



INDUSTRIAL BATTERY APPLICATIONS

MOTIVE POWER

LEAD-ACID TRACTION BATTERIES (PzS, PzB, PzB)

LITHIUM ION

TRACTION BATTERIES (LiFePo4)

SEMI TRACTION

DEEP CYCLE BATTERIES

MOTIVE POWER BATTERIES

TUBULAR LEAD-ACID BATTERIES (PzS - PzB)

2V Flooded Lead-Acid (PzS-PzB) batteries are used for electric forklifts, reach trucks, order pickers, pallet trucks, pallet stackers, AGVs shortly all types of electric forklift applications which requires high level of power, long service life, maximum reliability and cyclic endurance.

VT INDUSTRIAL PzS-PzB batteries are recognised as the most cost-effective and well-proven quality solution at the highest technology integrating the European harmonization of the DIN and BS ranges which meets the the standards DIN/EN 60254 and IEC 254-2.



CELL TECHNOLOGY	VLA TUBULAR VENTED
PLATE TECHNOLOGY	+ TUBULAR SPINE PE GAUNTLET, - FLAT GRID
TERMINALS	BOLT-ON
CAUNTLET	NON-WOVEN WITH HIGH VOLUME POROSITY
ELECTROLYTE	30 °C: 1,29 ± 0,01 kg/l
LIFE CYCLES	UP TO 1500 @ 80 % D.O.D. At 27 - 30 °C
COMPLIANCES	EN60254-1 & EN60254-2 and IEC254-1 & IEC254-2

- 100% MAINTENANCE-FREE
- LONGER SERVICE LIFE (3500+ CYCLES WITH 100 % CAPACITY)
- PRIVATE DESIGN BMS ALLOWING FULL CUSTOMISATION ON THE SYSTEM
- FASTER CHARGING (AVAILABILITY OF 1 BATTERY FOR 3 SHIFTS)

TUBULAR LEAD-ACID BATTERIES (PzS - PzB) REFERENCE LIST

Cell Type	A/Hr Capacity	Description	Cell Dimensions (mm)			Cell Weight Kg (+-%5)
			Length	Width Ancho	Height Overall	
2 PZS 120	120	2 PZS 120 2V ELEMENT 120 Ah	198	47	361	7,9
3 PZS 180	180	3 PZS 180 2V ELEMENT 180 Ah	198	65	361	11,4
4 PZS 240	240	4 PZS 240 2V ELEMENT 240 Ah	198	83	361	14,9
5 PZS 300	300	5 PZS 300 2V ELEMENT 300 Ah	198	101	361	18
6 PZS 360	360	6 PZS 360 2V ELEMENT 360 Ah	198	119	361	22
7 PZS 420	420	7 PZS 420 2V ELEMENT 420 Ah	198	137	361	25,2
8 PZS 480	480	8 PZS 480 2V ELEMENT 480 Ah	198	155	361	28
9 PZS 540	540	9 PZS 540 2V ELEMENT 540 Ah	198	174	361	31,7
10 PZS 600	600	10 PZS 600 2V ELEMENT 600 Ah	198	191	361	35,1
2 PZS 160	160	2 PZS 160 2V ELEMENT 160 Ah	198	47	427	9,7
3 PZS 240	240	3 PZS 240 2V ELEMENT 240 Ah	198	65	427	14
4 PZS 320	320	4 PZS 320 2V ELEMENT 320 Ah	198	83	427	18,62
5 PZS 400	400	5 PZS 400 2V ELEMENT 400 Ah	198	101	427	22,3
6 PZS 480	480	6 PZS 480 2V ELEMENT 480 Ah	198	119	427	27,3
7 PZS 560	560	7 PZS 560 2V ELEMENT 560 Ah	198	137	427	30,8
8 PZS 640	640	8 PZS 640 2V ELEMENT 640 Ah	198	155	427	35,7
9 PZS 720	720	9 PZS 720 2V ELEMENT 720 Ah	198	174	427	38,7
10 PZS 800	800	10 PZS 800 2V ELEMENT 800 Ah	198	191	427	43,4
2 PZS 180	180	2 PZS 180 2V ELEMENT 180 Ah	198	47	488	11,35
3 PZS 270	270	3 PZS 270 2V ELEMENT 270 Ah	198	65	488	16,58
4 PZS 360	360	4 PZS 360 2V ELEMENT 360 Ah	198	83	488	20,8

