

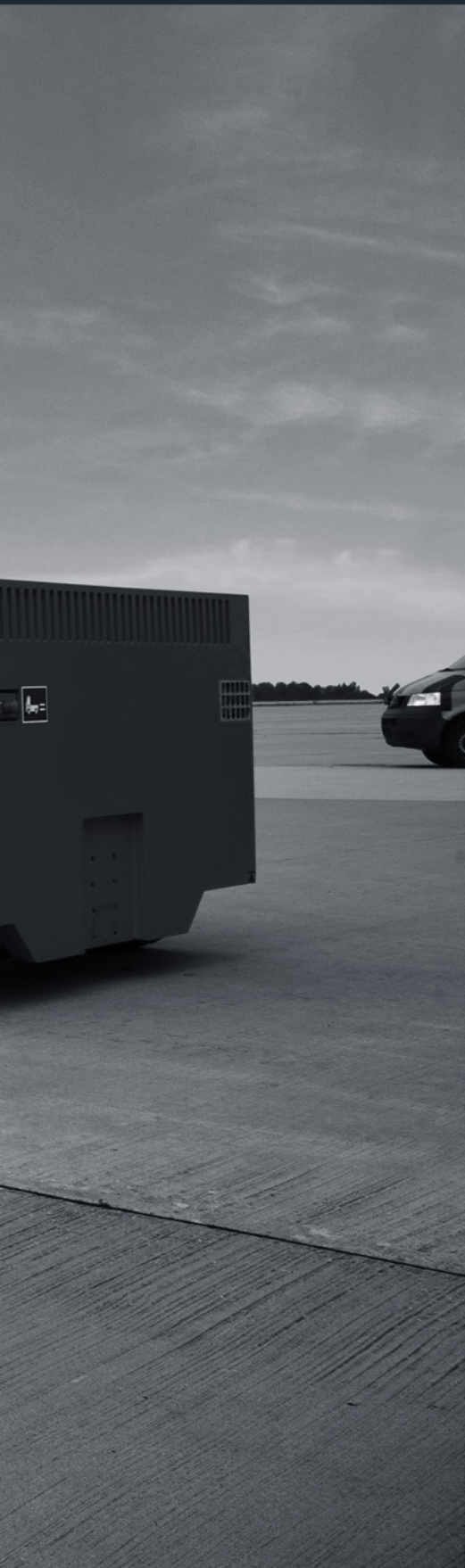


ORC

OPPORTUNITY RAPID CHARGE

TWO IN ONE





ORC

OPPORTUNITY RAPID CHARGE

An opportunity rapid charge battery enables the user to charge the battery in between breaks at a high current in order to receive more energy throughput before the battery is put on full charge. The major difference between opportunity rapid charging and opportunity charging is that in case of ORC (opportunity rapid charge), the charging current is considerably higher (maximum of 40% of rated Ah). This allows the user to pump in more energy in a PSOC battery in a short time thus getting a higher energy throughput after every charge while compared to a normal opportunity charged battery. For example if a normal OC battery is charged for 15 minutes @ 20% current it will provide a 15 minute backup when discharged @ 20% current but an ORC battery will provide a 30 minute backup since it will be charged @ 40% current. Thus if a battery receives opportunity rapid charge at 40% current for 1 hour, it can provide 1.5 times its energy throughput when it does not receive any opportunity rapid charging.





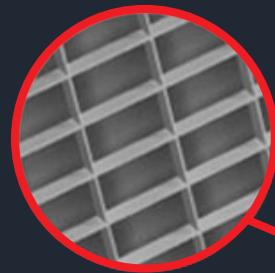
⚡ IMPREGNATED GROMMET

The grommet has a special groove design and a strong interference with the terminal resulting in zero leakage or corrosion and minimum external shorts.



⚡ NEGATIVE GRID

The batteries use a patented low antimony grid to maintain low electrical resistance and ensure support for the negative active material. To obtain consistency of the highest levels, WIRTZ (USA) technology is applied.



