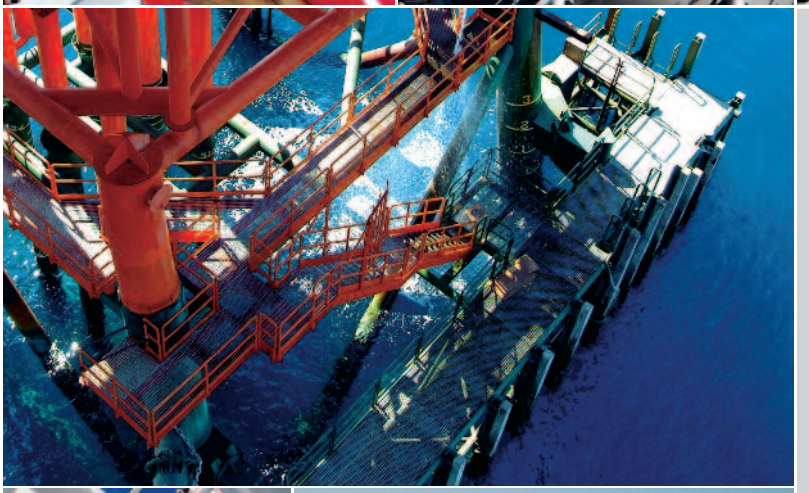
Uptimax New Generation Ni-Cd battery

Maintenance-free solution for backup power applications



saft

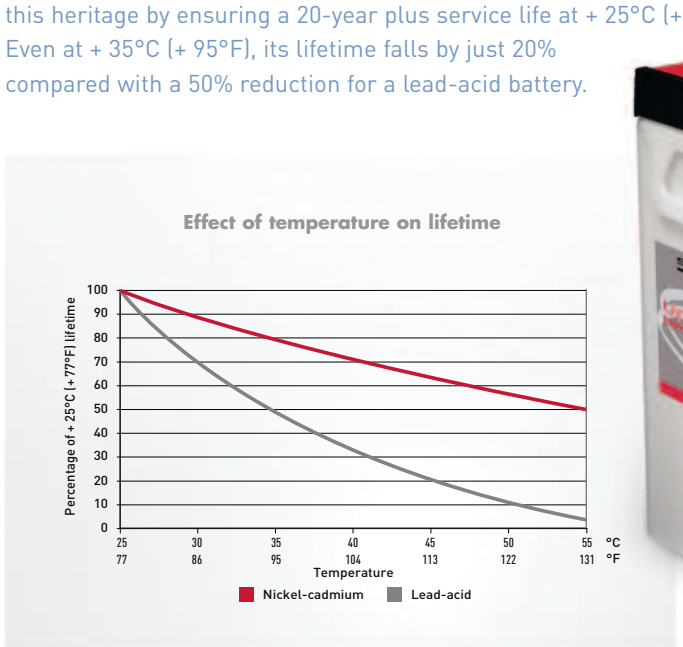
Uptimax New Generation
The ideal choice for total security and availability

Saft – your trusted battery partner for stationary applications

Saft has over 100 years of experience working in partnership with leading industrial customers to deliver well-proven Ni-Cd battery solutions optimized to ensure the total security and availability of stationary applications including power backup, engine starting and bulk energy storage. Our R&D and engineering philosophy is focused on continual improvement of every aspect of our technologies and industrial processes, ensuring that all Saft products and components are designed and manufactured to the very highest quality standards. Saft's comprehensive global service provides expert support throughout every stage of your battery's life from initial concept through volume supply, installation and training to end of life recycling.

Uptimax New Generation ensures total reliability and long life – even at high temperatures

Saft's robust Ni-Cd technology set the benchmark for industrial batteries operating in difficult and demanding conditions. It has established a reputation for performance, reliability and a long, totally predictable, service life – with no risk of sudden death failure. Uptimax New Generation builds on this heritage by ensuring a 20-year plus service life at + 25°C (+ 77°F). Even at + 35°C (+ 95°F), its lifetime falls by just 20% compared with a 50% reduction for a lead-acid battery.



Uptimax New Generation
Developed for demanding industrial installations

Uptimax New Generation: The maintenance-free[1] battery for stationary applications

Uptimax New Generation is Saft's latest development in Ni-Cd pocket plate battery technology. It combines maintenance-free[1] operation with total reliability to provide the ideal backup power solution for industrial installations.

Together with other key features such as its low pressure flame arresting vent, improved electrical performance and enhanced chargeability, Uptimax New Generation delivers an optimized TCO (Total Cost of Ownership).

