

**GENSET**

**RADIATOR**

[www.panoto.com](http://www.panoto.com)



## Company Profile

Panoto, who started copper-brass radiator production in 1975, became one of the foremost group on his sector after incorporate Erka brand. Initially served its cooling equipments to passenger cars, tractors, trucks, buses and construction machines. Afterwards stepped into Generator Sets Cooling solutions and moreover than 20 years, now it is one of the leading companies who supplies wide ranges of optimum cooling solutions to Global Genset Manufacturers.

On recent restructuring administrative staff, research and development departments, engineering and design experts as a part of specialization, Panoto Radiator is a boutique technology factory provides custom design products and engineering services for Generator Set Manufacturers.

The company has a highly specialized workforce more or less 200 people, operates on its 15.000 m<sup>2</sup> factory which is strategically located at the crossroads of Europe and Asia. This strategic location offers numerous logistical advantages its clients.

Now on the present situation, whatever the engine is, wherever the Generator Set is located, whichever condition it will work on, Panoto has the ability to design tailor made cooling solutions according to customer requirements on Genset and Dynamic UPS markets.



# *Optimum Cooling Design*

## *Maximum Efficiency*

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### **Our Vision & Mission**

#### **Our Vision:**

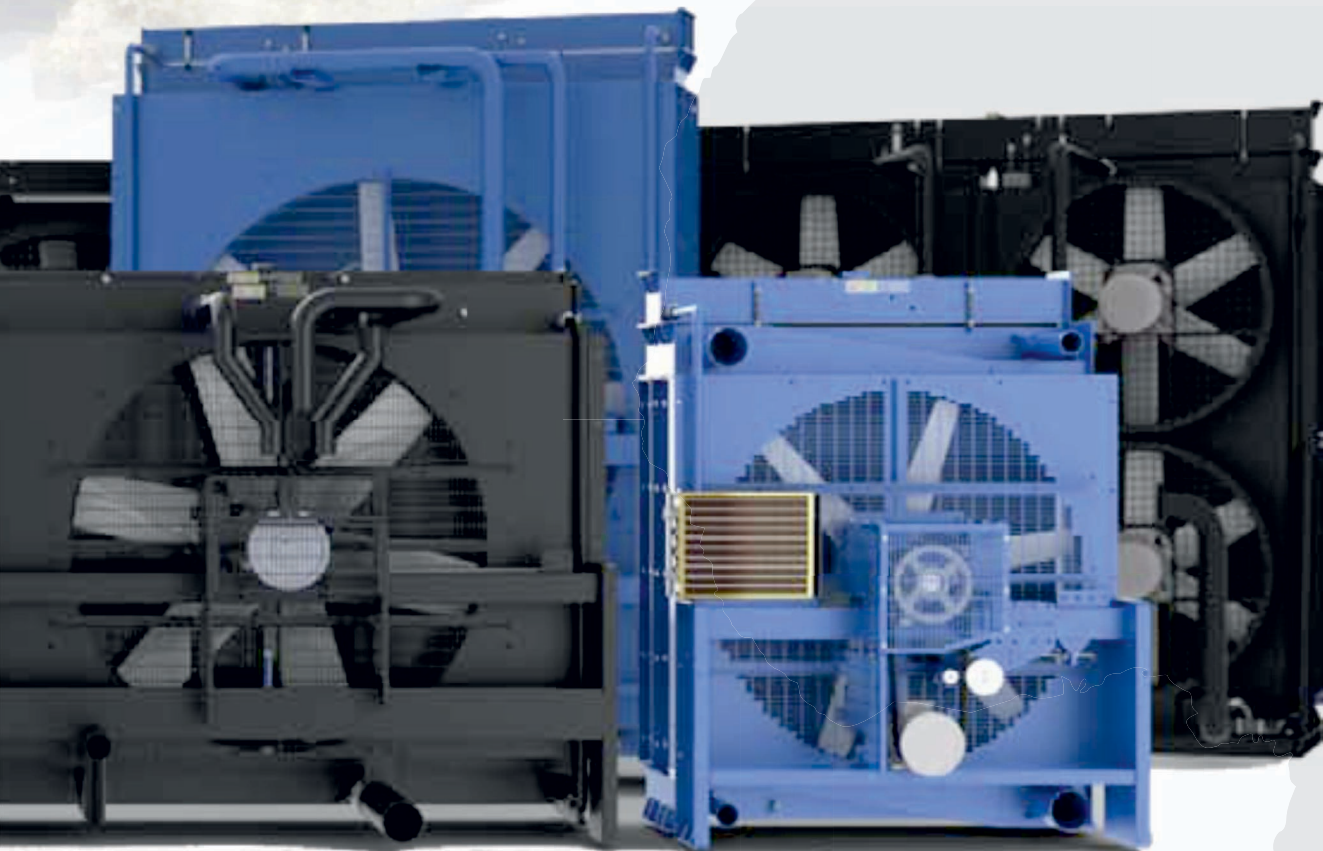
Sustaining its deserved position for being a preferred / favorite company by its personnel and customers on domestic and international markets via emphasising its internal dynamics such distinction, expertness, reliability and quality.

#### **Our Mission:**

Referring our technology and considerable experience, our goal is providing quality products and perfect service to our customers beyond than their expectations.