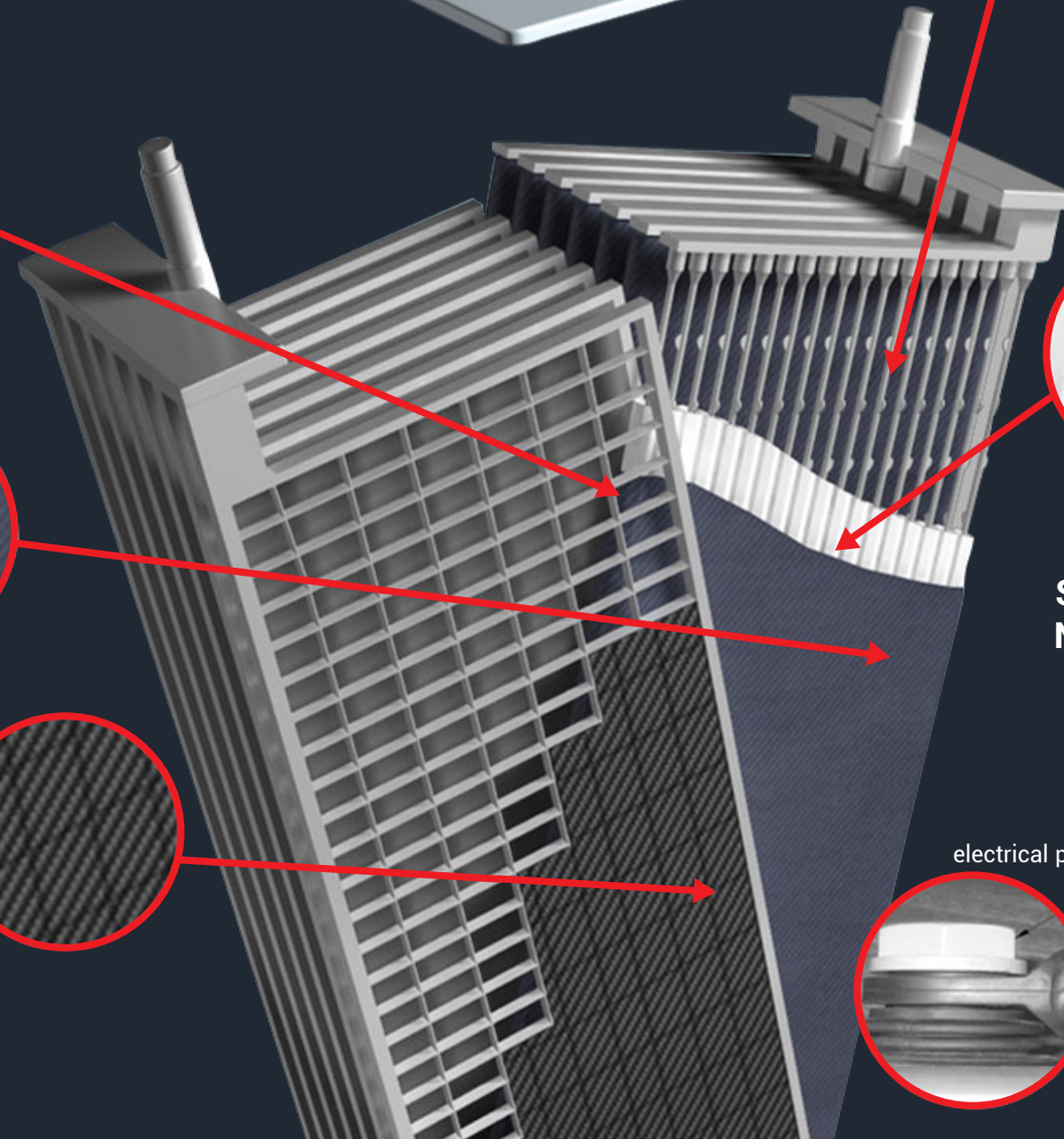
⚡ SEPARATOR

The low ionic resistance of microporous polythene separators ensures high battery power throughout the battery's life. Procured from sources, the separators have excellent oxidation and puncture resistance.