Uptimax New Generation: Vital support for critical systems

Uptimax New Generation batteries are at the heart of power backup systems throughout the oil & gas exploration and production, utility and manufacturing industries. If mains power is lost, Uptimax New Generation delivers the vital power to ensure the continuity of mission-critical loads, facilitate safe shutdown processes, bridge to standby power and safeguard computer data. Typical power backup applications include: UPS, substation switchgear, process control systems, emergency lighting, fire alarms and security systems.

(1) The term maintenance-free means that no addition of water is necessary during the life time of the product when operating under Saft's recommended conditions.

Uptimax New Generation
Delivering enhanced performance and maintenance-free operation



Maintenance-free[1] design reduces battery service costs

Uptimax New Generation is maintenance-free[1] thanks to a new high-tech design concept.

- Uptimax never needs water to be added throughout its entire service life (under Saft's recommended operating conditions - from - 20°C (- 4°F) to + 40°C (+ 104°F), at 1.42 V/cell with temperature compensation)
- Maintenance is reduced to a minimum: only preventive maintenance is necessary
- The high level of gas recombination is beyond the requirements of IEC 62259 (recombination level higher than 95%), and reduces water consumption and gas emissions
- Uptimax is equiped with a new low pressure flame arresting vent which operates as a valve regulated vent

Enhanced performance optimizes battery life cost

Uptimax New Generation offers enhanced performance compared with the original Uptimax. This enables installers to specify a battery optimized for their specific application, saving on initial purchase costs.

- The new design improves the battery's electrical performance by up to 10%, depending on the required discharge time
- Commissioning is simple and easy, even after 6 months of storage it can still be carried out using any commercially available charger

Good chargeability minimizes battery down-time

Uptimax New Generation features fast and simple charging, within a narrow voltage window, for minimal down-time and maximum availability.

- Single or two-level charging regimes are possible:
  - Single level charge
    - 1.42 ± 0.01 V/cell
  - Two level charge
    - Float level: 1.42 ± 0.01 V/cell
    - High level: 1.45 ± 0.01 V/cell
- More than 90% of capacity becomes available, at + 20°C (+ 68°F), after a constant voltage charge at 1.42 V/cell for 15 hours with an available charge current of 0.1 C_5A

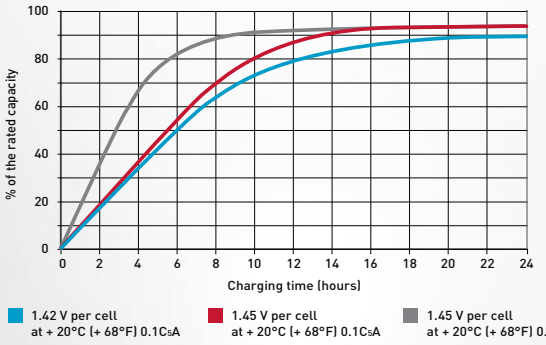
(1) The term maintenance-free means that no addition of water is necessary during the life time of the product when operating under Saft's recommended conditions.

Total reliability ensures the safe operation of your industrial equipment, in even the most demanding operating conditions

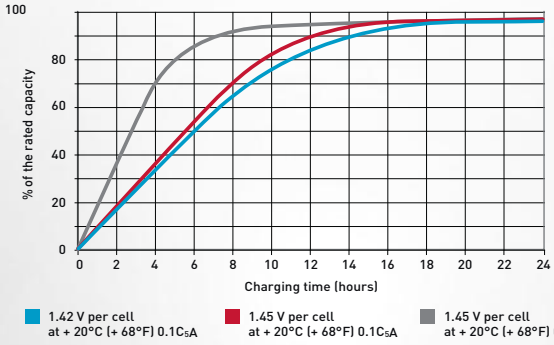
Uptimax New Generation provides complete peace of mind, whatever the application, whatever the location.

- Total reliability is based on a unique Ni-Cd electrochemistry/technology combined with the well proven Saft Nife® pocket plate design
- It enables a long service life of over 20 years at + 25°C (+ 77°F)
- Robust construction eliminates risk of sudden death failure
- Uptimax delivers long life and outstanding performance in temperatures up to + 40°C (+ 104°F) and tolerates - 40°C (- 40°F) to + 70°C (+ 158°F) for short durations

Available capacity after constant voltage charge
Available charge current 0.1C_5A or 0.2 C_5A for L type cell