### **Our Commitments**

- \*Short Lead Times
- \*Competitive Prices
- \* Responsive and Fast Engineering Solutions
- \* High Quality Materials & Experienced Workmanship
- \* Optimum Thermal & Mechanical Design Capabilities
- \* Prompt After Sales Support

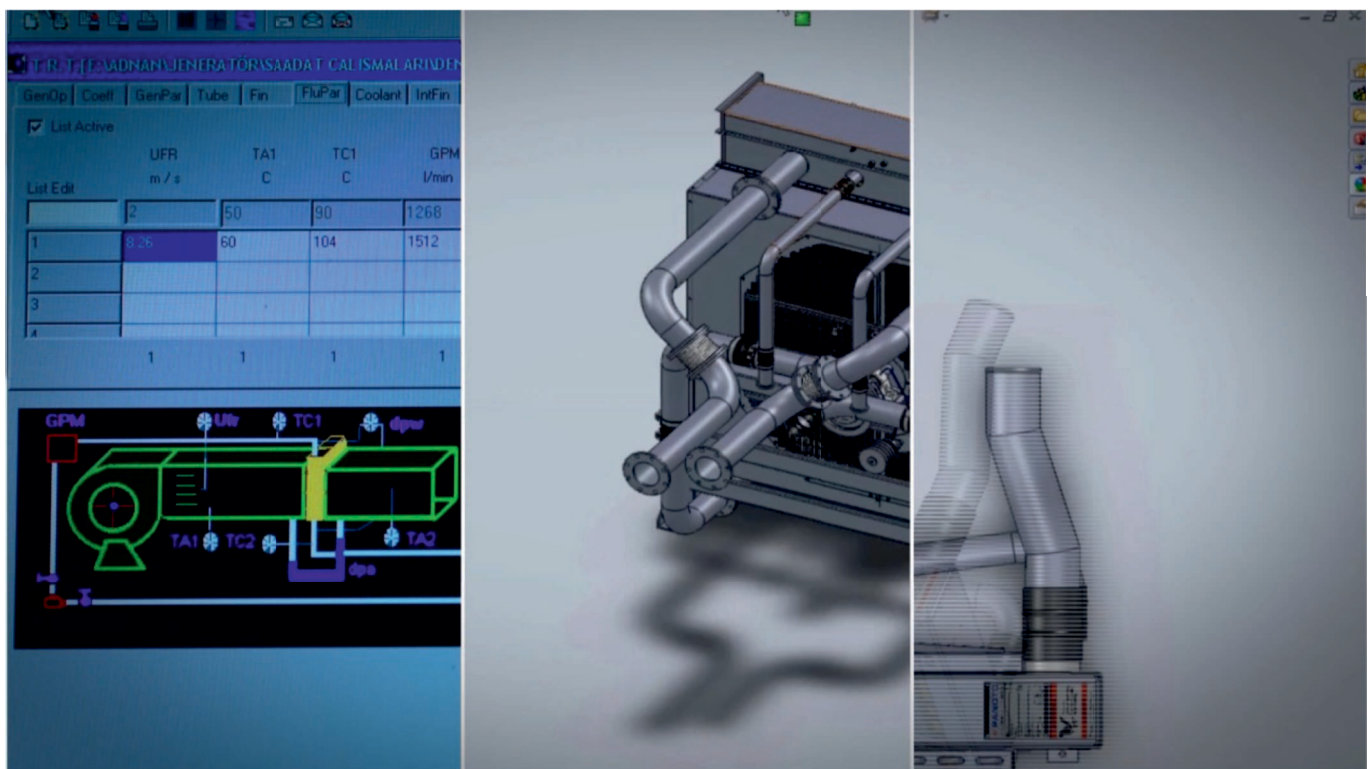


## Design & Development

Our highly experienced and skilled design and development team create products suitable for very severe and tropical conditions by maintaining close contact with our clients and through the use of modern design programs such as CAD - CAM - CAE. In order to achieve maximum efficiency, high performance fan and drive systems are mounted onto the products after they have undergone thermal and mechanical sizing. Multi CNC production and prototype testing facilities provide accurate test results which are proved under ambient conditions

## Thermal Design

Our design engineers achieve the Thermal calculations by using advanced thermal design software to design the optimum cooling solution with maximum efficiency. All restrictions and requirements of our customers are taken into consideration and alternatives are also advised by our experienced Technical Department.