⚡ NEGATIVE ACTIVE MATERIAL

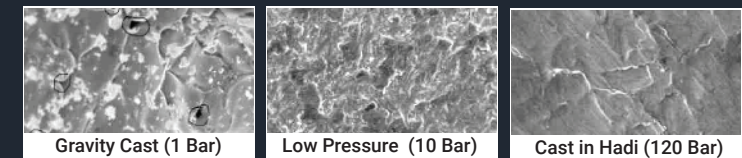
The composition of the negative active material has been specially derived to be perfectly complementary to the positive plate. This greatly enhances the longevity of the battery. In addition the pasting process uses state-of-the-art MAC (USA) machines for uniform density and texture throughout the surface area and ensures better active material retention.



⚡ POSITIVE SPINE

The positive spine is the backbone of the plate and is cast at incredibly high 120 bar pressure with a special low antimony lead alloy formula.

⚡ SPINE CASTING

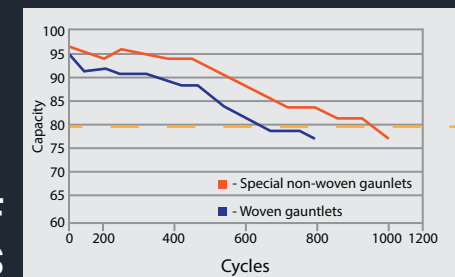


An excellent combination of a very reliable frame of work and low electrical plate resistance achieved using high technology Hadi (Austria) equipment.

⚡ GAUNTLETS & ACTIVE MATERIAL

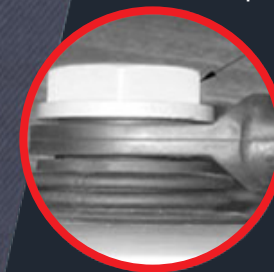
To enhance battery life, a combination of non-woven gauntlets and specially formulated active material is used. The unique structure of the non-woven gauntlets enables the electrolyte to penetrate more freely while further reducing the shedding of the active material.

⚡ SUPERIOR LIFE CYCLE OF NON WOVEN GAUNTLETS



⚡ BOLTED TERMINAL TECHNOLOGY

Superior 'Bolt-on Terminals' technology with brass inserts provides better electrical performance. Not only does this make replacement of any battery accessories easier & quicker, it prevents wear & tear of the terminals. Bolt-On Pillars are used with advanced grommets which are designed to arrest acid seepage and prevent terminal corrosion. The grommets are also designed to nullify the effect of plate growth.