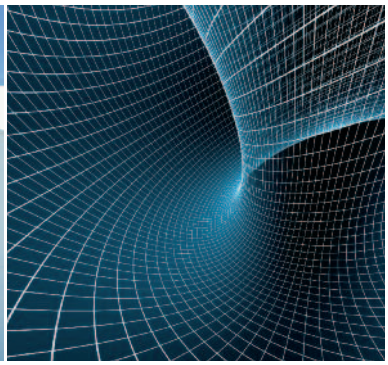


Available capacity after constant voltage charge
Available charge current 0.1C_5A or 0.2 C_5A for M type cell



Uptimax New Generation
Modular approach based on flexible block configurations



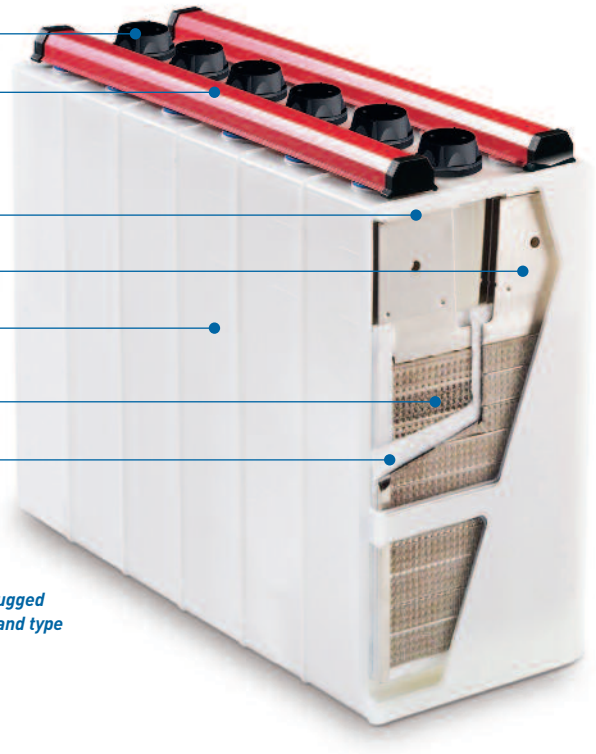


Facilitates ease of handling, installation and operation

Uptimax New Generation batteries make transportation, installation and operation fast and easy.

- Batteries are only delivered filled with electrolyte and in electrically charged condition
- Storage for up to 2 years in normal conditions is possible
- Design enables batteries to be assembled in blocks of up to 10 cells connected in series
- Flexible block configuration makes the battery easy and fast to install