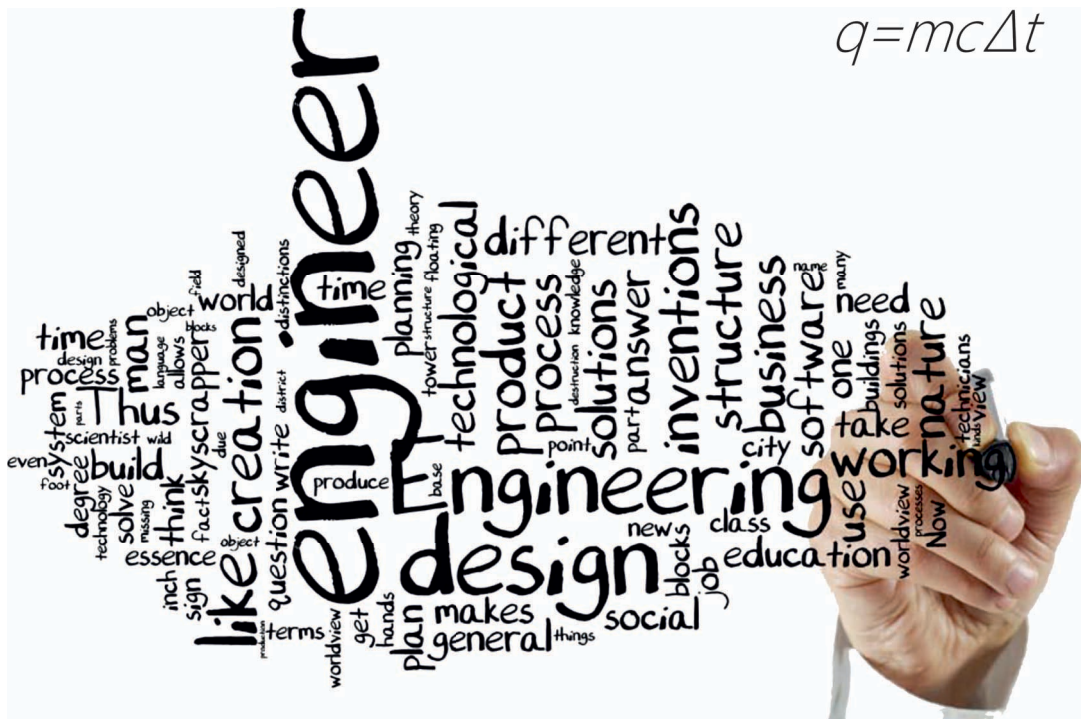


## Performance Data Sheet

Customized optimum radiator design presents to the customers with our radiator performance data sheet. Our performance data sheet contains; Coolant Data, Cooling Air Data, Electrical Motor Data (If required) and Cooler Dimensions Data. Presented values checked and controlled by our customers or any point subject to change will be re-studied by our engineers.

## Engineering

It's a well known fact that ideal and environmentally friendly applications are achieved through hard work and countless trials. In line with this, at PANOTO we supply major engine manufacturers with highly efficient and quality products which we produce after long period of research, product development and testing.



## Quality as a Way Of Life...

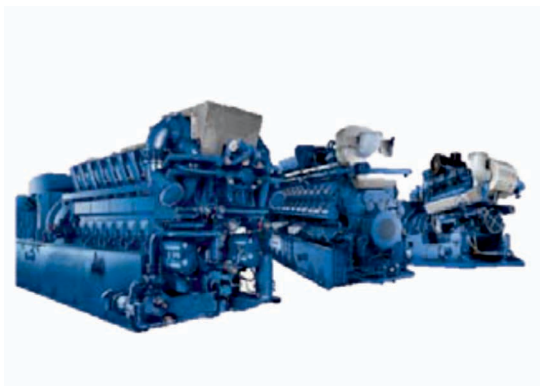
At PANOTO, we realized a long time ago that in order to survive both in the local and foreign markets, we had to adopt a Quality Above All policy, and in line with this we set up a quality assurance system which enabled us to receive ISO 9001 Quality Certification in 1998. In 2010 it was upgraded to the 2008 version after stringent scrutiny and study by relevant authorities confirmed that our system complied to all new standards.

Panoto maintains statistical records of the entire process ranging from input sourcing, input procurement, production, process quality control, final quality control, despatch and all other stages thereby enabling it to identify and correct shortcomings in the system. Resultantly our entire process is always improving and eventually translates into higher customer satisfaction.

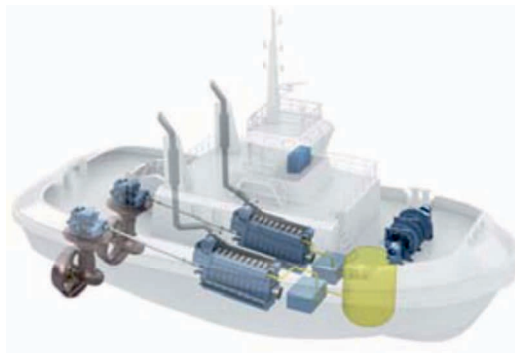
Containerized  
Generator Sets



Stationary  
Generator Sets



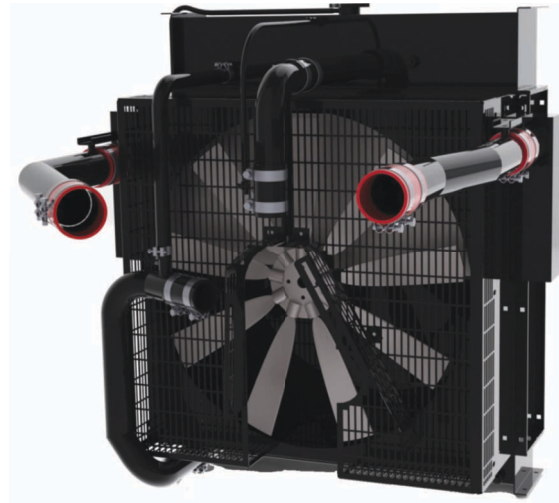
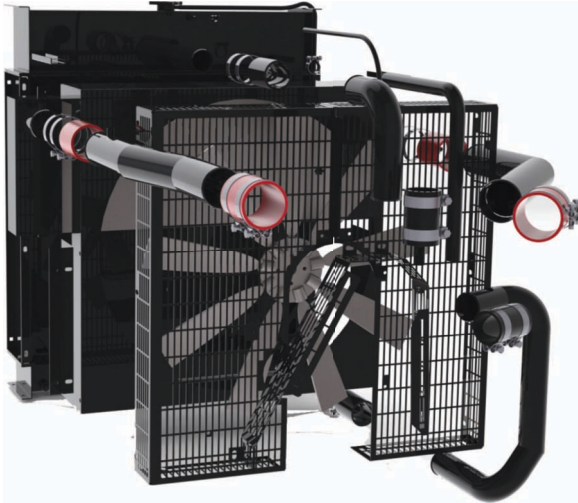
Marine  
Generator Sets



