

cemp

Flameproof
Motors



Ex nA

TCN IE3 Motor Range



A Regal Brand

REGAL

TCN SERIES

To norms IEC 60079-0, -15

IEC 60034, IEC 60072

Ex nA

ATEX

3G Category

IEC Ex certified

C00 Europe Available

Cast Iron

Group IIB, IIC

Temperature Class T3

Protection IP55, IP56, IP65, IP66

Frame size from 80 to 355 (IEC)

Power from 0,75 to 375 kW

Pole 2, 4, 6, 8



Ventilated & with forced ventilation

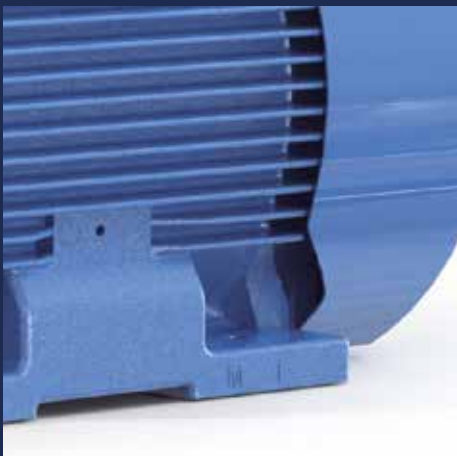
TECHNICAL FEATURES

- Three-phase squirrel cage asynchronous motors
- Totally enclosed fan cooled, IP55 (TEFC) - IE3 efficiency
- Motor dimensions compliant with IEC 60072 standard
- Multi-voltage power supply
- Class F insulation
- PTC thermistors
- Terminal box designed to be rotated by 90° in 4 different positions
- High corrosion protection:
 - internal anti-rust coating and external paint coating for industrial environment
 - stainless steel nameplate
 - anti corrosion plated fasteners
- Steel fan cover
- Standard motors equipped with radial deep groove open ball bearings
- Low friction dust seals
- Life lubricated ball bearings or greasing nipples
- Inverter Duty

cemp

marathonTM
Motors

								IEC60034 IEC60079	
3~ Motor Type TCN 225M 2									
S.No. 1600934001		IP55	Ins. CLF	IC411	Ta-20/+40°C		Duty S1		
V	Conn	Hz	kW	A	rpm	cosφ	Eff	IM	B3
400	D	50	45.0	77.90	2976	0.89	IE3-94.0		
690	Y	50		45.03			IE3-94.0		
 II3G ExnA IIC T3 Gc DEMKO 15 ATEX 1627									
Bearings DE 6313 C3 / NDE 6213 C3								YOM 16	
Relub h2000 g24								389 Kg	
		Manufacturer Cemp S.r.l. 20030 SENAGO (Milan) - ITALY							



MECHANICAL

- PROTECTION IP55, IP56, IP65, IP66
- LOW TEMPERATURE (-60°C)
- SPECIAL FLANGES AND SHAFTS
- LOCKED, ROLLER OR SPECIAL BEARINGS
- SPM PROBE (VIBRATIONS MEASUREMENT)
- DOUBLE ENDED SHAFTS
- CABLE GLAND FITTED TO TERMINAL BOX
- CONDENSATION DRAIN HOLES
- GRADE A OR B BALANCING
- RAIN CAP OR SUN SHIELD
- WATER PROTECTION DISK
- AUXILIARY TERMINAL BOX

ELECTRICAL

- SPECIAL VOLTAGES UP TO 1000V
- SPECIAL FREQUENCIES
- THERMISTORS (PTC)
- RESISTORS (PT100)
- ANTI-CONDENSATION HEATERS
- TROPICALIZED WINDINGS
- ELECTRICAL SPECIAL DESIGNS
- CLASS H INSULATION
- THREE PHASE 2 SPEEDS

ACCESSORIES

- SUITABLE FOR FREQUENCY CONVERTER DRIVES
- FORCED VENTILATION (IC416)
- ENCODERS (100 - 10000 PPR)
- BEARING SENSORS
- SUITABLE FOR AC DRIVES