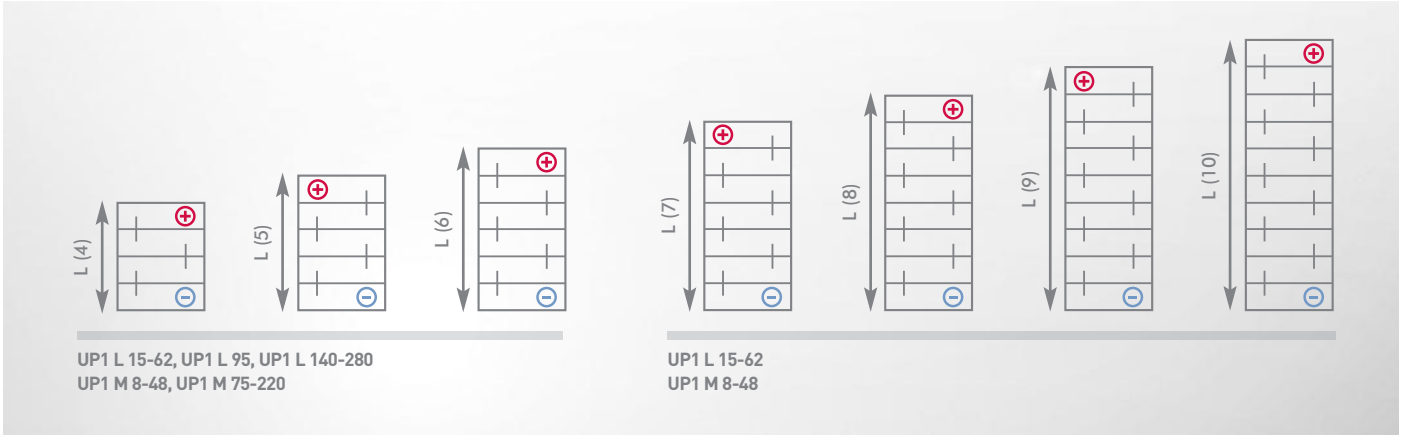
Uptimax construction features



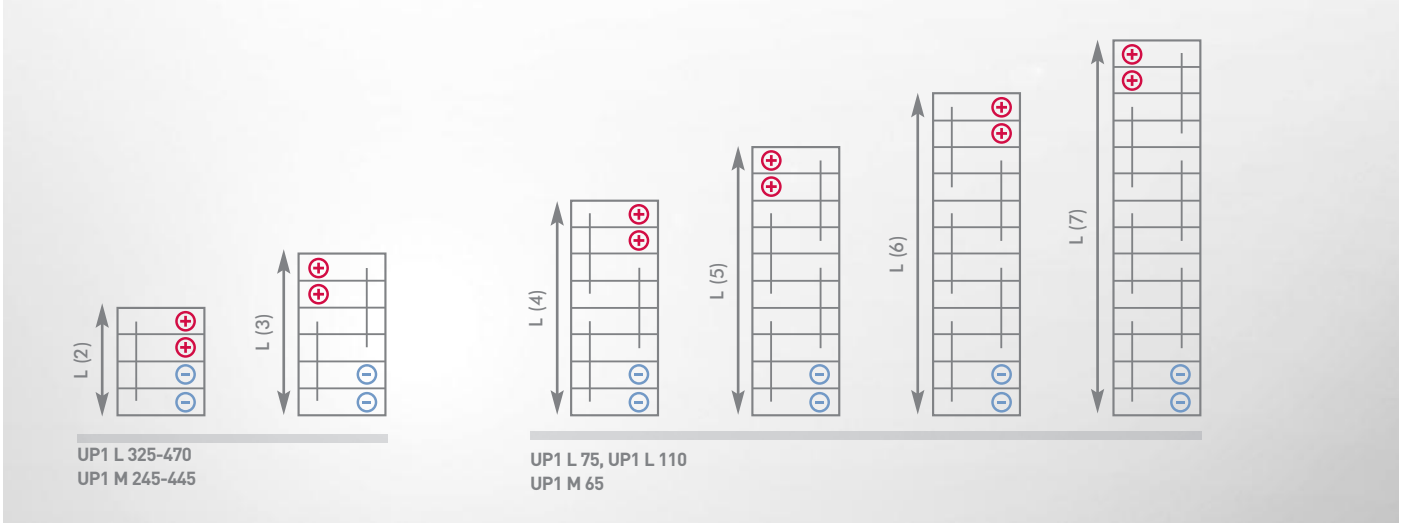
Cells are welded together to form a rugged block up to 10 depending on cell size and type