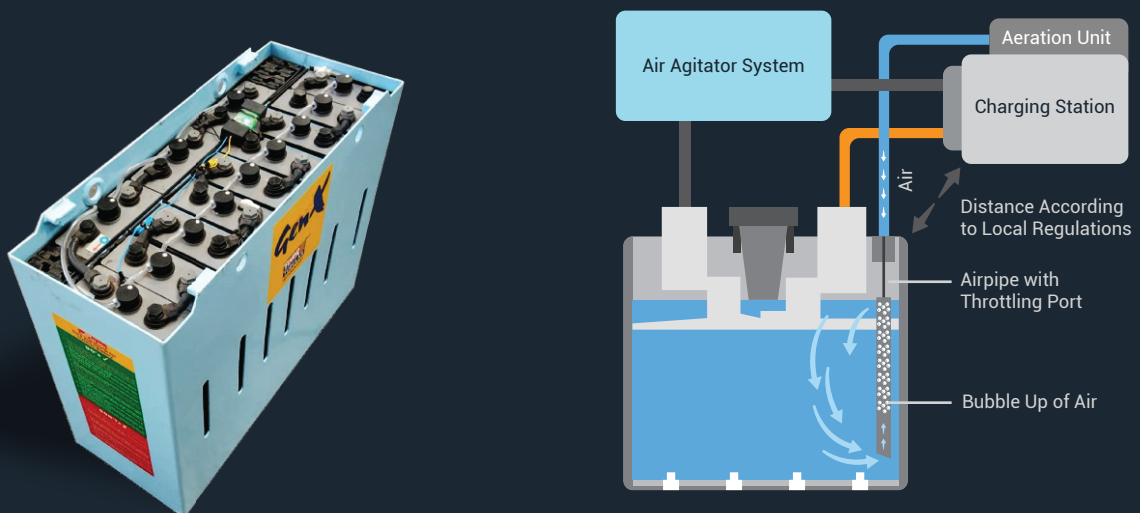


★ Salient Features

- ⚡ Standard PzS design with round tube positives manufactured with a more robust process.
- ⚡ ORC batteries are equipped with more robust negatives which enables the batteries to take full advantage of fast opportunity and normal opportunity charging capabilities.
- ⚡ Our ORC is air agitation equipped to maintain cooler battery & better charging capabilities.
- ⚡ Comes in bolted connection with thicker flexible cable connectors.
- ⚡ Special TPE twin molded post seal to avoid leakage and accommodate all connectors.

★ Advantages over Conventional Batteries

- ⚡ Opportunity Rapid Charge ORC Traction Batteries enables up to two work-shift operation with a single ORC battery.
- ⚡ Opportunity charging refers to the new ORC battery system being able to receive partial 'top-up' charges several times during a work cycle, if required.
- ⚡ ORC battery cells may be recharged intermittently for short periods (15 – 60 minutes) during the operating shifts, at normal current or high current (up to 0.4C Amps), followed by a full normal recharge at end of shift.
- ⚡ Replace regular lead-acid traction batteries in same tray size, without adding any ballast.
- ⚡ Existing battery charger can be used or a higher rated one up to 0.4C Amps (40A per 100AH) for rapid opportunity charging (15–60 minutes).
- ⚡ Extended operating time using a single battery with intermittent opportunity rapid chargers.



Representation of air agitation system incorporated in the ORC cell

★ Special Charger with Unique State-of-the-Art Charging Characteristics

- ⚡ States of charge displayed using multi-colored LED lamps. In addition to fully charged (LED steady green), the LEDs also indicate when the battery has cooled sufficiently (LED steady blue). This shows the optimum deployment time of the battery.
- ⚡ A special characteristic can be used to recharge deep-discharge batteries completely.
- ⚡ A pneumatic recirculation of the electrolyte (Air-Puls) prevents acid stratification in the battery. Gentler opportunity charging is therefore possible.
- ⚡ A programmable, time-controlled equalizing charge ensures that a full charge is available over the weekend and after holidays.
- ⚡ Automatic water filling using the Aquamatic option takes place at the ideal time just before the charge end - this prevents the water dropping to critical levels and the resulting damage to the battery. (Optional)
- ⚡ Temperature fluctuations can have a negative impact on the service life of the battery. With this option, the charging voltage is adapted to the battery temperature - the battery is protected. (Optional)





EXTRA CAPACITY, EXTRA LIFE

CEIL ORC MOTIVE POWER RANGE CONTD. DIN RANGE OF CELLS (198 MM WIDE)

