MP 176065 Integration™ xc
Rechargeable Li-ion cell

3.65 V high energy Li-ion cell for extremely cold environments

Saft's MP 176065 Integration™ xc cell is ideally suited for applications requiring high level of performances even when exposed to extremely cold environments.

Benefits
- High energy and high operating voltage under negative temperatures
- Long cycle life
- Unrivalled operating temperature range from – 50°C to + 60°C
- Charge capability down to – 30°C
- Long shelf life with extremely low capacity loss under storage
- Easy integration
- Smaller environmental footprint than conventional technologies

Key features
- High energy density (303 Wh/l and 174 Wh/kg)
- Aluminium casing
- Hermetically sealed
- Operates in any orientation
- Maintenance free
- No memory effect
- Manufactured in EU

Designed to meet all major quality, safety and environmental standards
- Safety: UL 1642 (File MH 12609)
- Transport: UN 3480
- Quality: ISO 9001, Saft World Class continuous program
- Environment: ISO 14001, RoHS and REACH compliant

Typical applications
- Portable radios
- Future soldier equipments
- Defence systems
- Professional portable tools
- Oil & Gas applications

Electrical characteristics		
Typical capacity (at C/5 rate, + 25°C, 2.5 V cut-off) [1]		6.4 Ah
Nominal voltage		3.65 V
Nominal energy		23.4 Wh
Recommended maximum discharge current	From 0°C to + 60°C	13 A (~2C rate)
	From – 40°C to 0°C	6.5 A (~1C rate)
	From – 50°C to – 40°C	1.3 A (C/5 rate)

Physical characteristics (sleeved cell)	
Thickness [2]	18.6 mm
Width	60.5 mm
Height (including terminals)	68.7 mm
Typical weight	134 g
Volume (including terminals)	0.077 l

Operating conditions		
Typical cut-off voltage		2.5 V
Charging method		Constant current/Constant voltage
Charging voltage		4.2 V
Maximum continuous charge current [3]	From 0°C to + 60°C	6.5 A (~1C rate)
	From – 30°C to 0°C	1.3 A (C/5 rate)
Operating temperatures	Charge	- 30°C to + 60°C
	Discharge	- 50°C to + 60°C
Storage & transportation temperatures	Recommended	+ 15°C to + 30°C
	Allowable	- 40°C to + 85°C

[1] Can vary depending on temperature and discharge rate.
[2] At beginning of life. Can increase with temperature and during battery life.
[3] For optimized charging below 0°C, consult Saft.

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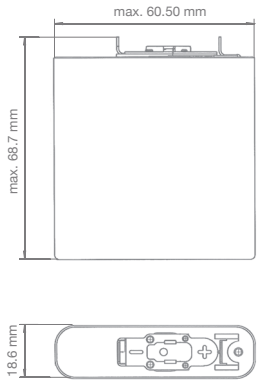


Battery assembly

- Individual lithium-ion cells need to be mechanically and electrically integrated into battery systems to operate properly. The battery system includes electronic devices for performance, thermal and safety management specific to each application. Please contact Saft for your specific applications requirements

Battery-level features

- Saft provides complete battery system designs
- Incorporating several levels of redundant safety features to prevent abuse conditions such as over-charge, over-discharge, and short circuits
- Incorporating electronics for performance and efficiency:
  - charge/floating/discharge management
  - cell balancing
  - temperature monitoring
- Battery protection controller at system level
- Communication for State-of-Charge and State-of-Health

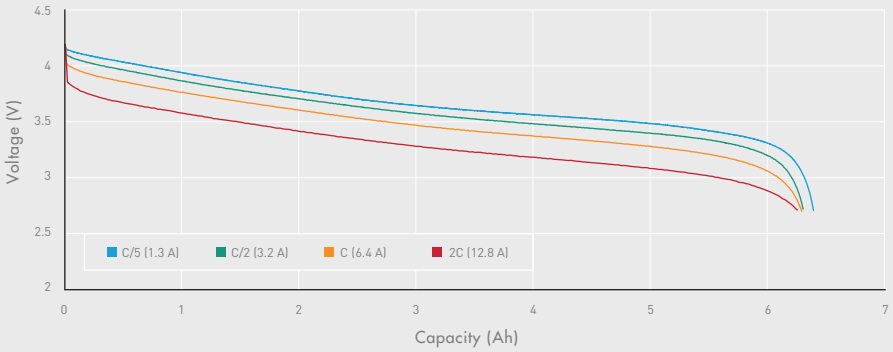
Storage

- The storage area should be clean, cool (preferably not exceeding + 30°C), dry and ventilated

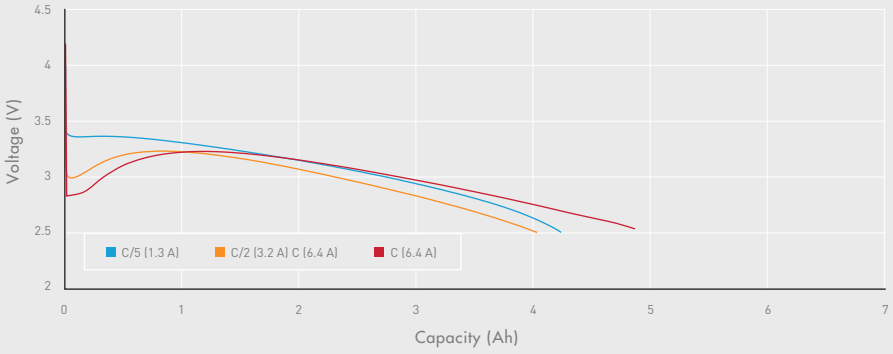
Warning

- Do not crush, short-circuit, incinerate, dismantle, immerse in any liquid, heat above + 60°C
- Observe charging conditions

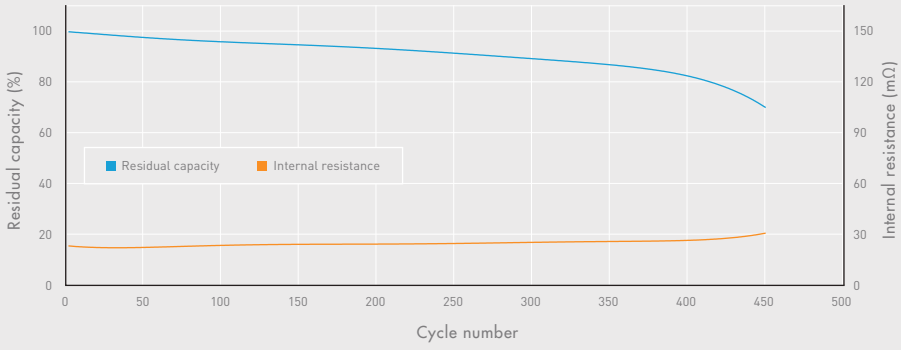
Capacity versus current at + 20°C



Capacity versus current at - 40°C



Cycle life at 20°C (charge 4.2 V 3.2 A, discharge 3.0 V 3.2 A)



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