Flexible configuration based on cell blocks

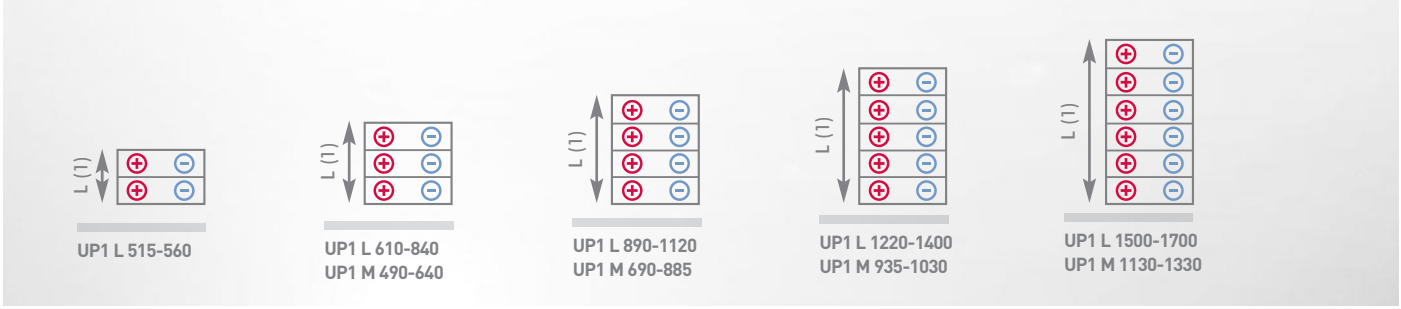
With single pole bolts



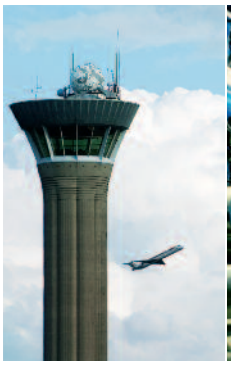
With double pole bolts



With 2-6 bolts per pole, crosswise mounted on racks



Uptimax New Generation
Easy to operate and install



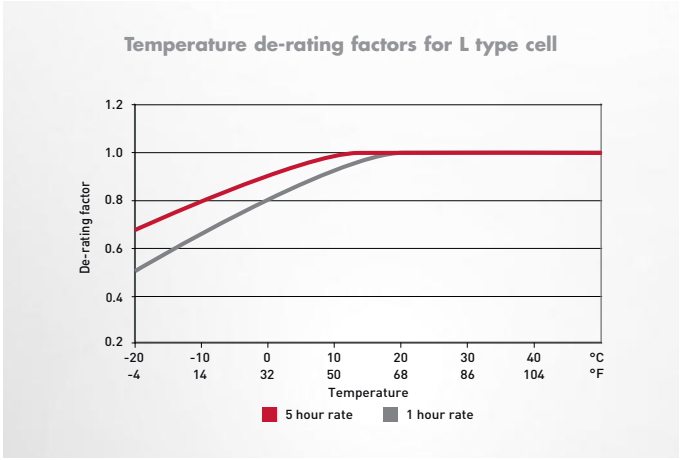
A wide choice of capacity and performance

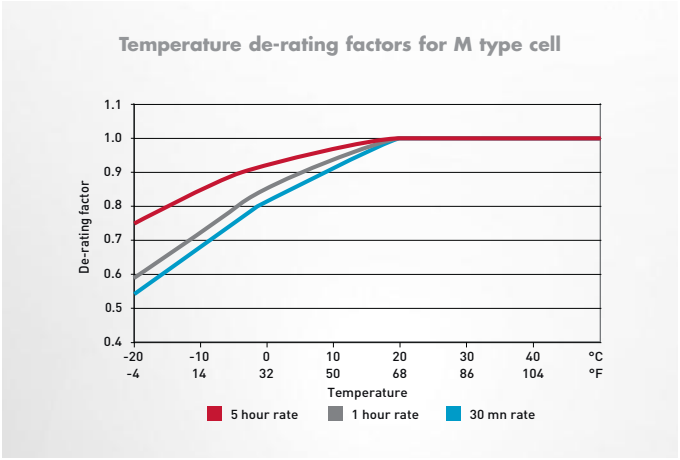
Uptimax New Generation cells are available in capacities from 8 – 1700 Ah in a choice of two ranges:

- UP1 L energy range, optimized for long discharge periods with a relatively low current
- UP1 M medium power range, specifically designed for mixed loads with varying current

Uptimax New Generation UP1 L
L type cell
Range of 34 cells
15 – 1700 Ah
For low rate discharges over long periods between 1 and 100 hours

Uptimax New Generation UP1 M
M type cell
Range of 38 cells
8 – 1330 Ah
For varied loads with low and high discharge rates, between 30 minutes and 3 hours





Uptimax New Generation batteries are designed in full compliance with the highest quality, safety and environmental standards

Electrical characteristics:

- Certified IEC 62259 - Secondary cells and batteries containing alkaline or other non-acid electrolytes - Nickel-cadmium prismatic secondary single cells with partial gas recombination. Uptimax New Generation exceeds gas recombination requirements.
- Certified IEC 60623 - Secondary cells and batteries containing alkaline or other non-acid electrolytes - Vented nickel-cadmium prismatic rechargeable single cells.

Safety:

- Complies with EN 50272-2/ IEC 62485-2 - Safety requirements for secondary batteries and battery installations - Part 2: Stationary batteries - The protective covers for terminals and connectors, the insulated cables are compliant with IP2 level protection against electrical shocks according to safety standard.

Quality:

- ISO 9001 and ISO 14001
- Saft world class continuous programme

Environment & Recycling:

- Fully recyclable
- RoHS – Although batteries and accumulators are not within the scope of the RoHS directive, Saft has taken voluntary measures to make sure that the substances forbidden by RoHS are not present in the battery, with the exception of the electro-chemical core.
- REACH – The Saft Group has adopted internal procedures to ensure conformity with the European REACH (Registration, Evaluation, Authorisation and Restriction of Chemical Substances) Regulation.

Saft offers total end to end application support

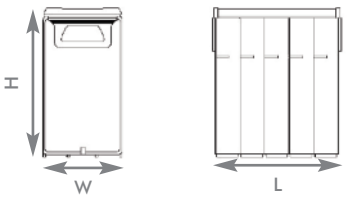
Saft's stationary battery experts can call upon a comprehensive range of skills and expertise to help our global customer specify the ideal battery solution for their particular application.
Our end to end support starts at the design stage, such as advice on battery sizing, and carries customers through installation and commissioning.
Saft after-sales cover support, maintenance, diagnostic services as well as end of life recycling.
Saft organizes battery training seminars for consultants, engineering and maintenance departments.
To ensure that our customers receive the optimum service, wherever they are in the world, Saft is continuing to expand and enhance its network of approved service stations in the Middle East, Asia and North America.