Type of Cell	Ah@C5 at 30°C	Cell Dimension in				Cell Weights in Kg.		
		Length +/- 2mm	Width +/- 2mm	Overall Height +/- 5mm	Height upto Lid Top +/- 5mm	Dry Weight (Kg.) +/- 5%	Acid Volume (Ltr.)	Filled Weight (Kg.) +/- 5%
3IPzS180	180	65	198	362	332	9.5	2.2	12.3
4IPzS240	240	83	198	362	332	12.3	3.0	16.1
5IPzS300	300	101	198	362	332	15.1	3.6	19.8
6IPzS360	360	119	198	362	332	17.9	4.4	23.6
7IPzS420	420	137	198	362	332	20.8	5.1	27.3
8IPzS480	480	155	198	362	332	23.6	5.8	31.1
9IPzS540	540	173	198	362	332	26.4	6.6	35.0
10IPzS600	600	191	198	362	332	29.3	7.3	38.6
3IPzS240	240	65	198	430	400	12.5	2.7	16.0
4IPzS320	320	83	198	430	400	16.2	3.6	20.8
5IPzS400	400	101	198	430	400	19.9	4.4	25.6
6IPzS480	480	119	198	430	400	23.6	5.4	30.5
7IPzS560	560	137	198	430	400	27.3	6.2	35.3
8IPzS640	640	155	198	430	400	31.0	7.1	40.1
9IPzS720	720	173	198	430	400	34.7	8.0	45.0
10IPzS800	800	191	198	430	400	38.4	8.8	49.8
3IPzS270	270	65	198	490	460	13.5	3.1	17.6
4IPzS360	360	83	198	490	460	17.6	4.2	23.0
5IPzS450	450	101	198	490	460	21.8	5.1	28.4
6IPzS540	540	119	198	490	460	26.0	6.2	34.0
7IPzS630	630	137	198	490	460	30.1	7.2	39.4
8IPzS720	720	155	198	490	460	34.3	8.2	44.9
9IPzS810	810	173	198	490	460	38.4	9.3	50.4
10IPzS900	900	191	198	490	460	42.6	10.2	55.8
3IPzS315	315	65	198	540	510	15.3	3.5	19.7
4IPzS420	420	83	198	540	510	19.9	4.6	25.9
5IPzS525	525	101	198	540	510	24.6	5.7	32.0
6IPzS630	630	119	198	540	510	29.3	6.9	38.2
7IPzS735	735	137	198	540	510	34.0	8.0	44.3
8IPzS840	840	155	198	540	510	38.7	9.1	50.5
9IPzS945	945	173	198	540	510	43.4	10.3	56.8
10IPzS1050	1050	191	198	540	510	48.1	11.4	62.9

Fast Charge Batteries are available along with charger on order



EXTRA CAPACITY, EXTRA LIFE

CEIL ORC MOTIVE POWER RANGE CONTD. DIN RANGE OF CELLS (198 MM WIDE)

Type of Cell	Ah@C5 at 30°C	Cell Dimension in				Cell Weights in Kg.		
		Length +/- 2mm	Width +/- 2mm	Overall Height +/- 5mm	Height upto Lid Top +/- 5mm	Dry Weight (Kg.) +/- 5%	Acid Volume (Ltr.)	Filled Weight (Kg.) +/- 5%
3IPzS345	345	65	198	565	535	16.1	3.7	20.9
4IPzS460	460	83	198	565	535	21.1	4.9	27.4
5IPzS575	575	101	198	565	535	26.1	6.0	33.8
6IPzS690	690	119	198	565	535	31.0	7.3	40.4
7IPzS805	805	137	198	565	535	36.0	8.4	46.8
8IPzS920	920	155	198	565	535	41.0	9.6	53.4
9IPzS1035	1035	173	198	565	535	46.0	10.9	60.0
10IPzS1150	1150	191	198	565	535	51.0	12.0	66.4
3IPzS375	375	65	198	601	571	17.3	3.9	22.4
4IPzS500	500	83	198	601	571	22.7	5.2	29.4
5IPzS625	625	101	198	601	571	28.0	6.4	36.2
6IPzS750	750	119	198	601	571	33.4	7.8	43.4
7IPzS875	875	137	198	601	571	38.7	9.0	50.3
8IPzS1000	1000	155	198	601	571	44.1	10.3	57.3
9IPzS1125	1125	173	198	601	571	49.4	11.6	64.4
10IPzS1250	1250	191	198	601	571	54.8	12.8	71.3
3IPzS420	420	65	198	715	685	20.2	4.7	26.2
4IPzS560	560	83	198	715	685	26.4	6.3	34.5
5IPzS700	700	101	198	715	685	32.7	7.7	42.6
6IPzS840	840	119	198	715	685	38.9	9.3	51.0
7IPzS980	980	137	198	715	685	45.2	10.8	59.1
8IPzS1120	1120	155	198	715	685	51.5	12.3	67.4
9IPzS1260	1260	173	198	715	685	57.8	14.0	75.8
10IPzS1400	1400	191	198	715	685	64.1	15.4	83.9
3IPzS465	465	65	198	742	712	21.5	4.9	27.8
4IPzS620	620	83	198	742	712	28.0	6.5	36.5
5IPzS775	775	101	198	742	712	34.6	8.1	45.0
6IPzS930	930	119	198	742	712	41.1	9.8	53.8
7IPzS1085	1085	137	198	742	712	47.7	11.3	62.3
8IPzS1240	1240	155	198	742	712	54.3	12.9	71.0
9IPzS1395	1395	173	198	742	712	60.9	14.6	79.8
10IPzS1550	1550	191	198	742	712	67.5	16.1	88.3