TUBULAR LEAD-ACID BATTERIES (PzS - PzB) REFERENCE LIST

Cell Type	A/Hr Capacity	Description	Cell Dimensions (mm)			Cell Weight Kg (+-%5)
			Length	Width Ancho	Height Overall	
5 PZS 420	450	5 PZS 420 2V ELEMENT 450 Ah	198	101	488	25,5
6 PZS 540	540	6 PZS 540 2V ELEMENT 540 Ah	198	119	488	30,5
7 PZS 630	630	7 PZS 630 2V ELEMENT 630 Ah	198	137	488	35,1
8 PZS 720	720	8 PZS 720 2V ELEMENT 720 Ah	198	155	488	39,9
9 PZS 810	810	9 PZS 810 2V ELEMENT 810 Ah	198	174	488	44,8
10 PZS 900	900	10 PZS 900 2V ELEMENT 900 Ah	198	191	488	49,5
2 PZS 210	210	2 PZS 210 2V ELEMENT 210 Ah	198	47	538	13,13
3 PZS 315	315	3 PZS 315 2V ELEMENT 315 Ah	198	65	538	18,65
4 PZS 420	420	4 PZS 420 2V ELEMENT 420 Ah	198	83	538	24,08
5 PZS 525	525	5 PZS 525 2V ELEMENT 525 Ah	198	101	538	29,9
6 PZS 630	630	6 PZS 630 2V ELEMENT 630 Ah	198	119	538	35,39
7 PZS 735	735	7 PZS 735 2V ELEMENT 735 Ah	198	137	538	41,01
8 PZS 840	840	8 PZS 840 2V ELEMENT 840 Ah	198	155	538	46,53
9 PZS 945	945	9 PZS 945 2V ELEMENT 945 Ah	198	174	538	52,14
10 PZS 1050	1050	10 PZS 1050 2V ELEMENT 1050 Ah	198	191	538	57,35
2 PZS 230	230	2 PZS 230 2V ELEMENT 230 Ah	198	47	563	13,1
3 PZS 345	345	3 PZS 345 2V ELEMENT 345 Ah	198	65	563	19,2
4 PZS 460	460	4 PZS 460 2V ELEMENT 460 Ah	198	83	563	24,8
5 PZS 575	575	5 PZS 575 2V ELEMENT 575 Ah	198	101	563	31,5
6 PZS 690	690	6 PZS 690 2V ELEMENT 690 Ah	198	119	563	37,69
7 PZS 805	805	7 PZS 805 2V ELEMENT 805 Ah	198	137	563	42,4
8 PZS 920	920	8 PZS 920 2V ELEMENT 920 Ah	198	155	563	47,9
9 PZS 1035	1035	9 PZS 1035 2V ELEMENT 1035 Ah	198	174	563	53,7
10 PZS 1150	1150	10 PZS 1150 2V ELEMENT 1150 Ah	198	191	563	59,5
2 PZS 250	250	2 PZS 250 2V ELEMENT 250 Ah	198	47	599	14
3 PZS 375	375	3 PZS 375 2V ELEMENT 375 Ah	198	65	599	21,22
4 PZS 500	500	4 PZS 500 2V ELEMENT 500 Ah	198	83	599	27,48
5 PZS 625	625	5 PZS 625 2V ELEMENT 625 Ah	198	101	599	33,8
6 PZS 750	750	6 PZS 750 2V ELEMENT 750 Ah	198	119	599	40,46
7 PZS 875	875	7 PZS 875 2V ELEMENT 875 Ah	198	137	599	45,2
8 PZS 1000	1000	8 PZS 1000 2V ELEMENT 1000 Ah	198	155	599	51,4
9 PZS 1125	1125	9 PZS 1125 2V ELEMENT 1125 Ah	198	174	599	57,8
10 PZS 1250	1250	10 PZS 1250 2V ELEMENT 1250 Ah	198	191	599	64
2 PZS 280	280	2 PZS 280 2V ELEMENT 280 Ah	198	47	713	16,6
3 PZS 420	420	3 PZS 420 2V ELEMENT 420 Ah	198	65	713	24,4
4 PZS 560	560	4 PZS 560 2V ELEMENT 560 Ah	198	83	713	31,6
5 PZS 700	700	5 PZS 700 2V ELEMENT 700 Ah	198	101	713	39
6 PZS 840	840	6 PZS 840 2V ELEMENT 840 Ah	198	119	713	46,5
7 PZS 980	980	7 PZS 980 2V ELEMENT 980 Ah	198	137	713	53,7
8 PZS 1120	1120	8 PZS 1120 2V ELEMENT 1120 Ah	198	155	713	61,1
9 PZS 1260	1260	9 PZS 1260 2V ELEMENT 1260 Ah	198	174	713	68,7
10 PZS 1400	1400	10 PZS 1400 2V ELEMENT 1400 Ah	198	191	713	76
2 PZS 310	310	2 PZS 310 2V ELEMENT 310 Ah	198	47	740	17,4
3 PZS 465	465	3 PZS 465 2V ELEMENT 465 Ah	198	65	740	26,29
4 PZS 620	620	4 PZS 620 2V ELEMENT 620 Ah	198	83	740	34,09
5 PZS 775	775	5 PZS 775 2V ELEMENT 775 Ah	198	101	740	41,95
6 PZS 930	930	6 PZS 930 2V ELEMENT 930 Ah	198	119	740	48,6
7 PZS 1085	1085	7 PZS 1085 2V ELEMENT 1085 Ah	198	137	740	56,1
8 PZS 1240	1240	8 PZS 1240 2V ELEMENT 1240 Ah	198	155	740	63,8
9 PZS 1395	1395	9 PZS 1395 2V ELEMENT 1395 Ah	198	174	740	72
10 PZS 1550	1550	10 PZS 1550 2V ELEMENT 1550 Ah	198	191	740	79,6