Uptimax New Generation
Physical properties L range



Cell type	Capacity	Height		Width		Length per block														Approx. weight per cell		Internal resistance[1]	Cell connection bolt per pole
						4 cells		5 cells		6 cells		7 cells		8 cells		9 cells		10 cells					
	C_5 Ah	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	mOhm	
UP1 L 15	15	270	10,6	123	4,8	123	4,8	153	6,0	181	7,1	210	8,3	239	9,4	268	10,6	297	11,7	1,10	2,42	12,1	M6
UP1 L 30	30	270	10,6	123	4,8	143	5,62	177	6,96	211	8,30	245	9,65	279	11,0	313	12,3	347	13,7	1,80	3,96	6,03	M6
UP1 L 47	47	270	10,6	123	4,8	191	7,51	237	9,33	283	11,1	329	13,0	375	14,8	421	16,6	467	18,4	2,50	5,51	3,85	M6
UP1 L 62	62	270	10,6	123	4,8	239	9,40	297	11,6	355	13,9	413	16,3	471	18,5	529	20,8	587	23,1	3,20	7,05	2,92	M6
UP1 L 75	75	270	10,6	123	4,8	329	12,9	409	16,1	490	19,2	571	22,5	-	-	-	-	-	-	4,30	9,47	2,41	2xM6
UP1 L 95	95	421	16,6	195	7,7	156	6,14	192	7,55	228	8,97	-	-	-	-	-	-	-	-	4,90	10,8	2,55	M8
UP1 L 110	110	270	10,6	123	4,8	425	16,7	529	20,8	634	24,9	739	29,1	-	-	-	-	-	-	5,70	12,5	1,65	2xM6
UP1 L 140	140	421	16,6	195	7,7	204	8,03	252	9,92	300	11,8	-	-	-	-	-	-	-	-	6,70	14,7	1,73	M10
UP1 L 185	185	421	16,6	195	7,7	252	9,92	312	12,2	372	14,6	-	-	-	-	-	-	-	-	8,40	18,5	1,31	M10
UP1 L 235	235	421	16,6	195	7,7	304	11,9	377	14,8	450	17,7	-	-	-	-	-	-	-	-	9,90	21,8	1,03	M10
UP1 L 280	280	421	16,6	195	7,7	352	13,8	437	17,2	522	20,5	-	-	-	-	-	-	-	-	11,5	25,3	0,86	M10

Cell type	Capacity	Height		Width		Length per block						Approx. weight per cell		Internal resistance[1]	Cell connection bolt per pole
						1 cell		2 cells		3 cells					
	C_5 Ah	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	mOhm	
UP1 L 325	325	421	16,6	195	7,7	-	-	228	8,97	336	13,2	15,1	33,2	0,74	2xM10
UP1 L 375	375	421	16,6	195	7,7	-	-	252	9,92	372	14,6	16,8	37,0	0,65	2xM10
UP1 L 420	420	421	16,6	195	7,7	-	-	278	10,9	411	16,1	18,3	40,3	0,58	2xM10
UP1 L 470	470	421	16,6	195	7,7	-	-	304	11,9	450	17,7	19,8	43,6	0,51	2xM10
UP1 L 515	515	405	15,9	195	7,7	171	6,73	-	-	-	-	21,4	47,1	0,47	2xM10
UP1 L 560	560	405	15,9	195	7,7	183	7,20	-	-	-	-	23,0	50,7	0,43	2xM10
UP1 L 610	610	405	15,9	195	7,7	207	8,14	-	-	-	-	26,5	58,4	0,40	3xM10
UP1 L 650	650	405	15,9	195	7,7	219	8,62	-	-	-	-	28,2	62,1	0,37	3xM10
UP1 L 700	700	405	15,9	195	7,7	232	9,13	-	-	-	-	29,7	65,4	0,35	3xM10
UP1 L 750	750	405	15,9	195	7,7	243	9,56	-	-	-	-	31,4	69,2	0,32	3xM10
UP1 L 800	800	405	15,9	195	7,7	256	10,0	-	-	-	-	32,9	72,5	0,3	3xM10
UP1 L 840	840	405	15,9	195	7,7	268	10,5	-	-	-	-	34,5	76,0	0,29	3xM10
UP1 L 890	890	405	15,9	195	7,7	291	11,4	-	-	-	-	38,1	83,9	0,27	4xM10
UP1 L 940	940	405	15,9	195	7,7	304	11,9	-	-	-	-	39,6	87,3	0,26	4xM10
UP1 L 980	980	405	15,9	195	7,7	315	12,4	-	-	-	-	41,2	90,8	0,25	4xM10
UP1 L 1030	1030	405	15,9	195	7,7	327	12,8	-	-	-	-	42,9	94,5	0,23	4xM10
UP1 L 1120	1120	405	15,9	195	7,7	352	13,8	-	-	-	-	46,0	101,4	0,22	4xM10
UP1 L 1220	1220	405	15,9	195	7,7	387	15,2	-	-	-	-	51,3	113,0	0,20	5xM10
UP1 L 1300	1300	405	15,9	195	7,7	412	16,2	-	-	-	-	54,4	119,9	0,19	5xM10
UP1 L 1400	1400	405	15,9	195	7,7	437	17,2	-	-	-	-	57,5	126,7	0,17	5xM10
UP1 L 1500	1500	405	15,9	195	7,7	472	18,5	-	-	-	-	62,8	138,4	0,16	6xM10
UP1 L 1600	1600	405	15,9	195	7,7	497	19,5	-	-	-	-	65,9	145,2	0,15	6xM10
UP1 L 1700	1700	405	15,9	195	7,7	522	20,5	-	-	-	-	69,0	152,1	0,14	6xM10