MAIN OPTIONS

TECHNICAL DATA - 2 POLE MOTORS

TYPE	FRAME SIZE	NOMINAL OUTPUT 50Hz	SPEED 50Hz	400V	POWER FACTOR 50Hz	EFFICIENCY %	RATED TORQUE 50Hz	STARTING CURRENT	STARTING TORQUE	B/DOWN TORQUE	MOMENT OF INERTIA	WEIGHT
		kW	rpm	A	cosΦ	η	Nm	Ia/In	Ma/Mn	Ia/In	Kgm ²	Kg
3000/3600rpm, 2-pole, 50/60Hz, IP55, Insulation F/B												
TCN 80MA02	80M	0.75	2882	1.59	0.83	81.4	2.47	7.0	3.1	3.4	0.0012	18.7
TCN 80MB02	80M	1.1	2883	2.31	0.83	83.0	3.70	7.6	3.5	3.5	0.0014	19.8
TCN 90S02	90S	1.5	2901	3.04	0.84	84.8	4.91	7.8	3.5	3.6	0.0020	25.6
TCN 90L02	90L	2.2	2901	4.33	0.85	86.2	7.36	8.4	3.6	3.6	0.0025	28.7
TCN 100LA02	100L	3	2906	5.73	0.87	87.2	9.80	8.4	3.6	3.9	0.0037	39.3
TCN 112M02	112M	4	2918	7.27	0.90	88.1	13.4	8.4	2.5	3.5	0.0089	44.7
TCN 132SA02	132S	5.5	2941	10.2	0.87	89.2	18.2	8.1	2.4	3.5	0.0169	70.9
TCN 132SB02	132S	7.5	2938	13.5	0.89	90.1	24.2	8.2	2.5	3.5	0.0196	77.3
TCN 160MB02	160M	11	2956	19.9	0.87	91.2	36.1	7.9	2.3	3.6	0.0640	135
TCN 160MC02	160M	15	2955	26.4	0.89	91.9	48.2	8.2	2.4	3.5	0.0784	150
TCN 160LA02	160L	18.5	2954	32.0	0.90	92.4	60.3	8.2	2.4	3.5	0.0917	163
TCN 180M02	180M	22	2963	38.7	0.88	92.7	72.1	7.8	2.1	3.4	0.1470	211
TCN 200LA02	200L	30	2973	54.3	0.85	93.3	95.8	7.5	2.1	3.3	0.2356	272
TCN 200LB02	200L	37	2973	65.5	0.87	93.7	120	7.4	2.1	3.1	0.2742	291
TCN 225MA02	225M	45	2976	77.9	0.89	94.0	144	7.2	1.7	3.1	0.4032	379
TCN 250MA02	250M	55	2980	93.3	0.90	94.3	179	7.5	1.8	3.2	0.6618	492
TCN 280S02	280S	75	2982	126	0.90	94.8	239	7.5	1.8	3.2	1.0851	698
TCN 280MA02	280M	90	2981	151	0.91	95.0	287	7.3	1.8	3.0	1.1746	718
TCN 315S02	315S	110	2983	186	0.89	95.3	358	6.9	1.7	3.0	2.1990	963
TCN 315MB02	315M	132	2983	224	0.89	95.5	418	7.1	1.8	3.1	2.3779	1007
TCN 315LA02	315L	160	2983	270	0.89	95.7	513	7.1	1.8	3.1	2.6217	1065
TCN 315LC02	315L	200	2984	339	0.89	95.8	644	7.1	1.9	3.1	2.9086	1180
TCN 355M02	355M	250	2983	420	0.90	95.8	800	6.8	1.7	2.8	3.8130	1612
TCN 355LB02	355L	315	2983	526	0.90	95.8	1014	6.9	1.8	2.8	4.5200	1771
TCN 355LC02	355L	355	2986	595	0.90	95.8	1133	7.9	2.2	3.2	5.5809	2002

