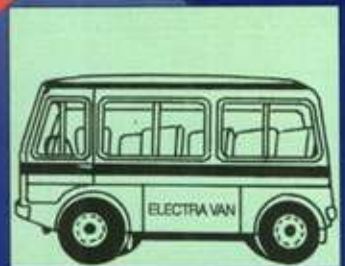


RICO

HIGH PERFORMANCE MOTIVE POWER PACK OF

21^{st.} CENTURY



RICO

THE ENERGY EXPERT



TECHNICAL DETAILS

RICO HIGH PERFORMANCE-LOW MAINTENANCE (HP-LM) MOTIVE POWER (TRACTION) DUTY CELLS

RICO HP-LM Cell Type	Nominal AH (C-5) Rating (IS-5154)	Cell Dimns. in mm with usual Fabricating Tolerance			Cell Wt. Dry (KG)	Acid required per cell (litrs) (Sp. Gr. 1.240)	Max. Taper charging (single step charger)			Initial & Equalising rate (Amps)
		L ±1	W ±1	H ±5			at 2.1 vpc at 2.5 vpc			
							Taper 2:1 AMPS	Taper 1.7 AMPS	AMPS	
RLF-7	82	64	159	300	5.5	1.0	14	12	5	2
RSF-7	115	64	159	365	7.2	1.3	19	16	8	3
RXF-7	145	64	159	440	8.2	1.7	24	21	10	4
RYF-7	168	64	159	495	9.3	1.8	28	24	11	4
RZF-7	196	64	159	540	10.8	2.1	32	28	13	5
RLF-9	108	79	159	300	7.1	1.3	18	15	7	3
RSF-9	150	79	159	365	8.7	1.7	25	21	10	4
RXF-9	195	79	159	440	10.5	2.2	32	28	13	5
RYF-9	222	79	159	495	12.3	2.6	37	32	15	6
RZF-9	262	79	159	540	13.7	2.9	43	37	17	7
RLF-11	134	94	160	300	8.6	1.4	22	19	9	3
RSF-11	195	94	160	365	10.0	1.9	32	27	13	5
RXF-11	245	94	160	440	13.6	2.5	40	34	16	6
RYF-11	279	94	160	495	15.0	2.9	46	40	18	7
RZF-11	330	94	160	540	16.8	3.4	55	46	22	8
RLF-13/15	160/190	111	161	300	10/11.6	1.9/2.0	27/32	23/27	11/17	4/5
RSF-13/15	230/265	111	161	365	12.5/14.3	2.6/2.8	38/44	33/38	15/18	6/7
RXF-13/15	290/340	111	161	440	15.5/18.1	3.2/3.5	48/57	41/49	19/23	7/8
RYF-13/15	335/390	111	161	495	18.1/20.8	3.6/4.0	56/65	48/56	22/26	8/10
RZF-13/15	390/455	111	161	540	19.5/22.7	4.5/4.8	65/76	56/65	26/30	10/11
RLF-17/19	215/245	144	160	300	13.1/14.4	9.5/2.6	36/41	31/35	14/16	5/6
RSF-17/19	300/340	144	160	365	16.6/18.2	3.3/3.6	50/57	43/49	20/23	7/8
RXF-17/19	390/440	144	160	440	21/23.4	4.3/4.6	65/73	56/63	26/29	10/11
RYF-17/19	445/500	144	160	495	24/26.8	4.9/5.2	74/83	39/42	18/20	11/12
RZF-17/19	520/585	144	160	540	26.2/28.8	5.6/6	87/98	54/59	25/28	13/15
RLF-21/23	270/295	176	159	300	16.4/18	2.7/3.3	45/49	70/73	33/35	7/7
RSF-21/23	380/415	176	159	365	21.2/23.2	4/4.3	63/69	79/87	37/41	9/10
RXF-21/23	490/530	176	159	440	25.2/28.2	5.2/5.7	82/88	3/101	43/47	12/13
RYF-21/23	555/610	176	159	495	29.6/31.7	5.9/6.5	92/102	93/101	43/47	14/15
RZF-21/23	650/715	176	159	540	32.2/34.7	7.3/7.6	108/118	93/101	43/47	16/18
RLF-25	325	208	159	300	19.6	3.5	54	46	22	8
RSF-25	460	208	159	365	25	4.9	77	66	31	11
RXF-25	580	208	159	440	31	6.3	97	83	39	14
RYF-25	668	208	159	495	34.8	7.2	111	95	45	17
RZF-25	780	208	159	540	38.2	8.6	130	111	52	19
TR-6/13	610	112	160	750	27	6.7	102	87	41	15
TR-6/17	810	145	160	750	36	9.3	135	116	54	20
TR-6/21	1030	177	160	750	44	10.8	172	147	69	26
TR-6/25	1225	210	160	750	52	13.2	204	175	82	31