The block length and weight are determined by the number of cells in the block. All tabulated dimensions are maximum values.

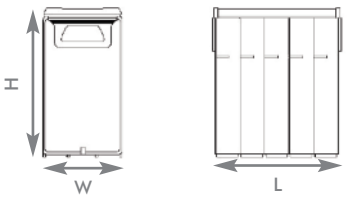
(1) Rigid connector included

Uptimax New Generation
Physical properties M range



Cell type	Capacity	Height		Width		Length per block														Approx. weight per cell		Internal resistance[1]	Cell connection bolt per pole
						4 cells		5 cells		6 cells		7 cells		8 cells		9 cells		10 cells					
	C_5 Ah	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	mOhm	
UP1 M 8	8	270	10,6	123	4,8	123	4,8	153	6,0	181	7,1	210	8,3	239	9,4	268	10,6	297	11,7	1,10	2,42	12,5	M6
UP1 M 16	16	270	10,6	123	4,8	123	4,84	152	5,96	181	7,12	210	8,27	239	9,41	268	10,6	297	11,7	1,50	3,30	6,25	M6
UP1 M 24	24	270	10,6	123	4,8	143	5,62	177	6,94	211	8,30	245	9,65	279	10,9	313	12,3	347	13,6	1,80	3,96	4,17	M6
UP1 M 32	32	270	10,6	123	4,8	191	7,51	237	9,31	283	11,1	329	13,0	375	14,8	421	16,6	467	18,4	2,50	5,51	3,13	M6
UP1 M 40	40	270	10,6	123	4,8	239	9,40	297	11,6	355	13,9	413	16,3	471	18,5	529	20,8	587	23,1	3,20	7,05	2,50	M6
UP1 M 48	48	270	10,6	123	4,8	239	9,40	297	11,6	355	13,9	413	16,3	471	18,5	529	20,8	587	23,1	3,30	7,27	2,08	M6
UP1 M 65	65	270	10,6	123	4,8	377	14,8	469	18,4	562	22,1	655	25,8	-	-	-	-	-	-	5,00	11,0	1,54	2xM6
UP1 M 75	75	421	16,6	195	7,7	156	6,14	192	7,55	228	8,97	-	-	-	-	-	-	-	-	4,90	10,8	1,52	M8
UP1 M 100	100	421	16,6	195	7,7	186	7,32	230	9,03	273	10,7	-	-	-	-	-	-	-	-	6,30	13,8	1,14	M8
UP1 M 125	125	421	16,6	195	7,7	228	8,97	282	11,1	336	13,2	-	-	-	-	-	-	-	-	7,60	16,7	0,91	M10
UP1 M 150	150	421	16,6	195	7,7	252	9,92	312	12,2	372	14,6	-	-	-	-	-	-	-	-	8,40	18,5	0,76	M10
UP1 M 170	170	421	16,6	195	7,7	304	11,9	377	14,8	450	17,7	-	-	-	-	-	-	-	-	9,90	21,8	0,67	M10
UP1 M 195	195	421	16,6	195	7,7	352	13,8	437	17,2	522	20,5	-	-	-	-	-	-	-	-	11,5	25,3	0,58	M10
UP1 M 220	220	421	16,6	195	7,7	352	13,8	437	17,2	522	20,5	-	-	-	-	-	-	-	-	12,0	26,4	0,52	M10