Fast Charge Batteries are available along with charger on order

CEIL ORC MOTIVE POWER RANGE CONTD.

BS RANGE OF CELLS (158 MM WIDE)

BS RANGE OF ORC CELLS INCLUDED

Type of Cell	Ah@C5 at 30°C	Cell Dimension in				Cell Weights in Kg.		
		Length +/- 2mm	Width +/- 2mm	Overall Height +/- 5mm	Height upto Lid Top +/- 5mm	Dry Weight (Kg.) +/- 5%	Acid Volume (Ltr.)	Filled Weight (Kg.) +/- 5%
2 IPzB 64	64	45	158	298	268	4.5	1.0	5.8
3 IPzB 96	96	61	158	298	268	6.1	1.3	7.9
4 IPzB 128	128	77	158	298	268	7.7	1.7	10.1
5 IPzB 160	160	93	158	298	268	9.4	2.1	12.2
6 IPzB 192	192	109	158	298	268	11.0	2.5	14.4
7 IPzB 224	224	125	158	298	268	12.8	2.8	16.7
8 IPzB 256	256	141	158	298	268	14.3	3.2	18.8
9 IPzB 288	288	157	158	298	268	15.8	3.6	20.8
10 IPzB 320	320	173	158	298	268	17.5	4.0	23.0
11 IPzB 352	352	189	158	298	268	19.3	4.4	25.3
12 IPzB 384	384	205	158	298	268	21.7	4.7	28.2
13 IPzB 416	416	221	158	298	268	23.4	5.1	30.5
2 IPzB 84	84	45	158	354	324	5.1	1.3	6.8
3 IPzB 126	126	61	158	354	324	7.2	1.8	9.6
4 IPzB 168	168	77	158	354	324	9.6	2.3	12.8
5 IPzB 210	210	93	158	354	324	11.6	2.8	15.4
6 IPzB 252	252	109	158	354	324	14.2	3.3	18.8
7 IPzB 294	294	125	158	354	324	15.4	3.8	20.6
8 IPzB 336	336	141	158	354	324	17.4	4.3	23.4
9 IPzB 378	378	157	158	354	324	19.4	4.8	26.0
10 IPzB 420	420	173	158	354	324	21.3	5.3	28.7
11 IPzB 462	462	189	158	354	324	23.9	5.8	31.9
12 IPzB 504	504	205	158	354	324	26.7	6.3	35.5
13 IPzB 546	546	221	158	354	324	28.9	6.8	38.4
2 IPzB 110	110	45	158	428	398	6.7	1.6	8.9
3 IPzB 165	165	61	158	428	398	9.2	2.2	12.2
4 IPzB 220	220	77	158	428	398	11.8	2.8	15.7
5 IPzB 275	275	93	158	428	398	14.4	3.4	19.1
6 IPzB 330	330	109	158	428	398	16.8	4.0	22.4
7 IPzB 385	385	125	158	428	398	19.4	4.6	25.7
8 IPzB 440	440	141	158	428	398	22.7	5.3	30.0
9 IPzB 495	495	157	158	428	398	26.2	5.9	34.3
10 IPzB 550	550	173	158	428	398	28.6	6.5	37.6
11 IPzB 605	605	189	158	428	398	31.2	7.1	41.0
12 IPzB 660	660	205	158	428	398	33.1	7.7	43.8
13 IPzB 715	715	221	158	428	398	35.6	8.3	47.1
2 IPzB 130	130	45	158	478	448	7.5	1.8	9.9
3 IPzB 195	195	61	158	478	448	10.3	2.4	13.7
4 IPzB 260	260	77	158	478	448	13.3	3.1	17.7
5 IPzB 325	325	93	158	478	448	16.2	3.7	21.4
6 IPzB 390	390	109	158	478	448	19.0	4.5	25.2
7 IPzB 455	455	125	158	478	448	22.4	5.1	29.5
8 IPzB 520	520	141	158	478	448	25.5	5.9	33.6
9 IPzB 585	585	157	158	478	448	29.1	6.5	38.1
10 IPzB 650	650	173	158	478	448	31.4	7.2	41.3
11 IPzB 715	715	189	158	478	448	33.7	7.9	44.6
12 IPzB 780	780	205	158	478	448	37.4	8.6	49.3
13 IPzB 845	845	221	158	478	448	40.3	9.2	53.0

