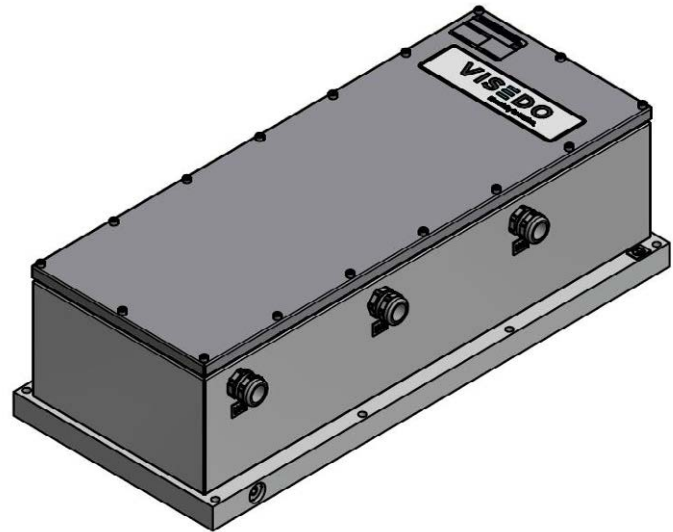


PRODUCT DATA

Visedo PowerBOOST features:

- Extremely compact design – 3x 170 A unit only 65 kg
- High enclosure class IP65 – sealed from moisture and dust
- Liquid cooled with plain water or water/glycol mixture
- Ambient temperature up to +85°C and down to -40°C
- Allowed coolant temperature up to +65°C
- Robust design withstanding high levels of mechanical vibrations and shocks
- Designed especially for highly cyclical loads typical in heavy mobile work machines



GENERAL

The PowerBOOST External Series Inductance (ESI) is a heavy-duty inductor unit designed to be combined with PowerBOOST M-frame DCDC-converter. ESI-unit allows flexible positioning of the DCDC-converter and inductor unit and is used to transfer energy between two different voltage levels.

Typical applications are:

- Boosting battery voltage to higher DC-link voltage
- Charging high voltage batteries from higher DC-link voltage

SPECIFICATIONS

DC connection

DC link voltage range	0-850 V _{DC}
DC link nominal voltage	750 V _{DC}
Nominal current per inductor	135 A (65 °C coolant)
Maximum current per inductor	170 A (40 °C coolant)

PRODUCT DATA
Mechanical

Dimensions (WxHxL, mm)	308x200x665
Weight	65 kg

Cooling

Cooling liquid	Plain water with appropriate corrosive inhibitor (max. 50 % corrosive inhibitor)
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Cooling liquid glycol type	Ethylene glycol (Glysantin G48 recommended)
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Minimum cooling liquid flow	10 l/min
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Maximum operating pressure	2 bar
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Pressure loss	45 mbar with 10l/min (+25 °C coolant)
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Cooling liquid temperature	-40 °C ...+65 °C (with derating 1%/1°C max. +75° C)
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Ambient Conditions

Storage temperature	-40 °C...85 °C
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Operating temperature	-40 °C...85 °C (with nominal coolant temp.)
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Altitude	max. 2000 m
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Relative humidity	100 %
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Enclosure class	IP65
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Mechanical vibration	10 G
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Mechanical shock	50 G
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Connections