RICO'S HP-LM Motive Power Battery Conforms to IS : 5154/1980



High Performance (HP)

Low- Maintenance (LM)

RICO'S HP-LM MOTIVE POWER BATTERY

SPECIAL FEATURES :

• Cell Sealing :

There is double sealing system in between cell-cover and box, all through 20mm depth overlapping cell cover side area. Lower portion by acid proof neoprene rubber and upper portion by high grade sealing compound, which has unique bonding character with acid-proof neoprene rubber. i.e. sealing thickness depth is about 20 mm and hence the sealing is absolute. There is no scope of joint-cracking problem like heat-sealed plastic cover. Time-Proven Zero failure double sealing system ensures total protection of cell from all possible leakage path - not only at initial service life but also at the end.

• Zero leakage path between M.S. crate/tank & cells :

Hollow (Air gap) insulator (6 to 20 mm thick) made of fire-proof rigid PVC are placed on all the adjacent sides and bottom of M.S. tank/crate to isolate cells from metallic contact by air gap. Such best (air-gap) insulation ensures Zero leakage voltage between cells and M.S. crate, even at the end service life of **RICO** battery.

• H.D. Poly-Ethelene Cell-box :

100% leak/crack proof and acid resistant HDPE cell-box is well tested in field over last 20 yrs. with zero failure record. Such specially designed HDPE cell-box has both acid resistant and electrical insulation properties along with very high impact resistant characteristic.

• H.D. Vent Plug with acid level indicator :

All **RICO** batteries are provided with H.D. Vent Plug with acid level indication float in each cell as per international practice. The truck operator or battery maintenance personnel can easily ascertain water pouring requirement to a particular/all cells at a glance and thus can ensure protection of cells from damage due to water hunting. It is very much useful in later half of service life of Motive Power Battery.

• Low-Maintenance character of RICO cells :

The cells are made with Hybrid Low maintenance metallurgical alloy of advanced technology (as per International Standard). The water dissociation problem is considerably reduced with use of such alloy in Motive Power Battery. Hence, water pouring requirement to **RICO** cells is much less compared to conventional battery. The fact was established when one leading FL Truck maker conducted comparative Test of **RICO** battery with other reputed make.

• Excellent HRD performance of RICO cell/batteries ensure mostly steady movement of vehicle during operation hrs :

High Rate Discharge performance of **RICO** cells is unusually high because of unique plate and grid system design and corrosion resistant highly conductive metallurgical alloy of advanced technology. Due to above HRD Performance terminal voltage of **RICO** battery does not drop beyond limit even if the battery is discharged to 90% DOD.

• Long Cycle Life :

The designed cycle-life of **RICO** (HP-LM) Motive Power Battery is about 1400 cycle at an average DOD level of 75%. One set **RICO** Motive Power Battery of 400V, 1200 AH & 112V, 515 AH is working in 64 tonner Tunnel Locomotive (BHEL make) at Metro (Underground) Railway, Calcutta since 1995 and working satisfactorily till date, i.e. August-2000.

• RICO - The established designer of Traction Battery for critical application :

Due to above superior technical parameters **RICO** is the leading name in Advance Technology Motive Power Battery, in particular, for its critical application area – Road EVs (Battery Driven Bus, Mini Bus, 3-Wheelers, etc.). **RICO** designed suitable Motive Power Battery for BHEL, Scooters India, Ashok Leyland, ER & DC (Govt. of India) etc. leading makers of road EVs in India.