TECHNICAL DATA - 4 POLE MOTORS

TYPE	FRAME SIZE	NOMINAL OUTPUT 50Hz	SPEED 50Hz	400V	POWER FACTOR 50Hz	EFFICIENCY %	RATED TORQUE 50Hz	STARTING CURRENT	STARTING TORQUE	B/DOWN TORQUE	MOMENT OF INERTIA	WEIGHT
		kW	rpm	A	cosΦ	η	Nm	Ia/In	Ma/Mn	Ia/In	Kgm ²	Kg
1500/1800rpm, 4-pole, 50/60Hz, IP55, Insulation F/B												
TCN 80MB04	80M	0.75	1441	1.70	0.77	82.9	4.94	6.3	2.8	2.8	0.0022	22.5
TCN 90S04	90S	1.1	1450	2.42	0.78	84.5	7.36	7.2	3.0	3.4	0.0036	27.3
TCN 90L04	90L	1.5	1449	3.23	0.78	85.6	9.83	7.4	3.2	3.5	0.0043	29.8
TCN 100LA04	100L	2.2	1462	4.51	0.81	86.9	14.6	8.0	2.7	3.2	0.0113	39.7
TCN 100LB04	100L	3	1460	5.97	0.83	87.8	19.5	8.1	2.9	3.3	0.0130	43.9
TCN 112MB04	112M	4	1459	7.94	0.82	88.7	26.9	8.0	2.7	3.1	0.0194	52.3
TCN 132S04	132S	5.5	1470	10.8	0.82	89.6	36.4	6.9	2.2	2.8	0.0428	80.9
TCN 132M04	132M	7.5	1467	14.4	0.83	90.4	48.6	6.8	2.3	2.7	0.0493	88.7
TCN 160MB04	160M	11	1476	20.7	0.84	91.4	72.4	7.3	2.4	3.2	0.1289	150
TCN 160LA04	160L	15	1476	27.8	0.85	92.1	96.5	7.5	2.5	3.2	0.1603	170
TCN 180M04	180M	18.5	1477	35.0	0.83	92.6	121	7.1	2.2	3.1	0.2030	206
TCN 180LA04	180L	22	1478	41.6	0.82	93.0	145	7.5	2.4	3.3	0.2323	222
TCN 200LA04	200L	30	1482	54.2	0.85	93.6	192	8.0	2.6	3.1	0.4814	282
TCN 225S04	225S	37	1483	67.2	0.85	93.9	240	7.1	2.2	2.8	0.6189	354
TCN 225MA04	225M	45	1484	80.7	0.85	94.2	288	7.5	2.4	2.9	0.7446	389
TCN 250MA04	250M	55	1488	97.7	0.86	94.6	359	7.1	2.0	3.1	1.4804	517
TCN 280S04	280S	75	1489	130	0.87	95.0	478	6.3	2.1	2.5	2.3240	722
TCN 280MA04	280M	90	1489	155	0.88	95.2	574	6.1	2.0	2.4	4.5070	783
TCN 315S04	315S	110	1489	194	0.86	95.5	717	7.1	2.0	3.1	3.4650	867
TCN 315MB04	315M	132	1489	231	0.86	95.6	837	7.3	2.1	3.1	3.9660	993
TCN 315LA04	315L	160	1489	275	0.88	95.9	1028	7.3	2.2	3.1	4.8832	1165
TCN 315LC04	315L	200	1489	345	0.87	96.0	1291	7.2	2.2	3.0	5.2344	1223
TCN 355M04	355M	250	1491	424	0.89	96.0	1600	7.1	1.9	2.5	9.3060	1692
TCN 355LB04	355L	315	1491	529	0.90	96.0	2030	7.1	1.9	2.4	18.067	1879
TCN 355LC04	355L	355	1491	598	0.89	96.0	2268	7.1	2.0	2.3	11.900	1953