TUBULAR LEAD-ACID BATTERIES (PzS - PzB) REFERENCE LIST

Cell Type	A/Hr Capacity	Description	Cell Dimensions (mm)			Cell Weight Kg (+-%5)
			Length	Width Ancho	Height Overall	
2 PZB 64	64	2 PZB 64 2V ELEMENT 64 Ah		45		5,1
3 PZB 96	96	3 PZB 96 2V ELEMENT 96 Ah		61		7,2
4 PZB 128	128	4 PZB 128 2V ELEMENT 128 Ah		77		9,3
5 PZB 160	160	5 PZB 160 2V ELEMENT 160 Ah		93		11,2
6 PZB 192	192	6 PZB 192 2V ELEMENT 192 Ah		109		13,2
7 PZB 224	224	7 PZB 224 2V ELEMENT 224 Ah		125		15,1
8 PZB 256	256	8 PZB 256 2V ELEMENT 256 Ah		141		17,1
9 PZB 288	288	9 PZB 288 2V ELEMENT 288 Ah		157		19
10 PZB 320	320	10 PZB 320 2V ELEMENT 320 Ah		173		21
11 PZB352	352	11IPZB352 2V ELEMENT 352 Ah		189		23,1
12 PZS384	384	12IPZS384 2V ELEMENT 384 Ah		205		25,8
13 PZB416	416	13IPZB416 2V ELEMENT 416 Ah		221		27,9
2 PZB 84	84	2 PZB 84 2V ELEMENT 84 Ah		45		6,1
3 PZB 126	126	3 PZB 126 2V ELEMENT 126 Ah		61		8,5
4 PZB 168	168	4 PZB 168 2V ELEMENT 168 Ah		77		11,3
5 PZB 210	210	5 PZB 210 2V ELEMENT 210 Ah		93		13,5
6 PZB 252	252	6 PZB 252 2V ELEMENT 252 Ah		109		15,9
7 PZB 294	294	7 PZB 294 2V ELEMENT 294 Ah		125		18,2
8 PZB 336	336	8 PZB 336 2V ELEMENT 336 Ah		141		20,7
9 PZB 378	378	9 PZB 378 2V ELEMENT 378 Ah		157		23
10 PZB 420	420	10 PZB 420 2V ELEMENT 420 Ah		173		25,4
11 PZB462	462	11IPZB462 2V ELEMENT 462 Ah		189		28,2
12 PZB504	504	12IPZB504 2V ELEMENT 504 Ah		205		31,4
13 PZB546	546	13IPZB546 2V ELEMENT 546 Ah		221		33,9
2 PZB 110	110	2 PZB 110 2V ELEMENT 110 Ah		45		7,9
3 PZB 165	165	3 PZB 165 2V ELEMENT 165 Ah		61		10,8
4 PZB 220	220	4 PZB 220 2V ELEMENT 220 Ah		77		13,9
5 PZB 275	275	5 PZB 275 2V ELEMENT 275 Ah		93		16,8
6 PZB 330	330	6 PZB 330 2V ELEMENT 330 Ah		109		19,8
7 PZB 385	385	7 PZB 385 2V ELEMENT 385 Ah		125		22,8
8 PZB 440	440	8 PZB 440 2V ELEMENT 440 Ah		141		25,9
9 PZB 495	495	9 PZB 495 2V ELEMENT 495 Ah		157		28,8
10 PZB 550	550	10 PZB 550 2V ELEMENT 550 Ah		173		31,8
11 PZB605	605	11IPZB605 2V ELEMENT 605 Ah		189		35
12 PZB660	660	12IPZB660 2V ELEMENT 660 Ah		205		38,7
13 PZB715	715	13IPZB715 2V ELEMENT 715 Ah		221		41,7
2 PZB 130	130	2 PZB 130 2V ELEMENT 130 Ah		45		8,8
3 PZB 195	195	3 PZB 195 2V ELEMENT 195 Ah		61		12,1
4 PZB 260	260	4 PZB 260 2V ELEMENT 260 Ah		77		15,6
5 PZB 325	325	5 PZB 325 2V ELEMENT 325 Ah		93		18,9
6 PZB 390	390	6 PZB 390 2V ELEMENT 390 Ah		109		22,4
7 PZB 455	455	7 PZB 455 2V ELEMENT 455 Ah		125		25,7
8 PZB 520	520	8 PZB 520 2V ELEMENT 520 Ah		141		29,2
9 PZB 585	585	9 PZB 585 2V ELEMENT 585 Ah		157		32,5
10 PZB 650	650	10 PZB 650 2V ELEMENT 650 Ah		173		35,9
11 PZB715	715	11IPZB715 2V ELEMENT 715 Ah		189		39,4
12 PZB780	780	12IPZB780 2V ELEMENT 780 Ah		205		43,6
13 PZB845	845	13IPZB845 2V ELEMENT 845 Ah		221		47
2 PZB 150	150	2 PZB 150 2V ELEMENT 150 Ah		45		10,25
3 PZB 225	225	3 PZB 225 2V ELEMENT 225 Ah		61		14,14
4 PZB 300	300	4 PZB 300 2V ELEMENT 300 Ah		77		18,2
5 PZB 375	373	5 PZB 375 2V ELEMENT 373 Ah		93		21,4
6 PZB 450	450	6 PZB 450 2V ELEMENT 450 Ah		109		25,3
7 PZB 525	525	7 PZB 525 2V ELEMENT 525 Ah		125		29,1
8 PZB 600	600	8 PZB 600 2V ELEMENT 600 Ah		141		33
9 PZB 675	675	9 PZB 675 2V ELEMENT 675 Ah		157		36,8
10 PZB 750	750	10 PZB 750 2V ELEMENT 750 Ah		173		40,6
11 PZB825	825	11IPZB825 2V ELEMENT 825 Ah		189		44,5
12 PZB900	900	12IPZB900 2V ELEMENT 900 Ah		205		49
13 PZB975	975	13IPZB975 2V ELEMENT 975 Ah		221		52,8
2 PZB 172	172	2 PZB 172 2V ELEMENT 172 Ah		45		10,6
3 PZB 258	258	3 PZB 258 2V ELEMENT 258 Ah		61		15,1
4 PZB 344	344	4 PZB 344 2V ELEMENT 344 Ah		77		19,5
5 PZB 430	430	5 PZB 430 2V ELEMENT 430 Ah		93		23,9

