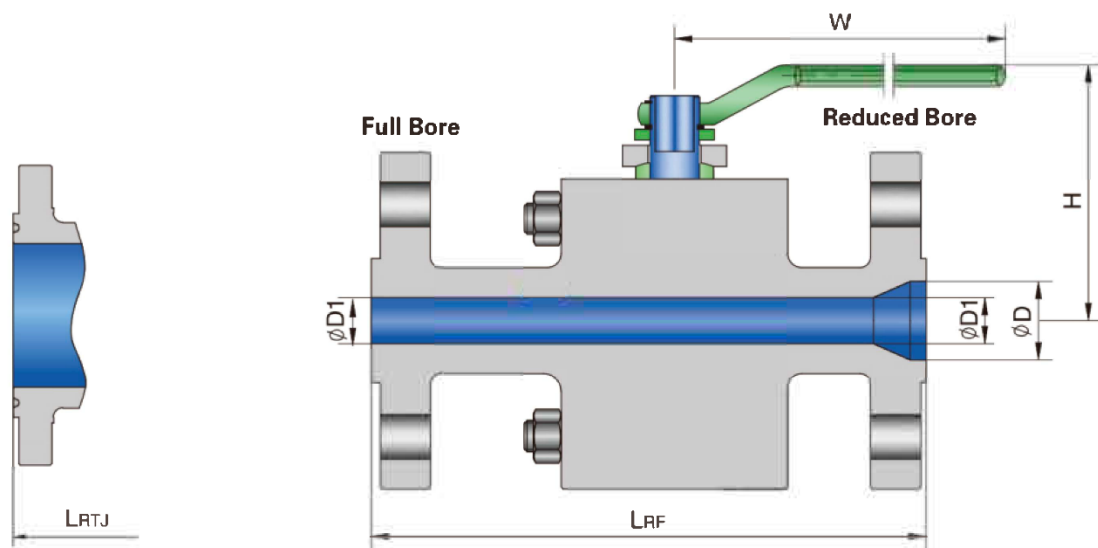
Class	Size		$\varnothing D$ (mm)	$\varnothing D1$ (mm)	L (mm)		W (mm)	H (mm)	Weight	
	NPS	DN			RF	RTJ			Lb	Kg
Class 150	1	25	25	25	127	140	200	111	10.1	4.6
	1.5	40	38	38	165	178	260	130	15.9	7.2
	2	50	49	49	178	191	260	160	24.2	11
	3	80	74	74	203	216	400	184	50.6	23
	4	100	100	100	229	242	700	203	83.6	38
	6	150	150	150	394	407	800	272	220	100
Class 300	1	25	25	25	165	178	200	111	13.2	6.0
	1.5	40	38	38	190	203	260	130	25.3	11.5
	2	50	49	49	216	232	260	160	31.9	14.5
	3	80	74	74	282	298	400	184	74.8	34
	4	100	100	100	305	321	700	203	132	60

## CM Series Floating Ball Valve – Reduced Bore Class 150 and Class 300 - Dimensions and Weights



Class	Size		$\varnothing D$ (mm)	$\varnothing D1$ (mm)	L (mm)		W (mm)	H (mm)	Weight	
	NPS	DN			RF	RTJ			Lb	Kg
Class 150	1	25	25	19	127	140	200	108	7.9	3.6
	1.5	40	38	32	165	178	200	111	12.1	5.5
	2	50	49	38	178	191	264	130	18.7	8.5
	3	80	74	49	203	216	260	160	41.8	19
	4	100	100	74	229	242	40	184	63.8	29
	6	150	150	100	394	407	700	203	154	70
Class 300	1	25	25	19	165	178	200	108	11	5.0
	1.5	40	38	32	190	203	200	11	20.3	9.2
	2	50	49	38	216	232	260	130	28.6	13
	3	80	74	49	282	298	260	160	59.4	27
	4	100	100	74	305	321	400	184	99	45
	6	150	150	100	403	419	700	203	176	80

## CM Series Floating Ball Valve – Full Bore Class 600 through Class 2500- Dimensions and Weights



Class	Size		ØD (mm)	ØD1 (mm)	L (mm)		W (mm)	H (mm)	Weight	
	NPS	DN			RF	RTJ			Lb	Kg
Class 600	1	25	25	25	216	216	200	110	17.6	8.0
	1.5	40	38	38	241	241	260	130	35.3	16
	2	50	49	49	292	298	360	140	48.5	22
	3	80	74	74	356	359	450	185	99.2	45
Class 900/1500	1	25	25	25	254	254	260	125	38.6	17.5
	1.5	40	38	38	305	305	360	158	63.4	29
	2	50	49	49	368	371	360	165	83.8	38
Class 2500	1	25	25	25	308	308	260	125	44	20

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**Head Office**

1107 8A Street  
Nisku, Alberta  
T9E 7R3  
Canada  
Office: 780.437.3055

Website: [cmcontrols.ca](http://cmcontrols.ca)

Email: [info@cmcontrols.ca](mailto:info@cmcontrols.ca)