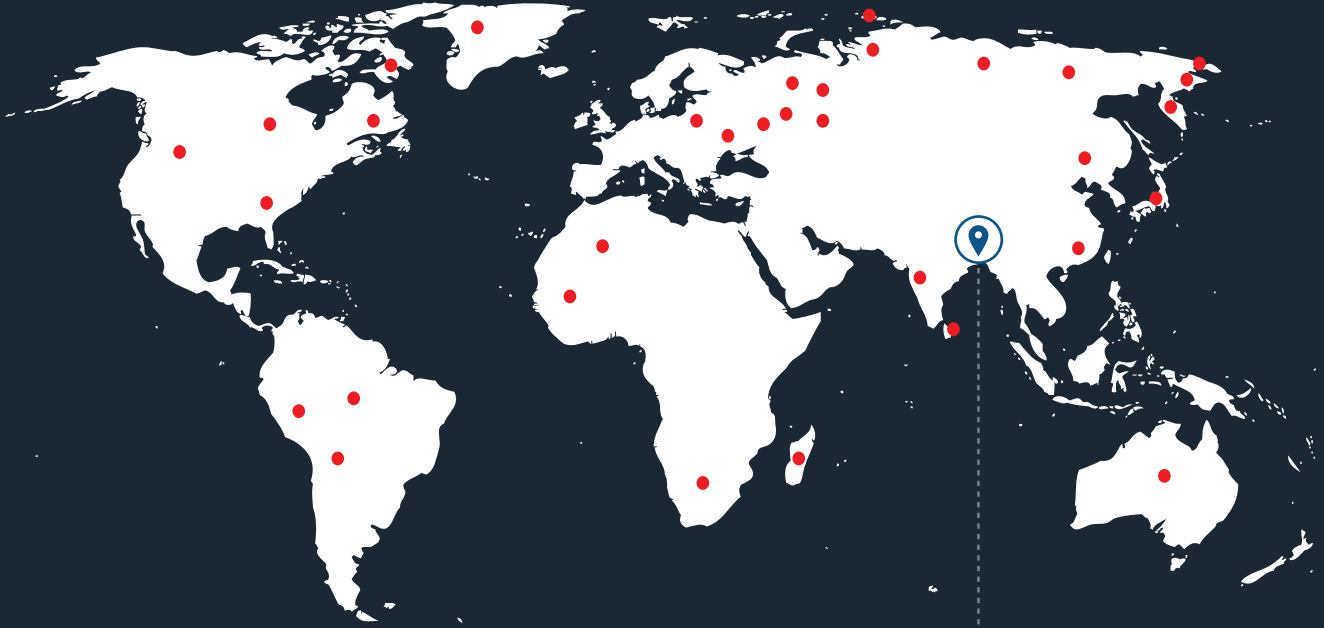
CEIL ORC MOTIVE POWER RANGE CONTD.