TUBULAR LEAD-ACID BATTERIES (PzS - PzB) REFERENCE LIST

Cell Type	A/Hr Capacity	Description	Cell Dimensions (mm)			Cell Weight Kg (+-%5)
			Length	Width Ancho	Height Overall	
6 PZB 516	516	6 PZB 516 2V ELEMENT 516 Ah		109		28,3
7 PZB 602	602	7 PZB 602 2V ELEMENT 602 Ah		125		32,6
8 PZB 688	688	8 PZB 688 2V ELEMENT 688 Ah		141		37,1
9 PZB 774	775	9 PZB 774 2V ELEMENT 775 Ah		157		41,5
10 PZB 860	860	10 PZB 860 2V ELEMENT 860 Ah		173		45,8
11 PZB946	946	11IPZB946 2V ELEMENT 946 Ah		189		50,2
12 PZB1032	1032	12IPZB1032 2V ELEMENT 1032 Ah		205		55,2
13 PZB1118	1118	13IPZB1118 2V ELEMENT 1118 Ah		221		59,7
2 PZB 200	200	2 PZB 200 2V ELEMENT 200 Ah		45		11,8
3 PZB 300	300	3 PZB 300 2V ELEMENT 300 Ah		61		16,5
4 PZB 400	400	4 PZB 400 2V ELEMENT 400 Ah		77		21,4
5 PZB 500	500	5 PZB 500 2V ELEMENT 500 Ah		93		26,2
6 PZB 600	600	6 PZB 600 2V ELEMENT 600 Ah		109		31,1
7 PZB 700	700	7 PZB 700 2V ELEMENT 700 Ah		125		35,8
8 PZB 800	800	8 PZB 800 2V ELEMENT 800 Ah		141		40,8
9 PZB 900	900	9 PZB 900 2V ELEMENT 900 Ah		157		45,5
10 PZB 1000	1000	10 PZB 1000 2V ELEMENT 1000 Ah		173		50,3
11 PZB1100	1100	11IPZB1100 2V ELEMENT 1100 Ah		189		55,2
12 PZB1200	1200	12IPZB1200 2V ELEMENT 1200 Ah		205		60,8
13 PZB1300	1300	13IPZB1300 2V ELEMENT 1300 Ah		221		65,9
2 PZB 216	216	2 PZB 216 2V ELEMENT 216 Ah		45		13,2
3 PZB 324	324	3 PZB 324 2V ELEMENT 324 Ah		61		18,5
4 PZB 432	432	4 PZB 432 2V ELEMENT 432 Ah		77		24
5 PZB 540	540	5 PZB 540 2V ELEMENT 540 Ah		93		29,3
6 PZB 648	648	6 PZB 648 2V ELEMENT 648 Ah		109		34,7
7 PZB 756	756	7 PZB 756 2V ELEMENT 756 Ah		125		40
8 PZB 864	864	8 PZB 864 2V ELEMENT 864 Ah		141		45,7
9 PZB 792	792	9 PZB 792 2V ELEMENT 792 Ah		157		51
10 PZB 1080	1080	10 PZB 1080 2V ELEMENT 1080 Ah		173		56,4
11 PZB1188	1188	11IPZB1188 2V ELEMENT 1188 Ah		189		62,1
12 PZB1296	1296	12IPZB1296 2V ELEMENT 1296 Ah		205		68,2
13 PZB1404	1404	13IPZB1404 2V ELEMENT 1404 Ah		221		73,5

GEL BATTERIES (PzV)

Traction Gel Batteries (PzV) are valve-regulated systems which are specifically developed for electrical machine charging applications in the Pharmaceutical, Food, Chemical and similar industries for electric material handling machines due to the high operational safety, absence of liquid electrolyte, extreme low emission and high degree of environmental friendliness of the product range. Traction Gel Batteries (PzV) do not require maintenance and can work in below 0 °C temperature conditions as well.



CELL TECHNOLOGY	VRLA TUBULAR
PLATE TECHNOLOGY	+ TUBULAR SPINE, - FLAT GRID
TERMINALS	INSULATED BOLT-ON , FM 10
ELECTROLYTE	SILICA GEL FORM
LIFE CYCLES	UP TO 1400+ @ 80 % D.O.D. At 27 - 30 °C
COMPLIANCES	EN60254-1 & EN60254-2 and IEC254-1 & IEC254-2

- MAINTENANCE-FREE, EXTREMELY LOW SELF-DISCHARGE
- VERY LOW GASEOUS EMISSIONS DURING OPERATION
- FASTER CHARGING (AVAILABILITY OF 1 BATTERY IN 3 SHIFTS)
- SUITABLE FOR THE PHARMACEUTICAL AND FOOD INDUSTRY

LITHIUM ION

TRACTION BATTERIES (LiFePO₄)

VT INDUSTRIAL SL is one-stop solution partner with all inhouse design, assembly, distribution and after-sales services of Lithium-Ion Traction Battery Applications. **VT INDUSTRIAL SL** Lithium-Ion batteries' hardware and software design developed to allow for high usage performance, extreme safety and as well as long life expectancy for all material handling applications. **VT INDUSTRIAL SL** lithium-Ion batteries delivers superior peak power and a fast IC charge rate and as well as complies with strict test standards and can withstand harsh conditions such as collision, extrusion and acupuncture and fire.



CUSTOM BATTERY MANAGEMENT SYSTEMS (BMS)

Battery Management Systems (BMS) are designed and tested inhouse by our highly experienced engineering team. Our background in complex electronic systems means **VT INDUSTRIAL** can design everything, from the system and schematic design, to hardware and the embedded firmware as per the client's or application's requirements.

EXTREME LOW TOTAL COST OF OWNERSHIP

Using Lithium-Ion Battery systems generate up to 100 % savings for multi-shift operations in labor, energy, performance, maintenance, life-span, charging space and all total value of investment.

MAINTENANCE-FREE

No distilled water filling, no replacement of substitute battery, no corrosion, no physical cleaning required.

ENHANCED SAFETY

Thermal stability, resistant to thermal runaway even under extreme conditions. Separate sensors and switches for modules and the BMS with multiple built-in protection, thermal and chemical stability.