Uninterruptible  
Power Systems



## ENGINE MOUNTED GENSET RADIATOR / FAN ON ENGINE

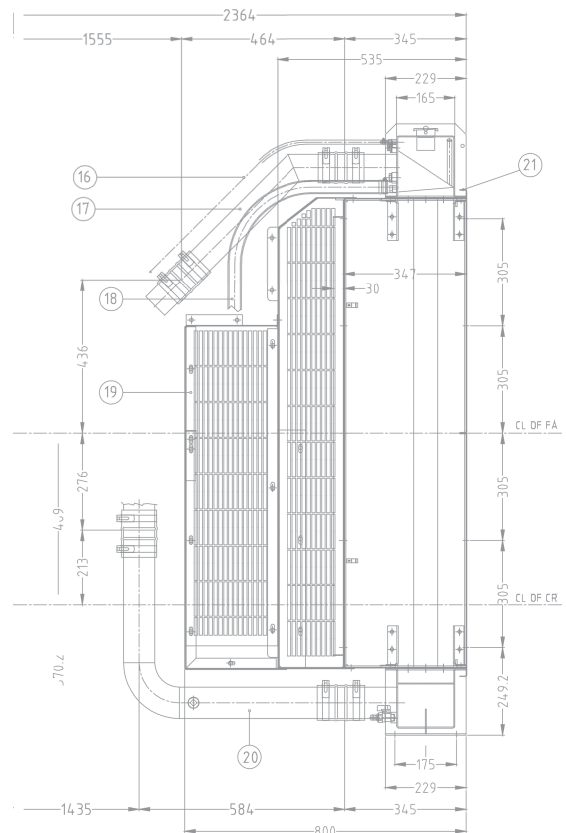


We can design and supply this type of radiators in a wide range of sizes depending on the heat load to be rejected through radiator core.

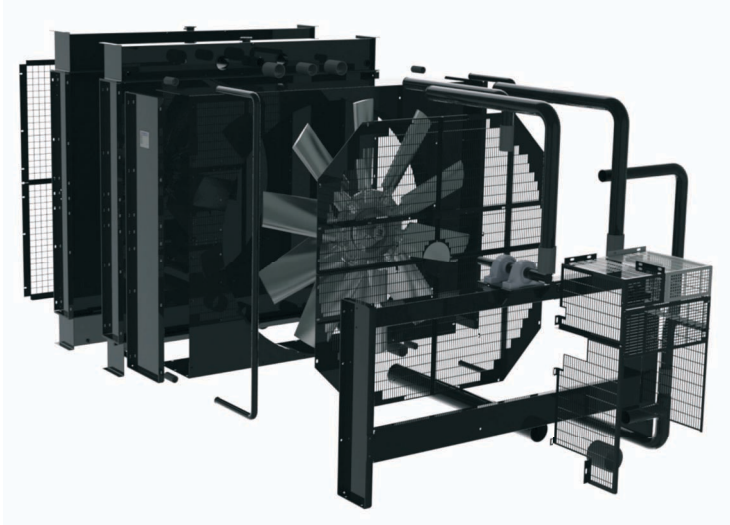
We design them for many different applications under global operating conditions and manufacture them in soldered and bolted constructions.

### **Our scope of supply covers:**

- \* Cores and expansion tanks
- \* Pipes, Flanges, Clamps, Hoses
- \* Fans
- \* Protective Guards
- \* Colour Options



