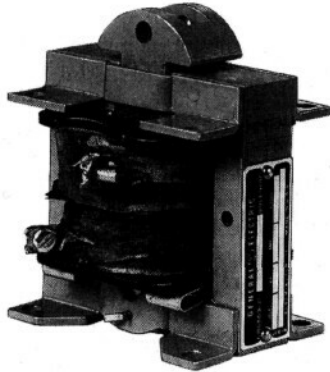


GE Industrial Solenoids

CR9503 Heavy-Duty Solenoids



Typical CR9503211E Industrial Solenoid

Application

Used to apply a mechanical force in a straight line, in a push or pull motion.

In applying solenoids, it is important that the load be kept as close to the recommended value as possible. If larger loads are used, action will be sluggish, and there will not be enough margin of pull to compensate for line-voltage variations, so that burned-out coils may result. If too light a load is used, the excess energy results in excessive hammer blows on the solenoid and reduces its life.

Ordering Directions

Order a solenoid by complete Catalog Number. Example: CR9503211EAB272 at \$266.00, GO-10G7.

AC Solenoids Ratings (Maximum Ambient Temperature 40°C)

Max. Stroke in Inches	Recommended Load in Lbs.				Gross Load at Rated Voltage in Lbs.				Weight of Plunger in Lbs.		Pull Type		Push Type			
	Exclusive of Plunger Weight)	For Operation with Gravity (Weight of Plunger Added)		For Operation Against Gravity (Less Plunger Weight)		Exclusive of Plunger Weight	For Operation with Gravity (Weight of Plunger Added)				For Operation Against Gravity (Less Plunger Weight)	Catalog Number CR9503	List Price, GO-10G7	Catalog Number CR9503	List Price, GO-10G7	
		Pull	Push	Pull	Push		Pull	Push	Pull	Push						
3/4	0.65	0.77	—	0.53	—	0.90	1.02	—	0.78	—	0.12	—	207EAB*	\$ 60.00	—	—
1	0.90	1.08	—	0.72	—	1.30	1.48	—	1.12	—	0.18	—	208DAB*	86.00	—	—
1	3.20	3.51	3.7	2.89	2.70	4.50	4.81	5.0	4.19	4.0	0.31	0.50	209CAB*	189.00	209CAC*	\$ 204.00
1 1/4	4.00	4.56	4.8	3.44	3.20	6.00	6.56	6.8	5.44	5.2	0.56	0.80	210CAB*	240.00	210CAC*	258.00
1	5.50	6.18	6.38	4.82	4.62	8.00	8.68	8.88	7.32	7.12	0.68	0.88	209MAB*	240.00	209MAF*	258.00
1 1/4	10.2	11.1	11.4	9.26	9.01	14.0	14.9	15.2	13.1	12.81	0.94	1.19	211EAB*	266.00	211EAC*	281.00
1 3/4	22.7	25.1	26.1	20.3	19.3	30.0	32.4	33.4	27.6	26.6	2.44	3.38	206BAB*	387.00	206BAC*	423.00
2	21.7	25.0	26.5	18.5	17.0	30.2	33.5	35.0	27.0	25.5	3.25	4.75	212BAB*	516.00	212BAF*	546.00
2	42.0	47.4	49.1	36.6	34.9	64.0	69.4	71.1	58.6	56.9	5.44	7.12	213CAB*	618.00	213CAF*	660.00
3	51.0	61.0	67.0	41.0	35.0	73.0	83.0	89.0	63.0	57.0	10.0	16.0	214BAB*	975.00	214BAF*	1002.00
3	70.0	83.0	89.0	57.0	51.0	97.0	110	116	84.0	78.0	13.0	19.0	215CAB*	1149.00	215CAF*	1206.00

* Insert three-digit suffix from table below to complete the catalog number.