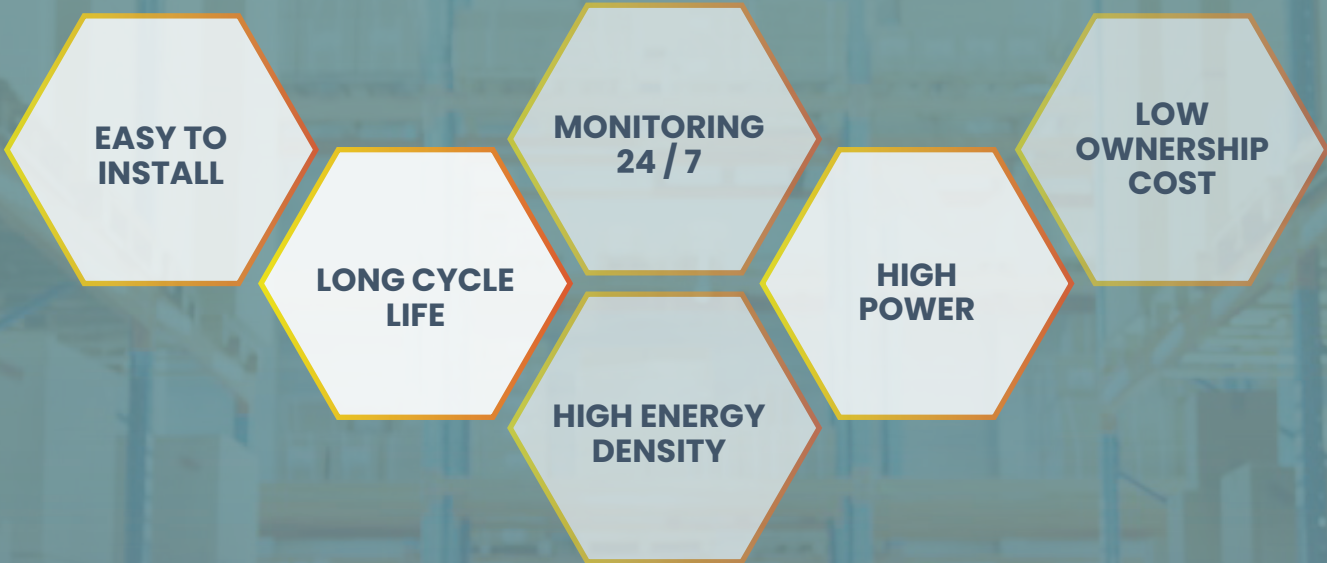
INTELLIGENT MANAGEMENT SYSTEM

24/7 monitoring of cell voltage, cell temperature, battery current and protection against overvoltage, undervoltage, overtemperature and overcurrent. Ultra-fast and accurate cell equalisation, highly accuracy State of Charge (SOC) follow are other features of our BMS.

COMMUNICATION PROTOCOLS

Excellent adaptation to any relevant communication protocols such as CANBus, CANOpen.

CHEMISTRY	Lithium Iron Phosphate (LiFePO₄)
BMS TECHNOLOGY	VT Industrial Design, full customisable to meet different needs of the application
STANDARDIZATION	Standard 24V, 48V and 80V modules compatible with 80% forklift and AWP models.
OPERATING TEMPERATURE	"Charging (0 C° ~ 50 C°), Discharging (-20 C° ~ 55C°)"
CHARGE TIME / EFFICIENCY	1 - 2 Hours / 95 %
SWITCHES	Separate Dual - Power Ports (Charge & Discharge)
PROTECTION	IP67 protection on cell packs and on batteries (optional)
LIFE CYCLES	≥ 3500 Cycle (Capacity ≥ %80 @0.5C Charge - 0.5C Discharge @25±2 C°)
MONITORING	Intelligent 5G or Wi-fi Onboard Monitoring and high precision data collection (optional)



LITHIUM ION TRACTION BATTERIES (LiFePo4)

VDC	V	Ah	Kwh	Weight (kg)
25,6	24	100	2,56	30,0
25,6	24	150	3,6	38,0
25,6	24	200	4,8	57,0
25,6	24	300	7,2	58,0
51,2	48	200	9,6	80,0
51,2	48	300	14,4	155,0
51,2	48	400	19,2	140,0
51,2	48	500	24	200,0
51,2	48	600	30,72	220,0
77,8	80	200	15,56	220,0
77,8	80	300	23,34	240,0
77,8	80	400	31,12	260,0
77,8	80	500	38,9	300,0
77,8	80	600	46,68	340,0

SEMI TRACTION

DEEP CYCLE FLOODED SEMI-TRACTION BATTERIES

VT INDUSTRIAL SL Deep Cycle Lead-Acid Battery range is designed for light and semi-traction applications along with an innovative design compatible with all universal cyclic applications such as **Pallet Trucks, Aerial Work Platforms and Floor Cleaning Machines.**

- * EXTREME OPERATIONAL PERFORMANCE
- * EASILY TO ACHIEVE 1000 CYCLE LIFE SPAN (IEC 60254)
- * LOWEST SELF DISCHARGE AND LOWEST OWNERSHIP COST
- * WIDE RANGE OF OPERATING TEMPERATURES
- * COMPLETELY RECYCLABLE



TECHNOLOGY	DEEP-CYCLE FLOODED LEAD-ACID
TERMINAL	UTL, DUAL
IU CHARGING	"I = min. 12% C₅ max. 18% C₅ = 2.45 V per cell"
IUI CHARGING	"I1 = min. 12% C ₅ max. 18% C ₅ = 2.4 V per cell I2 = 1.5 % C ₅ for max. 4 hours
"LIFE CYCLE	UP TO 1000 cycles (IEC 60254)
COMPLIANCES	EN60254-1 & EN60254-2 and IEC254-1 & IEC254-2

Nominal Voltage	Capacity Ah (c ₂₀)	Capacity Ah Ah(c ₂₀)	Group Size	Lenght (mm)	Widht (mm)	Height (C) (mm)	Height (D) (mm)	Weight (kg)	Terminal
6	225	185	GC2	260	180	247	277	28	UTL
6	315	270	J305	308	174	339	365	40,5	DUAL
6	390	320	L16	308	174	388	416	48	DUAL
8	170	145	GC2	260	180	247	277	29	UTL

DEEP CYCLE CARBON NANO FLOODED SEMI TRACTION BATERIES

VT INDUSTRIAL Carbon Nano Tube technology delivers greater charge acceptance and longer life due to its deep discharge resilience versus conventional lead acid batteries. VT INDUSTRIAL Carbon Nano Flooded Batteries are compatible for deep cycle applications, have ultra energy efficiency due to low resistance, suitable for opportunity charging with up to 2 x faster recharge and suitable for extreme temperature variants.