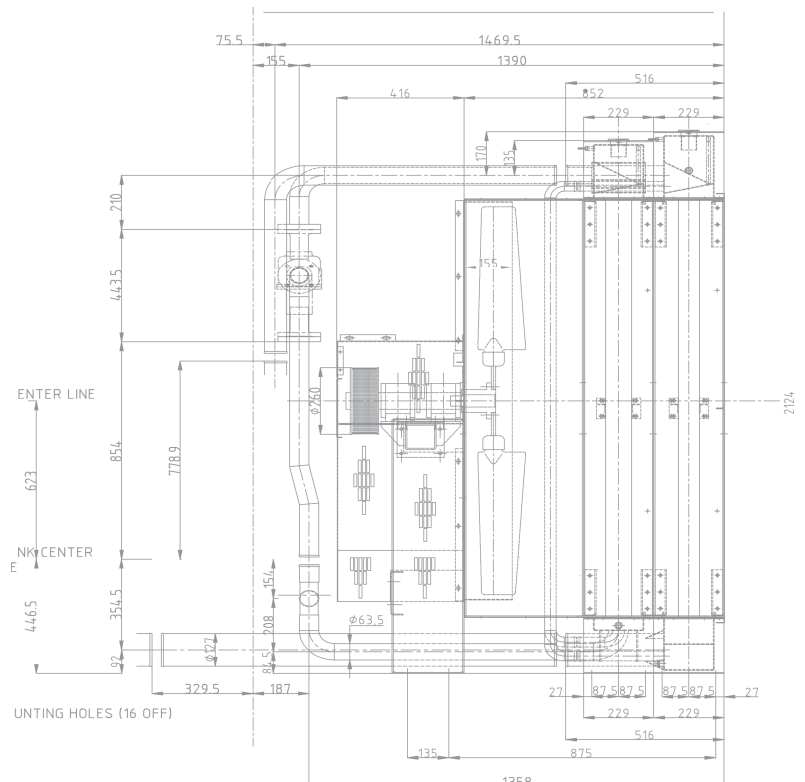
## ENGINE MOUNTED GENSET RADIATOR / FAN ON RADIATOR



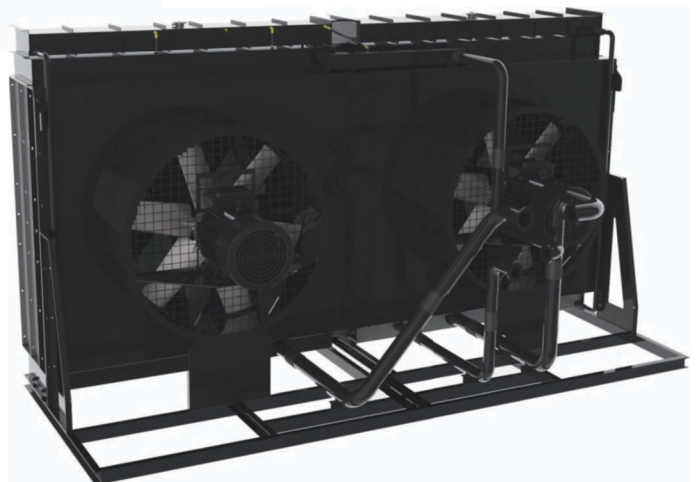
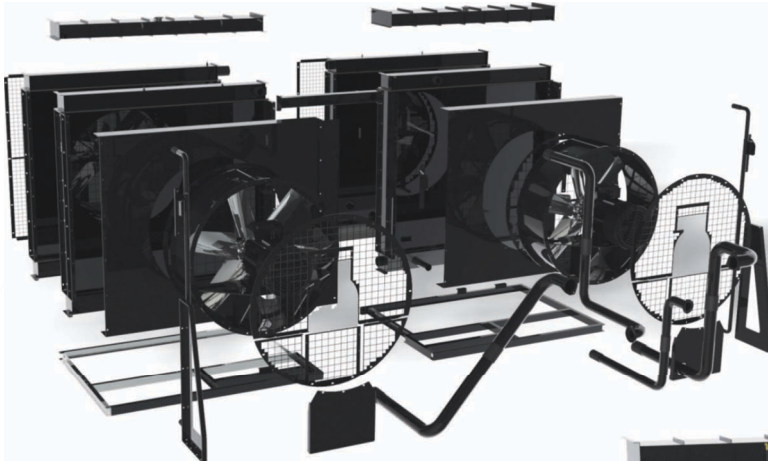
PANOTO designs and produces complete radiators for many different engines on both prime and emergency gensets and UPS systems. This type of coolers can give high ambient capacity and low sound levels. Heavy duty bearings support the fan drive & shaft and, where required, a belt tension mechanism is fitted.

### Our scope of supply covers:

- \*Cores and expansion tanks
- \*Pipes, Flanges, Clamps, Hoses
- \*Fan
- \*Bearings
- \*Pulley, Belt, Belt tension mechanism (optional)
- \*Protective Guards
- \*Colour options