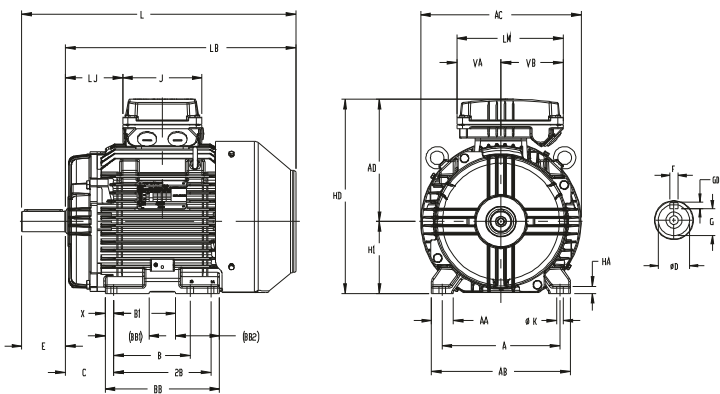
TECHNICAL DATA - 6 POLE MOTORS

TYPE	FRAME SIZE	NOMINAL OUTPUT 50Hz	SPEED 50Hz	400V	POWER FACTOR 50Hz	EFFICIENCY %	RATED TORQUE 50Hz	STARTING CURRENT	STARTING TORQUE	B/DOWN TORQUE	MOMENT OF INERTIA	WEIGHT
		kW	rpm	A	cosΦ	η	Nm	Ia/In	Ma/Mn	Ia/In	Kgm ²	Kg
1000/1200rpm, 6-pole, 50/60Hz, IP55, Insulation F/B												
TCN 90S06	90S	0.75	953	2.00	0.69	78.9	7.47	5.6	3.2	3.4	0.0042	28.0
TCN 90L06	90L	1.1	947	2.84	0.69	81.0	11.3	5.4	3.2	3.2	0.0047	29.7
TCN 100L06	100L	1.5	972	3.62	0.72	82.5	14.7	6.6	2.6	3.1	0.0153	37.8
TCN 112M06	112M	2.2	963	5.04	0.75	84.3	22.2	6.5	2.7	3.0	0.0168	48.2
TCN 132SA06	132S	3	973	6.60	0.77	85.6	29.3	5.6	1.9	2.4	0.0413	66.3
TCN 132MA06	132M	4	975	8.68	0.77	86.8	40.2	6.0	2.1	2.6	0.0542	75.9
TCN 132MB06	132M	5.5	975	11.8	0.77	88.0	54.9	6.2	2.2	2.7	0.0610	86.0
TCN 160M06	160M	7.5	978	14.9	0.82	89.1	72.8	5.6	1.8	2.4	0.2077	140
TCN 160LB06	160L	11	980	21.9	0.80	90.3	109	6.1	2.1	2.7	0.1548	163
TCN 180LA06	180L	15	984	30.3	0.78	91.2	145	6.9	2.4	2.9	0.3370	222
TCN 200LA06	200L	18.5	986	36.6	0.80	91.7	181	6.3	2.1	2.6	0.5810	262
TCN 200LB06	200L	22	985	43.0	0.80	92.2	217	6.1	2.1	2.5	0.6381	275
TCN 225MA06	225M	30	987	55.9	0.83	92.9	289	6.8	2.1	2.8	1.0179	374
TCN 250MA06	250M	37	987	68.4	0.84	93.3	361	6.6	2.2	2.7	1.8915	490
TCN 280S06	280S	45	989	84.1	0.82	93.7	432	6.0	1.7	2.5	2.2340	599
TCN 280MA06	280M	55	989	101	0.84	94.1	533	6.0	1.8	2.4	2.7010	648
TCN 315S06	315S	75	991	139	0.82	94.6	720	6.0	1.8	2.4	3.8280	812
TCN 315MA06	315M	90	992	168	0.82	95.0	864	6.1	1.9	2.4	4.4480	877
TCN 315LA06	315L	110	992	203	0.82	95.3	1080	6.4	2.0	2.5	5.4100	973
TCN 315LC06	315L	132	992	244	0.82	95.5	1258	6.5	2.1	2.5	6.4560	1121
TCN 355MA06	355M	160	992	287	0.84	95.8	1543	6.6	2.0	2.7	9.5950	1577
TCN 355MB06	355M	200	992	359	0.84	95.8	1938	6.8	2.1	2.7	11.214	1710
TCN 355LB06	355L	250	992	446	0.84	95.8	2404	6.9	2.2	2.7	13.263	1875