RICO HP-LM MOTIVE POWER BATTERY

APPLICATION / REPLACEMENT CHART

	TRUCK MODEL	BATTERY TYPE	VOLT	AH CAP (C-5)	OVERALL DIMENSIONS		
					L (mm)	W (mm)	H (mm)
MACNEILL							
	RANGER 1010	24 RSF 17	48V	300 AH	902	718	435
	RANGER 1015	24 RXF 17	48V	385 AH	902	718	480
	RANGER 1020	24 RYF 17	48V	443 AH	902	718	518/525
		24 RZF 17	48V	516 AH	902	718	625
	RANGER 1025	36 RSF 17	72V	300 AH	1022	914	637
		36 RSF 17	72V	385 AH	1022	914	637
	RANGER 1030	36 RXF 17	72V	385 AH	1022	914	637
	TRANSLOADER (TL-2140)	2* 12 RSF 17	48V	300 AH	910	350	450
	TRANSLOADER (TL-2140)	24 RSF 17	48V	300 AH	997	730	435
	TOWMASTER (TM-2040)	24 RLF 13	48V	160 AH	1002	476	463
	HISTACK (HS-1010)	12 RSF 13	24V	224 AH	518	476	395
	HI-LIFT 1005/HI-STACK1110	12 RSF 13	24V	224 AH	690	362	440
	HI-LIFT 1008	12 RSF 13	24V	224 AH	690	362	440
	COMPUTER	12 RYF 7	24V	166 AH	678	226	533
	HI-LIFT 1008 (TILTING)	2* 6 RSF 13	24V	224 AH	365	354	400
	HI-REACH	8 RZF 11/21	24V (2 * 12V)	665 AH	**L1-497 L2 - 271	** W1-464 W2 - 287	838
JOSTS							
	2T3- WHEELER PLATFORM	15 RXF 9	30 V	193 AH	852/835	355/362	504
	2T3- WHEELER PLATFORM	15 RXF 13	30 V	290 AH	852/835	362	504
	2T4- WHEELER PLATFORM	18 RSF 17	36 V	300 AH	1000	467	395
	PIGMY	2*6 RXF 7	24 V	144 AH	416	190	475
GODREJ							
	GO 50E /GO 75E	18 RSF 17	36V	300 AH	*L1=830 L2=500	*W1-630 W2-470	400/425
	GO 75E /G100E (S)	18 RXF 17	36V	385 AH	*L1=830 L2=500	*W1-630 W2-470	490
	G 100E (S)	18 RYF 17	36V	443 AH	*L1=830 L2=500	*W1-630 W2-470	525
	G00E (L)	18 RYF 17	36V	443 AH	825	611	537
	G150 E	18 RYF 17	36V	443 AH	995	470	540
	200 E	18 RXF 25	36V	578 AH	995	660	500/530
	EC 40	18 RYF 25	36V	664 AH	860	827	534
	EC 40	18 RYF 25	36V	664 AH	995	660	535
	EC 70 (3T)	36 RYF 17	72V	443 AH	1000	905	535
FTRUCKS/FTS							
	POWER PALLET TRUCK (1000/1500/2000 KG)	12RYF 7	24V	166 AH	678	226	533
	STACKING TRUCK (1000 KG) RIDER ELECTRIC.	12 RSF 13	24V	224 AH	690	362	440
	FORK-TRUCK 2 TON	24 RYF 17	48V	443 AH	946	717	543
VOLTAS							
	1.5 TON	18 RYF 21	36V	553 AH	995	641	533
	2.0 TON	18 RYF 23	36V	609 AH	995	641	533
	2.0 TON	18 RYF 25	36V	664 AH	995	660	533
	2.5 TON	18 RZF 23	36V	710 AH	995	641	575
	2.5 TON	18 RZF 25	36V	775 AH	995	660	575
	5 TON	36 RZF 25	72V	775 AH	1285	1000	600
SWARAJ							
	FB FORK LIFT	24 RYF21	48V	553 AH	1000	825	580

NB : ** DIMENSIONS IN 'L' SHAPED LAYOUT * DIMENSIONS IN HEXAGONAL LAYOUT
DIMENSION TOLERANCE ± 5MM, HIGHER DIMENSIONS TO SUIT REQUIREMENT POSSIBLE.

RELIANCE

THE ENERGY EXPERTS

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