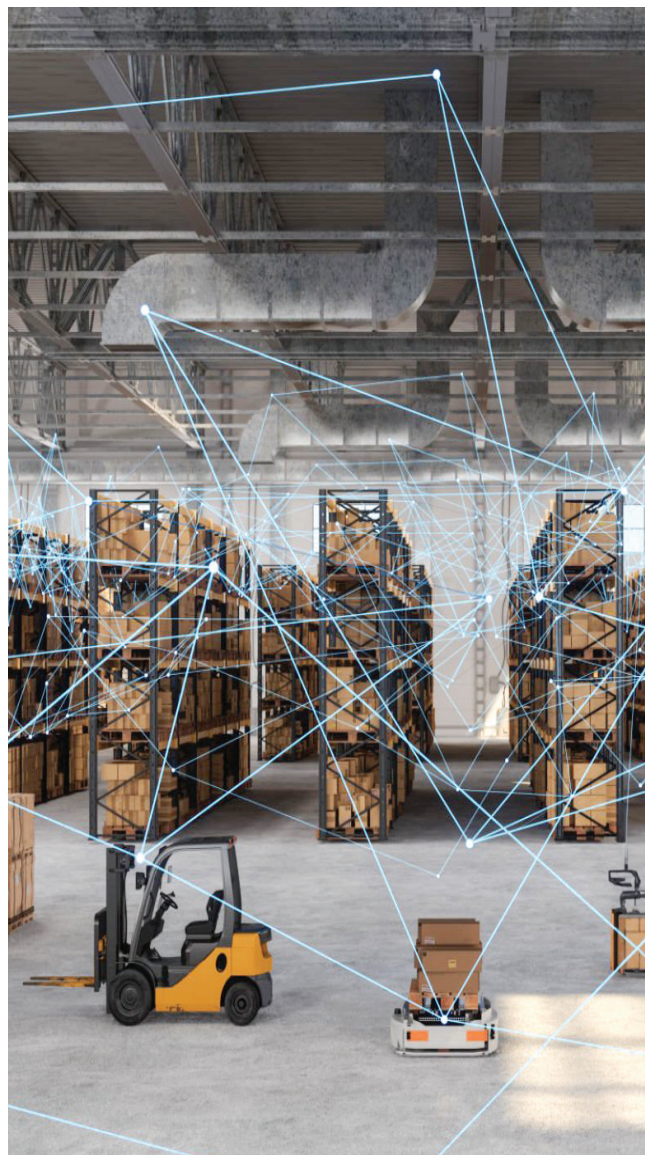
TECHNOLOGY	NANOTUBE CARBON TECHNOLOGY
TERMINAL	UTL, DUAL
IU CHARGING	"I1 = min. 12% C₅ max. 40% C₅ = 2.45 V per cell I2 = 6 % C₅ for max. 4 hours"
LIFE CYCLE	UP TO 2 x cyclic life
COMPLIANCES	EN60254-1 & EN60254-2 and IEC254-1 & IEC254-2

Nominal Voltage	Capacity Ah (c ₂₀)	Capacity Ah Ah(c ₂₀)	Group Size	Lenght (mm)	Widht (mm)	Height (C) (mm)	Height (D) (mm)	Weight (kg)	Terminal
(V)	225	185	GC2	260	180	247	277	28	UTL
6	240	195	GC2	260	180	247	277	30	UTL
6	315	270	J305	308	174	339	365	40,5	DUAL
6	350	295	J305	308	174	339	365	44	DUAL
6	390	320	L16	308	174	388	416	48	DUAL
6	420	345	L16	308	174	388	416	50	DUAL
8	170	145	GC8	260	180	247	277	29	UTL
12	150	120	GC12	333	183	248	280	39	UTL

DEEP CYCLE GEL SEMI TRACTION BATTERIES

Deep Cycle valve regulated Gel Batteries are preliminary designed for the light traction market for the golf carts, electrical vehicles, wheelchairs, floor cleaning machines and electric working platforms. With an innovative Gel-technology and maintenance free design, long cycle life and low self discharge rate Deep Cycle Gel Batteries are compatible with all universal cyclic applications.