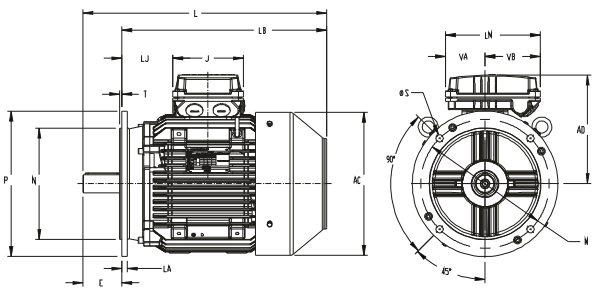
TECHNICAL DATA - 8 POLE MOTORS

TYPE	FRAME SIZE	NOMINAL OUTPUT 50Hz	SPEED 50Hz	400V	POWER FACTOR 50Hz	EFFICIENCY %	RATED TORQUE 50Hz	STARTING CURRENT	STARTING TORQUE	B/DOWN TORQUE	MOMENT OF INERTIA	WEIGHT
		kW	rpm	A	cosΦ	η	Nm	Ia/In	Ma/Mn	Ia/In	Kgm ²	Kg
750/900rpm, 8-pole, 50/60Hz, IP55, Insulation F/B												
TCN 100LA08	100L	0.75	721	2.06	0.70	75.0	9.88	5.1	1.9	2.7	0.0136	34.8
TCN 100LB08	100L	1.1	719	2.88	0.71	77.7	14.9	5.0	1.9	2.6	0.0161	37.9
TCN 112M08	112M	1.5	710	3.74	0.73	79.7	20.1	5.0	1.8	2.3	0.0315	51.6
TCN 132S08	132S	2.2	725	5.38	0.72	81.9	29.5	5.0	1.8	2.3	0.0603	82.1
TCN 132M08	132M	3	725	7.19	0.72	83.6	39.4	5.0	1.8	2.3	0.0716	93.4
TCN 160MB08	160M	4	730	9.45	0.72	85.0	53.8	5.3	1.7	2.3	0.1290	127
TCN 160MC08	160M	5.5	730	12.6	0.73	86.5	73.4	5.3	1.7	2.3	0.1640	143
TCN 160L08	160L	7.5	728	16.7	0.74	87.8	98.0	5.4	1.8	2.2	0.1990	159
TCN 180LA08	180L	11	730	23.7	0.75	89.3	147	6.4	1.7	2.6	0.3250	211
TCN 200LA08	200L	15	739	32.9	0.73	90.4	193	5.5	1.9	2.5	0.7390	285
TCN 225S08	225S	18.5	738	37.1	0.79	91.1	241	5.2	1.7	2.2	0.8750	342
TCN 225MA08	225M	22	738	43.4	0.80	91.5	290	5.2	1.7	2.2	1.0380	373
TCN 250MA08	250M	30	739	58.0	0.81	92.4	386	5.3	1.8	2.2	2.1990	551
TCN 280S08	280S	37	742	71.9	0.80	92.9	480	5.8	1.8	2.2	3.4620	702
TCN 280M08	280M	45	742	87.4	0.80	93.5	576	5.6	1.8	2.2	3.7390	733
TCN 315SA08	315S	55	742	115	0.75	92.5	720	5.2	1.7	2.2	3.8320	786
TCN 315SB08	315S	75	743	154	0.75	93.1	960	5.3	1.8	2.2	4.8690	886
TCN 315SC08	315S	90	743	184	0.76	93.4	1151	5.4	1.9	2.2	5.7120	1020
TCN 355MA08	355M	110	743	206	0.82	93.7	1439	6.1	1.4	2.4	8.0510	1428
TCN 355MB08	355M	132	742	242	0.84	94.0	1679	5.9	1.4	2.3	8.4710	1516
TCN 355MC08	355M	150	742	274	0.84	94.2	1920	5.9	1.4	2.3	10.163	1605
TCN 355MD08	355M	160	742	292	0.84	94.3	2444	6.2	1.5	2.3	10.826	1658
TCN 355ME08	355M	185	742	335	0.84	94.5	2399	6.1	1.5	2.3	12.381	1787
TCN 355LA08	355L	200	742	361	0.85	94.6	2591	6.3	1.6	2.4	13.491	1873
TCN 355LB08	355L	220	743	397	0.85	94.6	2878	6.5	1.6	2.4	15.045	1998