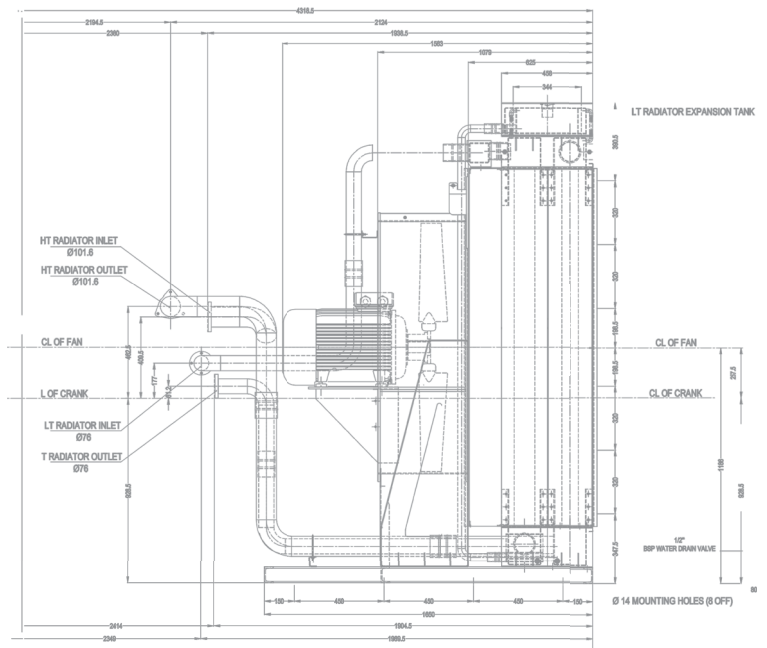
**VERTICAL REMOTE GENSET RADIATOR / E-MOTOR DRIVEN FAN**



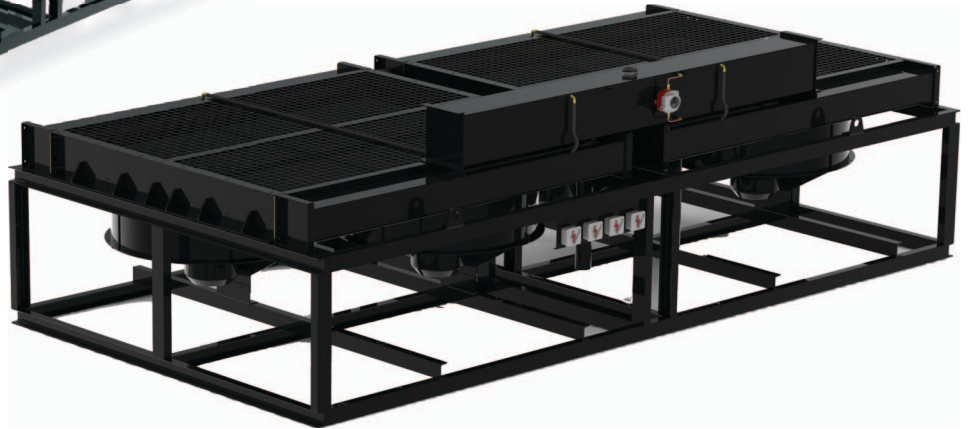
Genset applications may require the radiator to be placed at a distance from the engine to be cooled. Panoto has got world of solutions for such applications including different physical and noise constraints.

**Our scope of supply covers:**

- \*Cores and expansion tanks with Murphy EL 150K1 switch
- \*Pipes, Flanges, Clamps, Hoses
- \*Fans
- \*E-motors
- \*Protective Guards
- \*Colour options



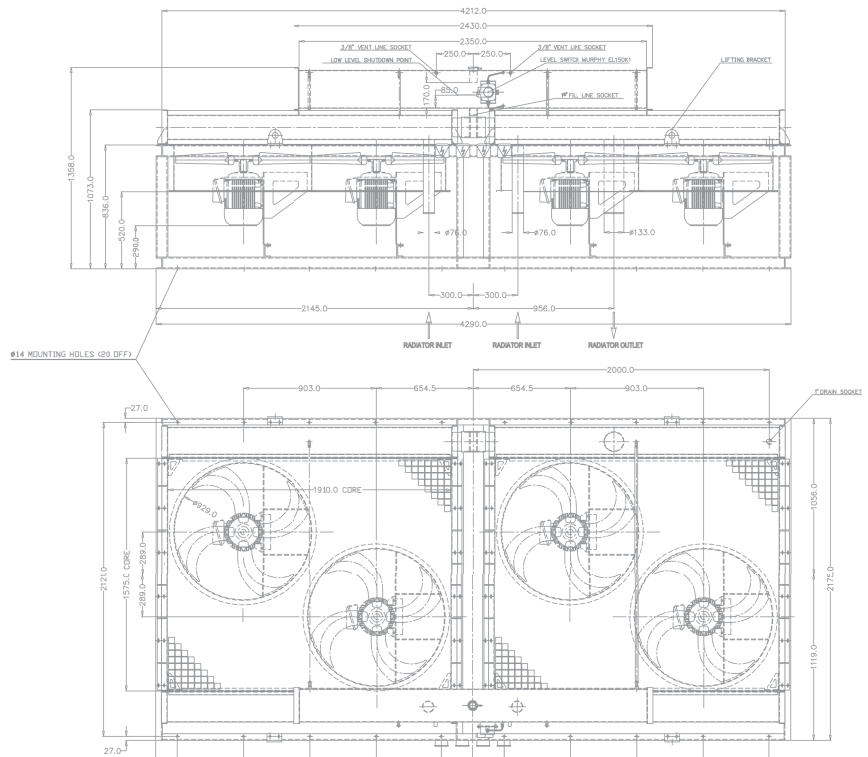
## HORIZONTAL (TABLE COOLER) REMOTE GENSET RADIATOR / E-MOTOR DRIVEN FAN



Horizontal Radiators manufactured by Panoto are used extensively throughout the world to provide cooling for diesel engines where you need low sound level .

### Our scope of supply covers:

- \*Cores and expansion tanks with Murphy EL150K1 switch
- \*Plate heat exchangers and their expansion tanks, pumps
- \*Cooler base frame, Pipes, Flanges, Clamps, Hoses
- \*Fans
- \*E-motors
- \*Protective Guards
- \*Colour options



## COOLING SOLUTIONS FOR RENTAL GENSET APPLICATIONS

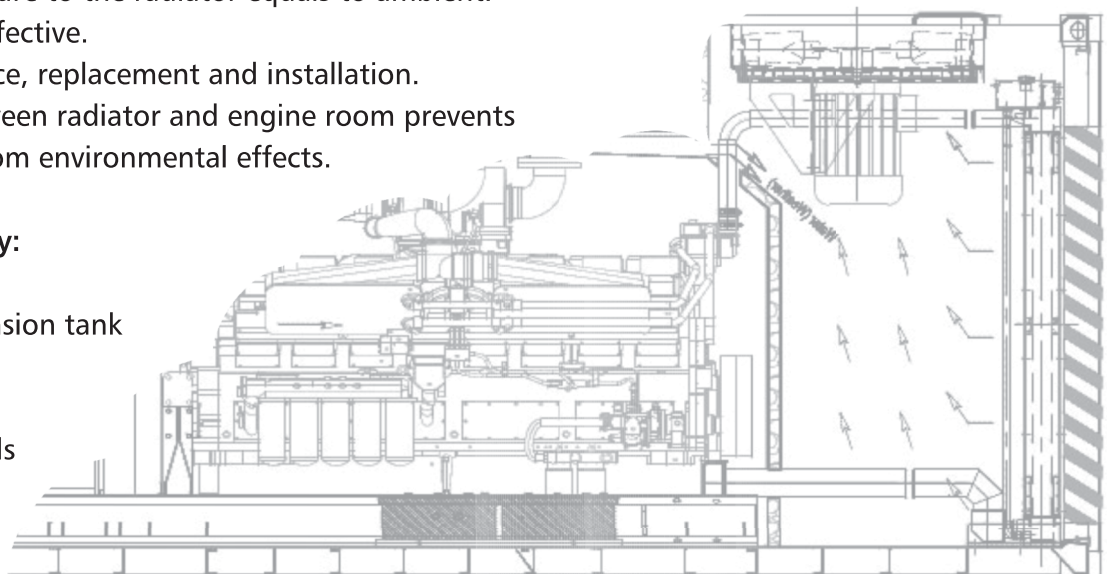


Most of the Rental Genset Applications are containerized; correspondingly suitable cooling solutions are required. Panoto offers the optimum solution with below advantages;