Coil Suffix Table—AC Solenoids

Voltage	Size of Solenoid CR9503										
	206B	207E	208D	209C	209M	210C	211E	212B	213C	214B	215C
60 Hertz	202	202	202	202	204	201	271	207	204	213	212
110	202	202	202	202	204	201	271	207	204	213	212
120	349	—	377	289	232	260	499	293	254	247	307
200	334	—	251	293	233	—	513	298	236	—	310
220	201	203	203	201	234	202	272	201	201	209	245
240	263	—	384	529	—	240	509	265	247	252	265
380	442	—	—	557	—	—	593	299	312	249	292
400	409	—	—	531	—	287	559	297	—	242	—
440	203	204	204	204	235	203	273	205	203	210	246
480	348	—	494	502	296	237	523	285	309	243	274
500	453	—	412	523	237	—	514	—	234	241	224
550	204	205	205	226	238	204	274	206	205	211	247

Coil Rating in Voltamperes

Size of Solenoid CR9503	60 Hertz	
	Max. Stroke (Inrush)	Min. Stroke (Holding)
206B	5450	390
207E	110	25
208D	210	35
209C	500	55
209M	750	85
211E	1970	165
212B	6900	510
213C	12600	715
214B	24200	1290
215C	31200	1760

Reference: (CR9503)
Renewal parts GEF-4245



GE Industrial Solenoids

CR9503 Heavy-Duty Solenoids

Technical Information

CR9503 Solenoids—AC Devices (Maximum Ambient Temperature 40°C)

Pull Type	Push Type	Max. Stroke in Inches	Recommended Load in Lbs.				Gross Pull or Push at Rated Voltage in Lbs.				Weight of Plunger in Lbs.		Approx. Shipping Weight in Lbs.		
			Exclusive of Plunger Weight	For Operation with Gravity (Weight of Plunger Added)		For Operation Against Gravity (Less Plunger Weight)		Exclusive of Plunger Weight	For Operation with Gravity (Weight of Plunger Added)					For Operation Against Gravity (Less Plunger Weight)	
				Pull Type	Push Type	Pull Type	Push Type		Pull Type	Push Type	Pull Type	Push Type		Pull Type	Push Type
207EAB*	—	3/4	0.65	0.77	—	.53	—	0.9	1.02	—	.78	—	0.12	—	2
208DAB*	—	1	0.9	1.08	—	.72	—	1.3	1.48	—	1.12	—	0.18	—	2
209CAB*	209CAC*	1	3.2	3.51	3.7	2.89	2.7	4.5	4.81	5.0	4.19	4.0	0.31	0.5	2 1/2
210CAB*	210CAC*	1 1/4	4.0	4.56	4.8	3.44	3.2	6.0	6.56	6.8	5.44	5.2	0.56	0.8	4 1/2
209MAB*	209MAF*	1	5.5	6.18	6.38	4.82	4.62	8.0	8.68	8.88	7.32	7.12	0.68	0.88	4 1/2
211EAB*	211EAC*	1 1/4	10.2	11.14	11.39	9.26	9.01	14.0	14.94	15.19	13.06	12.81	0.94	1.19	7 1/2
206BAB*	206BAC*	1 3/4	22.7	25.1	26.1	20.3	19.3	30.0	32.4	33.4	27.6	26.6	2.44	3.38	14
212BAB*	212BAF*	2	21.7	25.0	26.5	18.5	17.0	30.2	33.5	35.0	27.0	25.5	3.25	4.75	24
213CAB*	213CAF*	2	42.0	47.4	49.1	36.6	34.9	64.0	69.4	71.1	58.6	56.9	5.44	7.12	31
214BAB*	214BAF*	3	51.0	61.0	67.0	41.0	35.0	73.0	83.0	89.0	63.0	57.0	10.0	16.0	67
215CAB*	215CAF*	3	70.0	83.0	89.0	57.0	51.0	97.0	110.0	116.0	84.0	78.0	13.0	19.0	90

Maximum Duty Cycle (Operations per Minute)

The adjoining table gives typical maximum operating speeds for the 60 Hertz ac solenoids listed. The ratings are based on operation at rated voltage with the recommended load shown in the table.