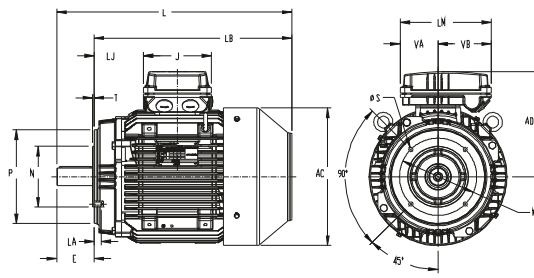
FRAME 80-160 B3 MOUNTING



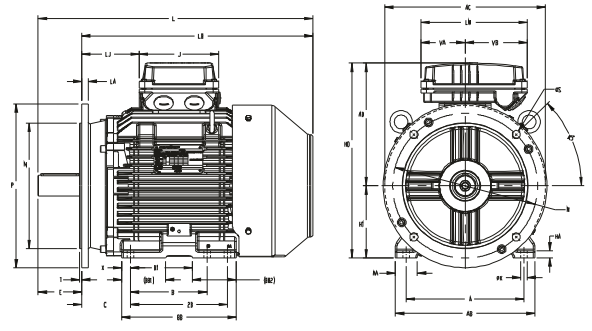
FRAME 80-160 B5 MOUNTING



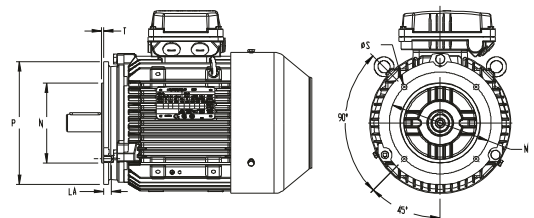
FRAME 80-132 - B14A MOUNTING



FRAME 80-160 B3/B5 MOUNTING



FRAME 80-112 B14B MOUNTING



DIMENSIONS

FRAME	A	AA	AB	AC	AD	BB	B	2B	(B1)	(B11)	(BB2)	C	X	L	LB	LJ	J	LM	VA	VB
80M	125	30	152	182	160	125	100	-	75	35	35	50	12.5	282	242	39	122	157	67	90
90S/L	140	35	165	199	168	150	100	125	79	59	59	56	12.5	332	282	58	122	157	67	90
100L	160	32	192	229	182	170	140	-	120	50	50	63	15	398	338	72	122	157	67	90
112M	190	38	222	256	202	170	140	-	114	56	56	70	15	399	339	67	146	195	81	114
132S/M	216	40	255	295	224	210	140	178	130	81	81	89	16	503	423	105	146	195	81	136
160M/L	254	65	315	353	264	294	210	254	177	97	97	108	20	660	550	150	171	230	94	136
180M/L	279	75	354	399	278	360	241	279	207	98	136	121	17	742	632	103	171	230	94	140
200L	318	80	398	446	315	361	305	-	213	115	125	133	23	774	664	90	202	241	114	127
225S/M 2p	356	90	446	491	350	405	286	311	220	114	139	161.5	47	832	722	94	202	241	114	127
225S/M 4-8p	398	90	446	491	350	405	286	311	220	114	139	161.5	47	862	722	94	202	241	114	127
250S/M 2p	406	100	506	542	396	467	311	349	252	148	165	168	50	978	838	92	233	271	129	142
250S/M 4-8p	406	100	506	542	396	467	311	349	252	148	165	168	50	978	838	92	233	271	129	142
280S/M 2p	457	100	557	595	421	570	368	419	312	208	208	190	50.5	1151	1011	110	233	271	129	142
280S/M 4-8p	457	100	557	595	421	570	368	419	312	208	208	190	50.5	1151	1011	110	233	271	129	142
315S/M 2p	508	120	628	654	512	606	406	457	339	193	193	216	74.5	1174	1034	67	351	436	216	220
315S/M 4-8p	508	120	628	654	512	606	406	457	339	193	193	216	74.5	1204	1034	67	351	436	216	220
315L 2p	508	120	628	654	512	718	508	-	429	209	209	216	80	1287	1147	67	351	436	216	220
315L 4-8p	508	120	628	654	512	718	508	-	429	140	209	216	80	1317	1147	67	351	436	216	220
355M/L 2p	610	130	730	784	637	770	560	630	465	235	235	254	70	1533	1393	100	421	535	264	271
355M/L 4-8p	610	130	730	784	637	770	560	630	465	235	235	254	70	1533	1393	100	421	535	264	271

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Flameproof
Motors

HEADQUARTER

Cemp srl

Via Piemonte 16
20030 Senago (Milano) - Italy
Phone +39 029443540 1
Fax +39 029989177
info@cemp.eu

BRANCHES

Germany

Dr. Atzinger-Strasse 5
94036 Passau - Germany
Phone +49 (0)8519662320
Fax +49 (0)85196623213
cemp-deutschland@cemp.eu

OFFICES

France

14 rue des Cours Neuves,
77135 Pontcarré - France
Phone +33 (0)164668736
Fax +33 (0)164660582
cemp-france@cemp.eu

Dubai

GT3, Office 001
Jebel Ali Free Zone - Dubai - UAE
Phone +971 48812666
Fax +971 48812662
cemp-uae@cemp.eu

www.cemp.eu

A Regal Brand

The logo for Regal, featuring the word "REGAL" in a bold, italicized, sans-serif font, set against a dark grey trapezoidal background.

www.regalbeloit.com