- \* Magnificent solution for Hot Ambient Regions due Air on temperature to the radiator equals to ambient.
- \* Cost and Size Effective.
- \* Easy Maintenance, replacement and installation.
- \* Separation between radiator and engine room prevents diesel engine from environmental effects.

### Scope of Supply:

- \* Cores and expansion tank
- \* Fans
- \* E-motors
- \* Protective Guards
- \* Colour Options



## APARTED DESIGN COOLING SOLUTIONS



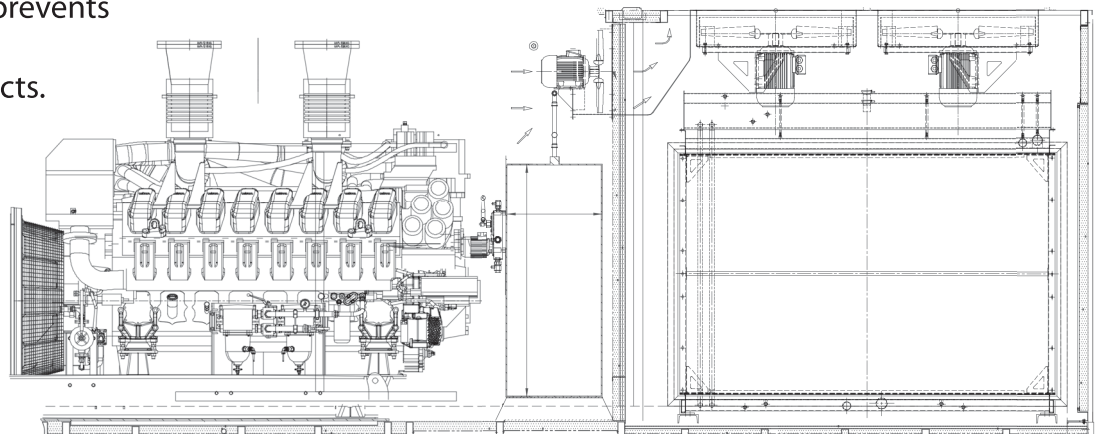
Most of the Aparted Genset Applications are containerized (40" HC Containers); correspondingly suitable cooling solutions are required. Panoto offers the optimum cooling solutions with below advantages

- \* Magnificent solution for Hot Ambient Regions due Air on temperature to the radiator equals to ambient.
- \* Cost and Size Effective.
- \* Easy Maintenance, replacement and installation.

\*Separation between radiator and engine room, prevents diesel engine from environmental effects.

### Our Scope of Supply

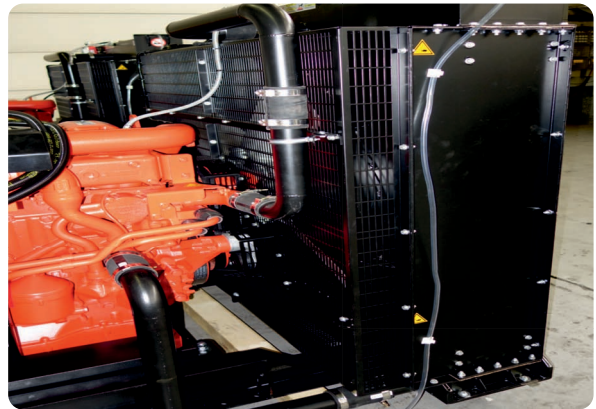
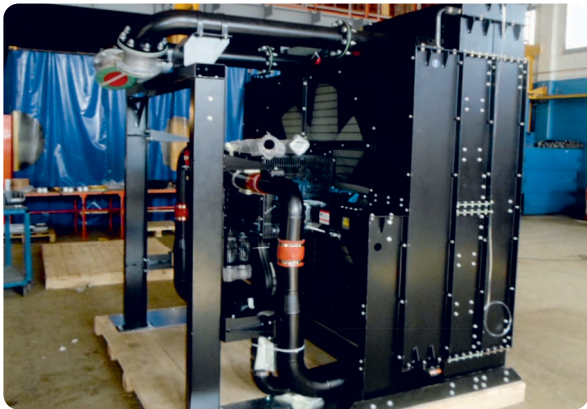
- \* Cores and Expansion Tank
- \* Fans
- \* E-Motors
- \* Protective Guards
- \* Colour Options