CR9503 Solenoid	60 Hertz, Alternating Current									
	Recommended Load in Lbs.	25 Percent Time On			50 Percent Time On			75 Percent Time On		
		Percent Stroke			Percent Stroke			Percent Stroke		
		50	75	100	50	75	100	50	75	100
	No. of Operations per Minute									
206B	22.7	58	24	11.5	42	18	10	18	12	6.5
207E	0.65	220	100	39	160	67	28	115	41	19
208D	0.9	150	71	25	130	58	20	78	36	15
209C	3.2	85	42	19	68	37	17	62	33	15
209M	5.5	85	42	19	68	37	17	62	33	15
211E	10.2	70	31.5	13.5	60	27	12	50	22	11
212B	21.7	65	29	14	51	24	11.5	40	21.4	9
213C	42.0	54	22	12	45	19	9	36	14.5	6
214B	51.0	45	27	13	35	20	9	25	13	6
215C	70.0	40	25	13	26	15	9	18	10	6

DC Solenoids

Ratings (Maximum Ambient Temperature 40°C)

Max. Stroke in Inches	Recommended Load in Lbs.				Gross Load at Rated Voltage in Lbs.				Weight of Plunger in Lbs.		Pull Type		Push Type			
	Exclusive of Plunger Weight	For Operation with Gravity (Weight of Plunger Added)		For Operation Against Gravity (Less Plunger Weight)		Exclusive of Plunger Weight	For Operation with Gravity (Weight of Plunger Added)				For Operation Against Gravity (Less Plunger Weight)		Catalog Number CR9503	List Price, GO-10G7	Catalog Number CR9503	List Price, GO-10G7
		Pull	Push	Pull	Push		Pull	Push	Pull	Push	Pull	Push				
1	3.10	3.41	3.60	2.79	2.60	5.20	5.51	5.70	4.89	4.70	0.31	0.50	209CAN†	258.00Ⓢ	209CAO†	273.00Ⓢ
1 1/4	12.0	12.9	13.2	11.1	10.8	17.0	17.9	18.2	16.1	15.8	0.94	1.19	211EBF†	348.00	211EBG†	357.00
1 3/4	36.0	38.4	39.4	33.6	32.6	50.0	52.4	53.4	47.6	46.6	2.44	3.38	206BAF†	480.00	206BAG†	501.00
2	43.0	46.3	47.8	39.8	38.3	57.0	60.3	61.8	53.8	52.3	3.25	4.75	212BAF†	597.00	212BAU†	624.00
2	42.0	47.4	49.1	36.6	34.9	58.0	63.4	65.1	52.6	50.9	5.44	7.12	213CAST	705.00	213CAT†	744.00
3	35.0	45.0	51.0	25.0	19.0	50.0	60.0	66.0	40.0	34.0	10.0	16.0	214BAST	1068.00	214BAT†	1125.00
3	59.0	72.0	78.0	46.0	40.0	81.0	94.0	100.0	68.0	62.0	13.0	19.0	215CAST	1254.00	215CAT†	1308.00

† Insert one-, two-, or three-digit number from DC Coil Suffix table below. Use with dc forms only.

Ⓢ Price for 440 Volt and 550 Volt forms is \$291.00 each, GO-10G7.

Ⓢ Price for 440 Volt and 550 Volt forms is \$306.00 each, GO-10G7.

† Coil Suffix Table—DC Solenoids

Voltage DC	Size of Solenoids CR9503						
	206B	209C	211E	212B	213C	214B	215C
110	48	93	141	—	—	—	22
125	1	5	10	3	2	2	2
230	44	104	110	37	24	—	23
250	2	1	1	1	1	1	1
440	43	—	84	—	—	—	—
550	3	34Ⓢ	9	4	3	—	20
115/125	62	131	138	—	—	—	—
230/250	63	132	139	—	—	—	—

Ⓢ Requires a 4000-ohm, 100-watt resistor mounted in series.

Reference: (CR9503)

Renewal parts GEF-4245

10 SPECIALTY CONTROL DEVICES