Coolant connection	2 x G1/2" coolant hose connector
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HV cable recommended type	HUBER+SUHNER Radox Elastomer S screened automotive cable www.hubersuhner.com
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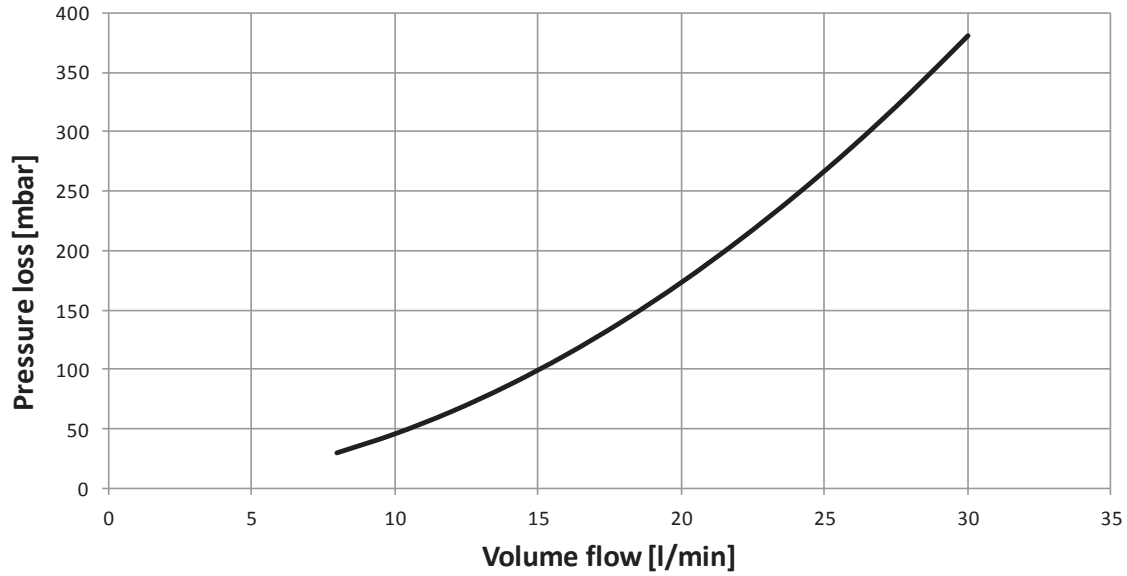
HV cable cross section	≤70 mm ² (Cu)
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HV cable glands	Pflitsch blueglobe mstri225
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HV cable lug size	35-8, 50-8, 70-8
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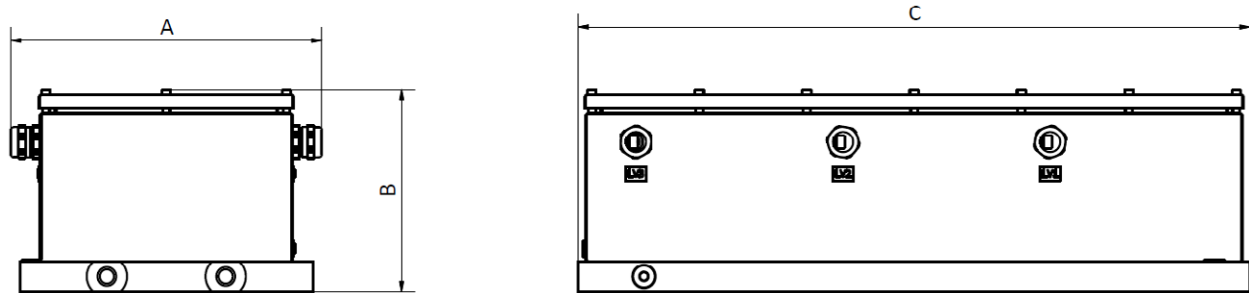
Recommended cable lug	50mm ² : Druseidt part no. 10853 70mm ² : Druseidt part no. 10857 www.druseidt.com
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PRESSURE LOSS VS COOLANT FLOW



Picture 1 PowerBOOST ESI M-frame pressure loss vs coolant flow

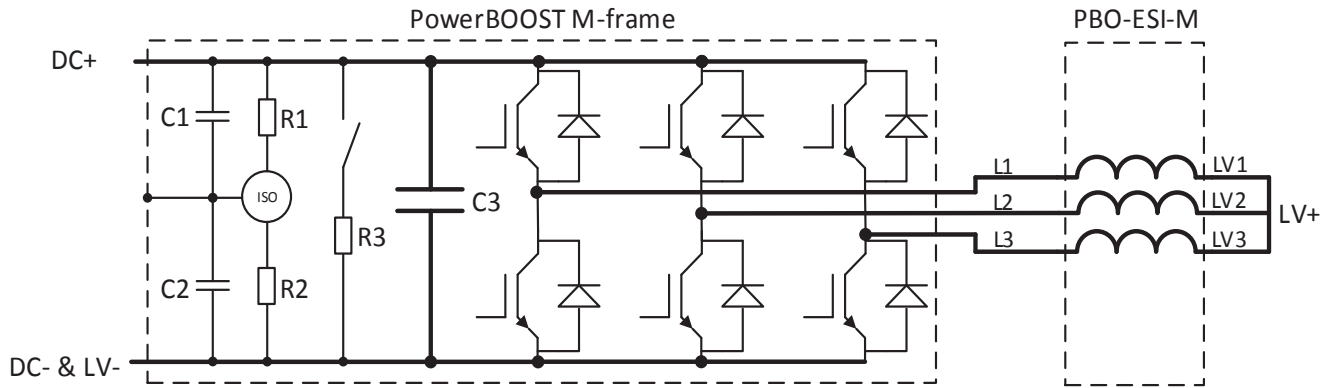
DIMENSIONS



Picture 2 PowerBOOST ESI M-frame dimensions

Dimension	PBO-ESI-M dimensions
A	308 mm
B	200 mm
C	665 mm

APPLICATION EXAMPLE



Picture 3 PowerBOOST M-frame DCDC converter combined with the PowerBOOST ESI M-frame unit. LV+ and LV- can be connected for example to battery and DC+ and DC- to DC-link. PowerBOOST would then control the battery discharging and charging.

PRODUCT NAME

Use product name seen in Table 1 for ordering.

Product name	Description
PBO-ESI-M	standard unit

Table 1 Product name for PowerBOOST ESI M-frame

APC Hi-Rel specialises in the design-in, specification and distribution of electronic components for high reliability, high temperature and high voltage applications.