- * GOOD HIGH CURRENT PERFORMANCE FOR EXTREME OPERATING CONDITIONS
- * 700 CYCLES (DIN EN 60254-1) (IEC 254-1)
- * AVAILABLE 45 TO 290 Ah (C_5)
- * LOWEST SELF DISCHARGE UP TO 2 YEARS SHELF LIFE
- * WIDE RANGE OF OPERATING TEMPERATURES
- * COMPLETELY RECYCLABLE



TECHNOLOGY	DEEP-CYCLE FLOODED LEAD-ACID
TERMINAL	M8 / AP / DU / ST
IU CHARGING	"I = min. 12% C_5 max. 18% C_5 = 2.45 V per cell"
IUI CHARGING	"I1 = min. 12% C_5 max. 18% C_5 = 2.4 V per cell I2 = 1.5 % C_5 for max. 4 hours"
LIFE CYCLE	UP TO 700 cycles (IEC 60254)
COMPLIANCES	EN60254-1 & EN60254-2 and IEC254-1 & IEC254-2

Nominal Voltage	Capacity Ah (C_{20})	Capacity Ah (C_{20})	Group Size	Length (mm)	Width (mm)	Height (C) (mm)	Weight (kg)	Terminal
6	210	184	-	243	187	274	32	M8 / AP
6	206	180	C2	260	180	258	33	M8 / AP / DU / ST
6	280	245	BCI 305	302	178	346	45	M8 / AP / DU / ST
6	331	290	L16	302	178	405	53	M10 / AP / DU / ST
12	54	46	CI 34	254	168	177	18	M6 / AP / DU / ST
12	61	54	BCI 34	254	168	175	21	M6 / AP / DU / ST
12	80	71	BCI 24	254	168	202,5	25	M8 / AP / DU / ST
12	87	78	BCI27	307	168	211	32	M8 / AP / DU / ST
12	94	85	CI 31	329	170	205	32	M8 / AP / DU / ST
12	123	108	BCI 12 / 5SHP	329	170	258	42	A-POLE
12	127	114	DIN A	513	189	196	45	M8 / AP / DU / ST
12	159	132	IN B	513	223	196	54	M8 / AP / DU / ST
12	159	132	CI 4D DIN C	513	223	196	54	M8 / AP / DU / ST
12	212	177	CI 8D	518	274	215	68	M8 / AP / DU / ST
12	212	177	-	518	274	215	68	M8 / AP / DU / ST

DEEP CYCLE GEL SOLAR AND LEISURE BATTERIES

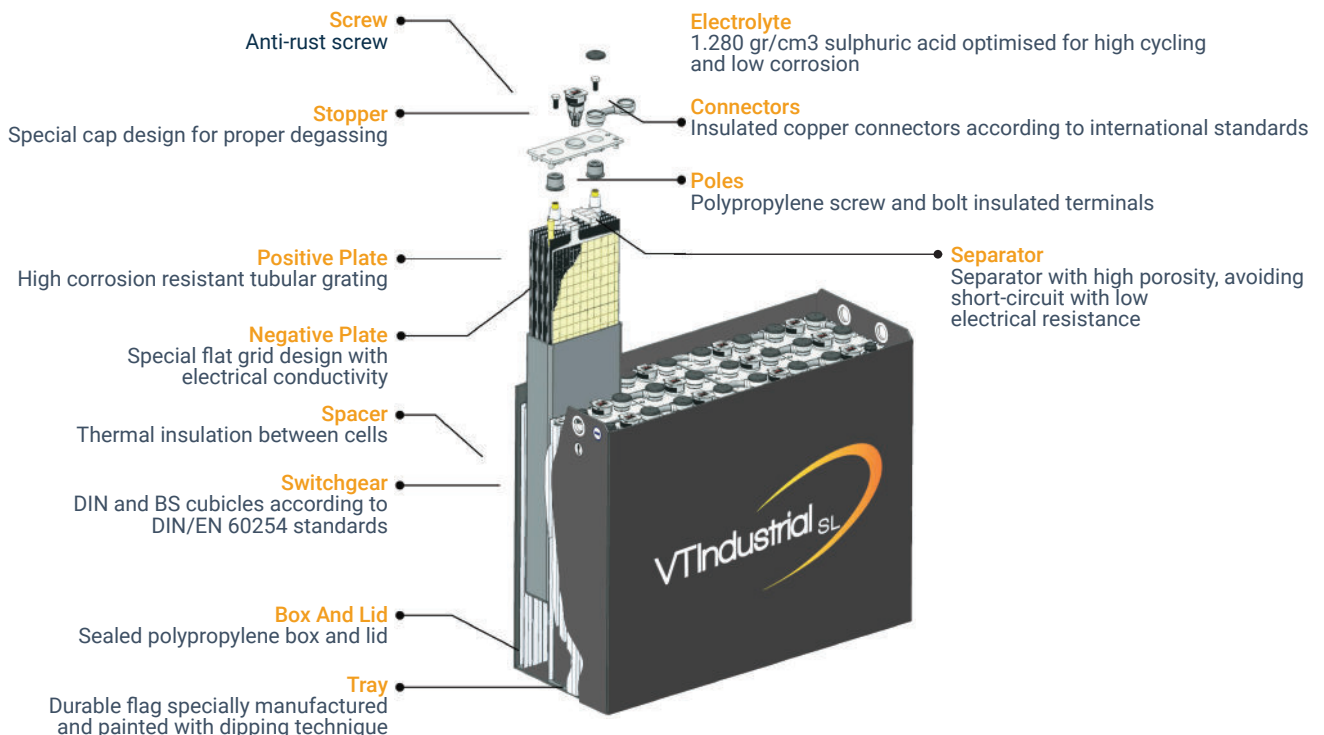
Valve Regulated Lead-acid batteries in gel form suitable for deep cycle applications and compatible with all universal cyclic, solar and renewable applications. For Caravans, Motorhomes, Boats and Maritime leisure applications.