BS RANGE OF CELLS (158 MM WIDE)

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2 IPzB 150	150	45	158	537	507	8.5	2.0	11.2
3 IPzB 225	225	61	158	537	507	11.8	2.7	15.5
4 IPzB 300	300	77	158	537	507	15.5	3.5	20.3
5 IPzB 375	375	93	158	537	507	18.5	4.2	24.3
6 IPzB 450	450	109	158	537	507	21.8	5.0	28.7
7 IPzB 525	525	125	158	537	507	25.4	5.7	33.3
8 IPzB 600	600	141	158	537	507	28.6	6.5	37.7
9 IPzB 675	675	157	158	537	507	32.7	7.2	42.8
10 IPzB 750	750	173	158	537	507	36.0	8.0	47.1
11 IPzB 825	825	189	158	537	507	39.3	8.8	51.5
12 IPzB 900	900	205	158	537	507	42.7	9.5	55.9
13 IPzB 975	975	221	158	537	507	45.4	10.3	59.7
2 IPzB 172	172	45	158	595	565	8.9	2.2	11.9
3 IPzB 258	258	61	158	595	565	13.1	3.0	17.2
4 IPzB 344	344	77	158	595	565	17.1	3.9	22.5
5 IPzB 430	430	93	158	595	565	21.1	4.7	27.5
6 IPzB 516	516	109	158	595	565	24.2	5.6	31.9
7 IPzB 602	602	125	158	595	565	29.1	6.4	37.9
8 IPzB 688	668	141	158	595	565	31.8	7.3	42.0
9 IPzB 774	774	157	158	595	565	35.5	8.1	46.8
10 IPzB 860	860	173	158	595	565	39.3	9.0	51.7
11 IPzB 946	946	189	158	595	565	43.0	9.9	56.7
12 IPzB 1032	1032	205	158	595	565	47.5	10.7	62.4
13 IPzB 1118	1118	221	158	595	565	51.4	11.5	67.3
2 IPzB 200	200	45	158	595	565	8.9	2.2	11.9
3 IPzB 300	300	61	158	595	565	13.1	3.0	17.2
4 IPzB 400	400	77	158	595	565	17.1	3.9	22.5
5 IPzB 500	500	93	158	595	565	21.1	4.7	27.5
6 IPzB 600	600	109	158	595	565	24.2	5.6	31.9
7 IPzB 700	700	125	158	595	565	29.1	6.4	37.9
8 IPzB 800	800	141	158	595	565	31.8	7.3	42.0
9 IPzB 900	900	157	158	595	565	35.5	8.1	46.8
10 IPzB 1000	1000	173	158	595	565	39.3	9.0	51.7
11 IPzB 1100	1100	189	158	595	565	43.0	9.9	56.7
12 IPzB 1200	1200	205	158	595	565	47.5	10.7	62.4
13 IPzB 1300	1300	221	158	595	565	51.4	11.5	67.3
2 IPzB 216	216	45	158	706	676	11.2	2.6	14.9
3 IPzB 324	324	61	158	706	676	15.8	3.6	20.9
4 IPzB 432	432	77	158	706	676	21.0	4.7	27.5
5 IPzB 540	540	93	158	706	676	25.5	5.6	33.2
6 IPzB 648	648	109	158	706	676	30.2	6.7	39.4
7 IPzB 756	756	125	158	706	676	35.2	7.6	45.8
8 IPzB 864	864	141	158	706	676	39.6	8.8	51.8
9 IPzB 972	972	157	158	706	676	45.5	9.7	59.0
10 IPzB 1080	1080	173	158	706	676	48.7	10.7	63.6
11 IPzB 1188	1188	189	158	706	676	53.8	11.8	70.1
12 IPzB 1296	1296	205	158	706	676	59.3	12.8	77.0
13 IPzB 1404	1404	221	158	706	676	63.9	13.7	83.0

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TUV NORD

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ISO/TS 16949 : 2009
ISO 14001 : 2004
OHSAS 18001 : 2007



Head Office:

Exide House, 59E Chowringhee Road, Kolkata-700020 • Ph.: (033) 2283 2120/33/36/50/51/71/2238/39 • Fax.: (033) 2283 2632/37

Corporate Marketing Office:

6A Hatibagan Road, Entally, Kolkata-700014 • Ph.: (033) 2286 1860/6158/59/93 • Fax.: (033) 22866186

Visit us at: www.exideindustries.com • Email: SOURABHAD@exide.co.in

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