

VTL-E

Open cooling towers



Key benefits

- Low height
- Easy installation
- Quiet



VTL-E characteristics

Counter flow, centrifugal fan, forced draft

Capacity range

3 - 130 l/s

Water distribution

Pressurized

Maximum entering water temperature

55°C standard fill
65°C with alternative fill

Typical applications

- Small to medium HVAC and industrial applications
- Installations with extremely low height requirements
- Indoor installations
- High temperature industrial applications
- Tight enclosures & installations requiring a single air inlet



Low height

- **Very low height:** fits perfectly on **roof tops** or tight enclosures.

Easy installation

- VTL-E towers are factory-assembled. We ship in **one piece** for **easy on-site lifting and installation**.
- VTL-E offers high capacity and minimum operating weight. **Save on steel supports**, both underneath the equipment and in the building itself for rooftop installations.
- Single-side air inlet lets you install **next to solid walls**.
- Units housable **indoors** thanks to centrifugal fans allowing intake or discharge ductwork.

Ideal for a quiet operation

- VTL-E units include **quiet internal centrifugal fans** for minimal surrounding noise.
- Single-side air inlet, and a **quieter tower rear** for more noise-sensitive areas.
- Cut operation noise still further with factory-designed and tested [sound attenuators](#) or silencers.

Year-round reliable operation

- Various corrosion-resistant materials, including the [Baltiplus 810™ coating](#) for guaranteed long service life.
- Optional [Baltiguard Drive System](#) for energy savings and less noise during low load (night). A perfect stand-by system in case of motor failure.
- The thermal performance of VTL-E cooling towers is [CTI-certified](#).

Easy to maintain

- **Easy access** to all the mechanicals, including fan shaft bearings.
- [BACount individual bundled fill sheets](#) for easy and complete inspection or cleaning preventing full replacement of fill bundles.

Interested in the VTL-E cooling tower for cooling your process water? Contact your local [BAC representative](#) for more information.

Downloads

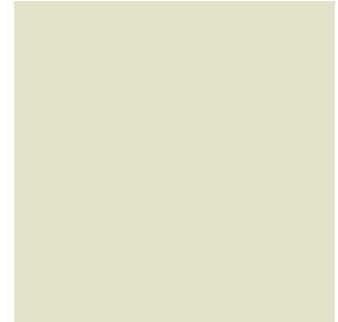
- [VTL-E open cooling tower](#)
- [Operating and Maintenance VTL-E](#)
- [Rigging and Installation VTL-E](#)

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Principle of operation

Warm process **water (1)** from the heat source enters the **spray system (2)** at the top of the cooling tower where it is distributed over the **fill** or heat transfer media **(3)**. At the same time the **centrifugal fan (4)** blows ambient **air (5)** upwards through the tower. While the warm process water contacts the cold air the latter heats up and part of the process water is evaporated which removes the heat from the remaining water. The tower **sump (6)** or basin collects the **cooled water (7)** after which it returns to the heat source of the process. The warm saturated **air (8)** leaves the tower through the **drift eliminators (9)**, which remove water droplets from the air.



Want to use the VTL-E cooling tower to cool your proces water?

Contact your local [BAC representative](#) for more information.

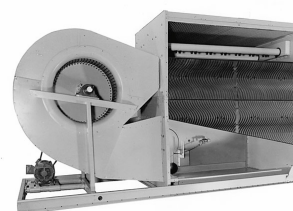
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Construction details

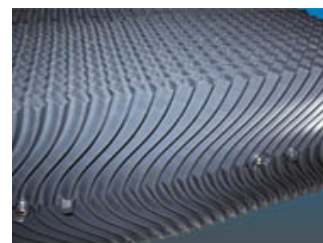
1. Material options

- Heavy-gauge hot-dip galvanized steel is used for external unit steel panels and structural elements featuring [Baltiplus 800™ Corrosion Protection](#).
- The [Baltiplus 810™ coating](#) is an **optional extra**. A hybrid polymer coating for longer service life, applied pre-assembly to all hot-dip galvanized steel components of the unit.
- Optional [stainless steel](#) panels and structural elements of type 304 or 316 for extreme applications.
- Or the economical alternative: a **water-contact stainless steel cold water basin**. Its key components and the basin itself are stainless steel.



2. Heat transfer media

- Our heat transfer media is patented [BACount fill](#). In comprehensive [lab thermal performance tests](#) it showed proved thermal cooling tower performance and offers you unrivalled system efficiency.
- We divide the fill pack into **compact fill bundles** easier to remove and replace. Each includes individual fill sheets which are easy to dismantle for **thorough inspection and cleaning**, hence eliminating the need for frequent fill replacement.
- In self-extinguishing plastic, which will not rot, decay or decompose.
- For operation above 55°C, try our **optional high temperature fill**, usable with intake water up to 65°C.



3. Air movement system

- With motor-driven centrifugal fan and a **V-belt drive**. You can easily remove the entire motor base for proper belt tensioning to ensure constantly correct belt alignment. Together with the **heavy duty fan shaft bearings** this guarantees optimal operational efficiency. Single- and multi-speed **motors** available.
- **Centrifugal fan(s)** are forward-curved and nearly noiseless. Overcome external static pressure! Use [sound attenuators](#) and duct work etc. for air intake/discharge with no loss of thermal performance!
- **Our drift eliminators** come in UV-resistant plastic, which will not rot, decay or decompose and their performance is tested and **certified by Eurovent**. They are assembled in **easily handled and removable sections**, for optimal internal access.
- [Steel eliminators](#), protected with the [Baltiplus 810™ coating](#), for optimal corrosion protection, are also available for specific applications.



