

# casestudy

product	customer	sector
 <b>Pnu Power</b> 5kW Compressed Air Battery	 Eskom	Eskom ( <a href="http://www.eskom.com">www.eskom.com</a> ) generates approximately 95% of the electricity used in South Africa and approximately 45% of all the electricity used in Africa.

***The Eskom installation is simple, compact, low maintenance and highly cost-effective.***



*The Pnu Power 5™ (above centre) provides reliable standby power for a critical switchboard which is part of Eskom's Cape Town electricity distribution network.*

## challenge

- provide 'no break' standby power for the 110 Vdc circuit breaker services in the event of a loss of electrical support for a 12kV switchboard at Eskom's Blackheath switchyard, Cape Town
- fast installation with minimal disruption
- enhance confidence in standby power reliability/availability

## solution

- one Pnu Power 5™ Compressed Air Battery, with 110 Vdc output
- the unit is interfaced directly into the mains 240 Vac supply and is parallel connected to the existing Nickel Cadmium standby power batteries
- rental compressed air cylinders are used to provide the energy source in the event of an electrical mains outage. The volume of air within the cylinders is continually monitored, with the cylinders replaced when required

## benefits

- low maintenance - one annual inspection
- accurate GUI display of system condition and run time availability
- occupies a small footprint within the relay/breaker blockhouse

# standard specifications

	<b>Pnu Power<sup>3</sup></b> 3kW Compressed Air Battery	<b>Pnu Power<sup>5</sup></b> 5kW Compressed Air Battery	<b>Pnu Power<sup>10</sup></b> 10kW Compressed Air Battery
Output	<b>3kW</b>	<b>5kW</b>	<b>10kW</b>
Height/Width/Depth	1700mm (66.9") x 800mm (31.5ins) x 600mm (23.6")	1700mm (66.9") x 800mm (31.5ins) x 600mm (23.6")	2200mm (86.6") x 800mm (31.5") x 800mm (31.5")
Weight	125kg (275lbs)	150kg (330lbs)	230kg (506lbs)
Supply Pressure	15 bar (217.5 psi)	28 bar (406 psi)	35 bar (507.5 psi)
Run Time from standard extendable cylinder pack	40 minutes	24 minutes	12 minutes

POWER	
AC Voltage	Customer specified: 110-240 Vac 1 Phase, 380-480 Vac 3 Phase 50/60Hz
DC Voltage	Customer specified: 12-340 Vdc +/-ve grounding available as standard
AC + DC	Multiple outputs available
Voltage regulation	+/- 0.5%
OPERATIONAL SPECIFICATIONS	
Mode	Standby or UPS power
ENERGY SOURCE	
Source	High pressure cylinders or medium pressure plant main
Air quality	Standard industrial
Recharge type	Cylinder replacement or automatic compressor
ENVIRONMENTAL	
Operating temperature	-40 to +50°C (-40 to +122°F)
Storage temperature	-40 to +60°C (-40 to +140°F)
Humidity	>95% non-condensing
Heat dissipation	<100W in standby mode
Noise	<65dBA at 5m as standard across range
Enclosure	Standard industrial: internal & external options
INSTRUMENTATION	
Local	LCD display shows run time remaining and operational status
Remote	Ethernet (TCP-IP) or standard modem
STANDARDS	
Safety	CE Certified
Emissions	CE Certified
Immunity	CE Certified



Compressed Air Batteries  
the smarter backup choice

## Technical Information & Support

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