- * 100 % MAINTENANCE-FREE
- * WIDE RANGE OF CAPACITY BETWEEN 56 to 210 Ah (C20)
- * 700 CYCLES @ 80% DOD (DIN EN 60254-1) (IEC 254-1)
- * EXCELLENT HIGH-CURRENT PERFORMANCE FOR EXTREME CONDITIONS
- * LOW SELF DISCHARGE AND UP TO 2 YEARS SHELF LIFE
- * AVAILABLE FOR IN-HOUSE SERVICE AND FULLY RECYCLABLE



TECHNOLOGY	DEEP-CYCLE FLOODED GEL
TERMINAL	M8 / AP / DU / ST
IU CHARGING	"I = min. 12% C₅ max. 18% C₅ = 2.4 V per cell"
IUI CHARGING	"II = min. 12% C ₅ max. 18% C ₅ = 2.35 V per cell I2 = 1.5 % C ₅ for max. 4 hours"
LIFE CYCLES	UP TO 700 cycles (IEC 60254)
COMPLIANCES	EN60254-1 & EN60254-2 and IEC254-1 & IEC254-2

Nominal Voltage	Capacity Ah (C ₂₀)	Group Size	Length (mm)	Width (mm)	Height (C) (mm)	Weight (Kg)	Terminal	CCA (EN)
6	206	GC02	260	180	258	33	M8 / AP / DU / ST	
12	56	DIN L3	277	175	190	21	A-POLE	410
12	81	DIN L5	350	175	190	28	A-POLE	540
12	94	BCI 31	329	170	205	32	M8 / AP / DU / ST	460
12	123	BCI 12	329	170	258	42	M8 / AP / DU / ST	750
12	127	DIN A	513	189	196	45	A-POLE	760
12	159	DIN B	513	223	196	54	M8 / AP / DU / ST	
12	159 *	BCI 4D	513	223	196	54	M8 / AP / DU / ST	900
12	212	DIN C	518	274	215	68	M8 / AP / DU / ST	
12	212	BCI 8D	518	274	215	68	M8 / AP / DU / ST	1030



DEEP CYCLE CARBON NANO GEL BATTERIES

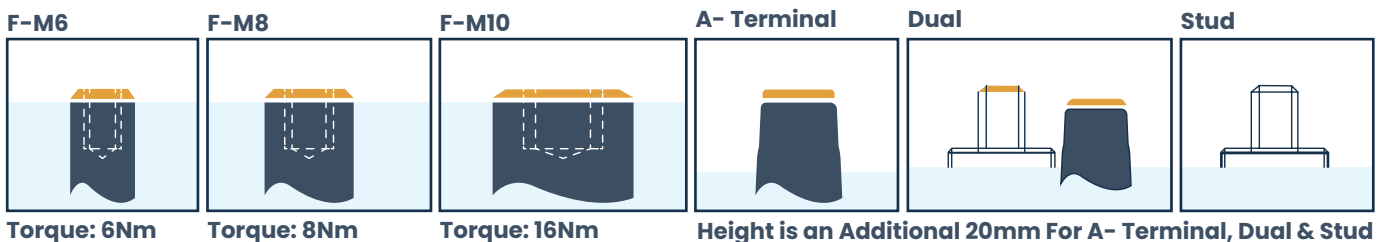
Carbon Nanotube Technology delivers enhanced consistency of performance, improved charge acceptance and longer life versus conventional systems. The product range is suitable for all **motive, leisure, solar & network power applications: Electric Vehicles, Cleaning Machines Wheelchairs, Electric Working Platforms, UPS Systems, Traffic Systems, Telecommunications, Emergency Lighting, Caravans/Motorhomes RV's, Maritime, Solar, Renewable Energy and Home Invertors.**

- * 100 % MAINTENANCE-FREE
- * UP TO 2 X FASTER RECHARGE PERFORMANCE
- * ULTRA-ENERGY EFFICIENT DUE TO LOW RESISTANCE
- * +1500 CYCLES OF LIFE WITH REDUCED OPERATING TEMPERATURES
- * INCREASED DESIGN LIFE FOR FOR 12 TO 15 YEARS
- * EXCELLENT HIGH-CURRENT PERFORMANCE FOR EXTREME CONDITIONS



TECHNOLOGY	NANOTUBE CARBON TECHNOLOGY
TERMINAL	M8 / AP / DU / ST / A POLE
IU CHARGING	"I = min. 12% C₅ max. 30% C₅ = 2.4 V per cell"
IUI CHARGING	"I1 = min. 12% C ₅ max. 40% C ₅ = 2.35 V per cell I2 = 1.5 % C ₅ for max. 4 hours"
LIFE CYCLE	UP TO 1500 cycles (IEC 60254)
COMPLIANCES	EN60254-1 & EN60254-2 and IEC254-1 & IEC254-2

Nominal Voltage V	M.R.C. 25 Amps	Capacity (Ah C ₅)	Capacity Ah (C ₂₀)	Group Size	Lenght (mm)	Widht (mm)	Height (C) (mm)	Weight (kg)	Terminal
6	435	180	206	GC2	260	180	258	33	M8 / AP / DU / ST
6	435	184	210	-	243	187	274	32	M8/ AP
6	595	245	280	BCI 305	302	178	346	45	M8 / AP / DU / ST
6	750	290	331	L16	302	178	405	53	M10 / AP / DU / ST
12	150	71	80	BCI 24	254	168	202	25	M6 / AP / DU / ST
12	165	78	87	BCI 27	307	168	211	32	M8 / AP / DU / ST
12	170	85	94	BCI 31	329	170	205	32	M8 / AP / DU / ST
12	100	54	61	BCI 34	254	168	175	21	M6 / AP / DU / ST
12	100	51	56	DIN L3	277	175	190	21	A-POLE
12	155	73	81	DIN L5	350	175	190	28	A-POLE
12	230	108	123	-	329	170	258	42	M8 / AP / DU / ST
12	325	132	159	BCI 4D	513	223	196	54	M8 / AP / DU / ST
12	430	177	212	BCI 8D	518	274	215	68	M8 / AP / DU / ST
12	245	114	127	Type A	513	189	196	45	A-POLE
12	325	132	159	Type B	513	223	196	54	M8 / AP / DU / ST
12	430	177	212	Type C	518	274	215	68	M8 / AP / DU / ST



± 5% Weight Tolerance



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