# *Optimum Cooling Design*

## *Maximum Efficiency*

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## ENGINE REFERENCE LIST



- 4 BT 3,9 G2
- 6 BT 5,9
- 6 BT 5,9-D
- 6 BT 5,9-G2
- 6 BTA
- 6 BTA 5,9-C
- 6 BTA 5,9
- 6 C8
- 6 CTA
- 6 CTA 8,3 / 6 CTA 8,3-G2
- B 3,3
- LTA 10 / LTA 10 G2
- NT 855 G6
- NTA 855
- NTA 855 G4 / NTA 855 G5
- KTA 19
- KTA 38
- KTA 38 D
- KTA 38 G1
- KTA 38 G2A
- KTA 38 G3 / KTA 38 G5
- KTA 50 G1 / KTA 50 G3
- KTA 50 G8 / KTA 50 G9
- QSB 4,5
- QSB 6,7
- QSK 23 G3
- QSK 23 G3 / QSK 23 G7
- QSK 45 G4 / QSK 45 G6
- QSK 50 G4 / QSK 50 G7
- QSK 60 G3 / QSK 60 G4
- QSK 60 G6 / QSK 60 G7
- QSK 60 G8 / QSK 60 G11
- QSK 60 G12 / QSK 60 G13
- QSK 78
- QSK 78 G6 / QSK 78 G8
- QSK 78 G9 / QSK 78 G12
- QSM 11 G2
- QST 30 / QST 30 G3
- QST 30 G4 / QST 30 G5
- QSX 15 / QSX 15 G6
- VTA 28
- VTA 28 G5 / VTA 28 G7



- 8V1600 G10F
- 8V396T C33
- 10V1600 G10F
- 12V183 TB32L
- 12V183 TBL
- 12V2000 G25
- 16V2000 G25
- 16V2000 G45
- 16V2000 G60
- 16V2000 G63
- 16V2000 G65
- 16V2000 P62
- 18V2000 G63
- 18V2000 G65
- 18V2000 G85
- 12V4000 G21
- 12V4000 G21R
- 12V4000 G23
- 12V4000 G23R
- 12V4000 G43
- 12V4000 G61
- 12V4000 G63
- 12V4000 P83
- 16V4000 G21
- 16V4000 G23
- 16V4000 G43
- 16V4000 G61
- 16V4000 G63
- 16V4000 G81
- 16V4000 G83
- 20V4000 G23
- 20V4000 G63
- 20V4000 G63L
- 20V4000 G83
- 20V4000 L62



- TCD 2016 V16
- TCD 2020 V16 G4



- S6R-PTA
- S6R2-PTA
- S6B3-PTA
- S6B3-Y3MPTAW
- S6R2-A2PTAW2-3
- S6R-Y1PTA-5
- S6R-Y1PTA-4
- S6R-Y2PTAW-1
- S12H-PTA
- S12H-Y1PTA-4
- S12H-Y1PTA-3
- S12H-Y2PTAW-1
- S12A2-PTA
- S12A2-Y1PTA-1
- S12A2-Y1PTA2-2
- S12A2-Y2PTAW-2
- S12R-PTA
- S12R-Y1PTA-3
- S12R-Y1PTA-2
- S12R-Y2PTAW-1
- S12R-PTA2
- S12R-F1PTAW2
- S12R-PTAA2
- S16R-PTA
- S16R-PTA2
- S16R-Y2PTAW-1
- S16R-Y2PTAW2-1
- S16R-F1PTAW2
- S16R-PTAA2
- S16R2-PTAW
- S16R2-F1PTAW
- S16R2-PTAW-E

### Marine Applications

- S6R - MPTA
- S6R - MPTAW
- S6R - MPTAW -4
- S6R - MPTAW -5
- S6R - MPTK
- S12R - MPTA
- S12R - MPTAW -5
- S12A2 - MPTAW
- S12R - Z3 - MPTAW

## ENGINE REFERENCE LIST



- 422-TGM
- 1306C
- 2006
- 2800
- 2806A
- 4006
- 4006-23TAG3A
- 4006-TAG
- 4006-TAG 2
- 4008-TAG 2A
- 4012-46TAG 3A
- 4012-46TWG 2A
- 4012-46TWG 4A
- 4016-61TRG1
- 4016-61TRG2
- 4016-61TRG3



- DC09 071A
- DI090 74M
- DI12 62M
- DI12 64M
- DI13
- DC13 071A
- DI13 075M
- DI16 09M
- DI16 075M
- DI16 55M
- SGI 12
- SGI 16STM



- 12M26G825
- 12M26G900
- 12M26G1000
- 12M26G1100
- 12M33G1250
- 12M33G1400



- 420 DSRG
- 49 CTAG
- 49 CWA-4V
- 49 DTAG
- 49 DTG
- 620 DSRG
- 634 DSBG
- 634 DSBIG
- 645 DSBIG
- 74 CTAG
- 74 DTAG
- 74 DTG
- 84 CTAG
- 98 CTAG



- 3508B TA32
- 3512
- 3512 TA
- 3512 B
- 3512B TA60
- 3516 TA
- 3516B TA54
- 3516B TA90
- C15
- C175-16
- G3520 C



- P086 TI
- P158 LE
- P180 LE
- P222 LE



- 16V250



- 620 VE
- 1242 GE
- TAD 1032 GE
- TAD 1241 G
- TAD 532 GE
- TAD 753 GE
- TWD 1210 G
- TWD 1630
- TWD 1630 G
- TWD 1643 GE
- TWD 710 G
- TWD 1643 GE
- TWD 1643 GE



- BF4M 1013 MC
- BF6M 1013 FC
- BF6M 1015 C G1
- BF6M 1013 M
- BF6M 1013 MC
- BF6M 1015 C
- BF8M 1015 CP G3
- TCD 2016 V16
- TCD 2013 L06 4V



- D 2842 LE201
- D 2842 LE211
- D 2842 LE203
- D 2848 LE211
- D 2866 LXE30



- 4024 TF 270
- 4039 D 4
- 6135 HF 475



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