Cell type	Capacity	Height		Width		Length per block						Approx. weight per cell		Internal resistance[1]	Cell connection bolt per pole
						1 cell		2 cells		3 cells					
	C_5 Ah	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	mOhm	
UP1 M 245	245	421	16,6	195	7,7	-	-	228	8,67	336	17,2	15,2	33,5	0,47	2xM10
UP1 M 270	270	421	16,6	195	7,7	-	-	240	9,44	354	13,9	16,0	35,2	0,42	2xM10
UP1 M 295	295	421	16,6	195	7,7	-	-	252	9,92	372	14,6	16,8	37,0	0,39	2xM10
UP1 M 320	320	421	16,6	195	7,7	-	-	278	10,9	411	16,1	18,3	40,3	0,36	2xM10
UP1 M 345	345	421	16,6	195	7,7	-	-	304	11,9	450	17,7	19,8	43,6	0,33	2xM10
UP1 M 370	370	421	16,6	195	7,7	-	-	328	12,9	486	19,1	21,4	47,1	0,31	2xM10
UP1 M 395	395	421	16,6	195	7,7	-	-	352	13,8	522	20,5	23,0	50,7	0,29	2xM10
UP1 M 420	420	421	16,6	195	7,7	-	-	352	13,8	522	20,5	23,5	51,8	0,27	2xM10
UP1 M 445	445	421	16,6	195	7,7	-	-	352	13,8	522	20,5	24,0	52,9	0,26	2xM10
UP1 M 490	490	405	15,9	195	7,7	219	8,62	-	-	-	-	28,2	62,1	0,23	3xM10
UP1 M 540	540	405	15,9	195	7,7	243	9,56	-	-	-	-	31,4	69,2	0,21	3xM10
UP1 M 590	590	405	15,9	195	7,7	268	10,5	-	-	-	-	34,5	76,0	0,19	3xM10
UP1 M 640	640	405	15,9	195	7,7	268	10,5	-	-	-	-	35,5	78,2	0,18	3xM10
UP1 M 690	690	405	15,9	195	7,7	304	11,9	-	-	-	-	39,6	87,3	0,17	4xM10
UP1 M 740	740	405	15,9	195	7,7	327	12,8	-	-	-	-	42,9	94,5	0,15	4xM10
UP1 M 785	785	405	15,9	195	7,7	352	13,8	-	-	-	-	46,0	101,4	0,15	4xM10
UP1 M 835	835	405	15,9	195	7,7	340	13,3	-	-	-	-	45,9	101,1	0,14	4xM10
UP1 M 885	885	405	15,9	195	7,7	352	13,8	-	-	-	-	48,0	105,8	0,13	4xM10
UP1 M 935	935	405	15,9	195	7,7	412	16,2	-	-	-	-	54,4	119,9	0,12	5xM10
UP1 M 985	985	405	15,9	195	7,7	437	17,2	-	-	-	-	57,5	126,7	0,12	5xM10
UP1 M 1030	1030	405	15,9	195	7,7	412	16,2	-	-	-	-	56,4	124,3	0,11	5xM10
UP1 M 1130	1130	405	15,9	195	7,7	497	19,5	-	-	-	-	65,9	145,2	0,10	6xM10
UP1 M 1230	1230	405	15,9	195	7,7	491	19,3	-	-	-	-	67,6	149,0	0,09	6xM10
UP1 M 1330	1330	405	15,9	195	7,7	522	20,5	-	-	-	-	72,0	158,7	0,09	6xM10



The block length and weight are determined by the number of cells in the block. All tabulated dimensions are maximum values.

(1) Rigid connector included

Saft is committed to the highest standards of environmental stewardship

As part of its environmental commitment, Saft gives priority to recycled raw materials over virgin raw materials, reduces its plants' air and water releases year after year, minimizes water usage, reduces fossil energy consumption and associated CO_2 emissions, and ensures that its customers have recycling solutions for their spent batteries.

Regarding industrial nickel-based batteries, Saft has had partnerships for many years with collection companies in most EU countries. This collection network receives and dispatches our customers' batteries at the end of their lives to fully approved recycling facilities, in compliance with the laws governing trans boundary waste shipments.

This collection network meets the requirements of the EU batteries directive. A list of our collection points is available on our web site.
In other countries, Saft assists users of its batteries in finding environmentally sound recycling solutions.
Please contact your sales representative for further information.

Saft
26, quai Charles Pasqua
92300 Levallois-Perret - France
Tel. : +33 1 58 63 16 00
Fax : +33 58 63 16 18 / +33 1 58 63 16 19
www.saftbatteries.com

Document N° 21817-2-0817
Edition: August 2017

Photo credits: Saft, Fotolia.
Cap Interactif
Printed on FSC paper by GMK, an Imprim' Green member