4. Water distribution system

These consist of:

- A **header** and **spray branches** with wide non-clog plastic **nozzles**, secured by rubber **grommets**. You can easily remove, clean and flush both nozzles and spray branches.
- A cold water basin with:
 - **strainers** which are easy to lift out and the anti-vortexing device also helps stop trapped air
 - mechanical **make up**
 - circular **access door**



Like to know more about the VTL-E construction details? Contact your [local BAC representative](#).

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Options and accessories

Below is a listing of the main VTL-E options and accessories. If your required option or accessory is not listed, look no further than your [local BAC representative](#).



Plume abatement coil

A finned discharge coil is installed in your cooling tower discharge and piped in series with the wet coil. This **reduces or eliminates plumes**.



Sound attenuation

Reducing noise at air intake and discharge points brings us closer to silent cooling equipment.

- The sound reductions obtained by HS sound attenuation are perfect for **residential** sound requirements.
- Heavy noise reductions can be achieved with HD sound attenuation, making it ideal for **rural** requirements.



Baltiguard drive system

With this, operate your system like a dual-speed motor, but with standby reserve capacity **to cope with any failure.**



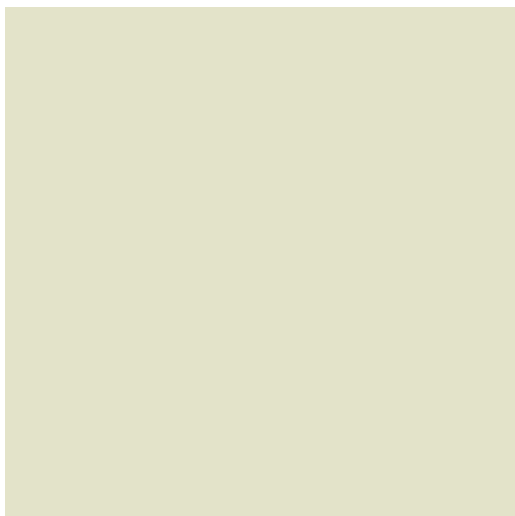
Basin heater package

Thanks to our factory-installed heaters, the water stays at 4°C and **never freezes**, even during tower downtime and however cold it gets outside.



Electric water level control package

For perfectly precise water level control, replace the standard mechanical valve with our electrical water level controller.



Remote sump connection

The best way to **prevent a sump freezing** is to use the auxiliary remote variety within a heated area. Shutting off the circulating pump allows all the water in the water distribution, as well as that in suspension and the sump to drain freely to the auxiliary sump.



Discharge hood

Discharge hoods **reduce the risk of re-circulation** in tight enclosures by increasing discharge air velocity, and can be used to elevate the unit discharge above adjacent walls to comply with layout guidelines.



Steel drift eliminators

Steel drift eliminators are more **robust** than plastic alternatives.



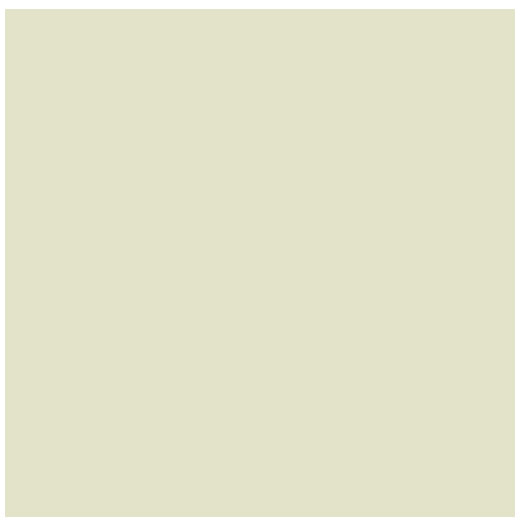
Clean out port

Clean out port **makes it easy to eliminate silt and sludge** from the cooling tower basin when cleaning and flushing the sump.



Filter

Separators and media filters efficiently **remove suspended solids** in the recirculating water, reducing system cleaning costs and optimizing water treatment results. Filtration helps you keep the recirculating water clean.



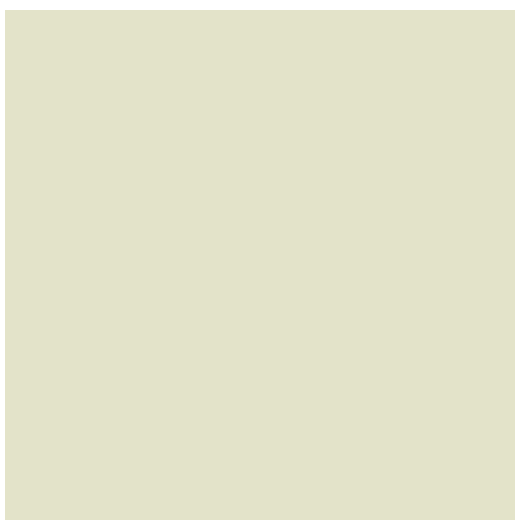
Sump sweeper piping

Sump sweeper piping **prevents sediment collecting in the cold water basin** of the unit. A complete piping system, including nozzles, is installed in the basin of the tower **for connection to side stream filtration** equipment.



Water treatment equipment

Devices to control water treatment are needed to ensure proper **cooling tower water care**. Not only does this help protect the components and fill pack, controlling corrosion, scaling and fouling, it also avoids the proliferation of harmful bacteria, including **legionella**, in the recirculating water.



Flanges

Flanges facilitate **piping connections** on-site.

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Engineering data

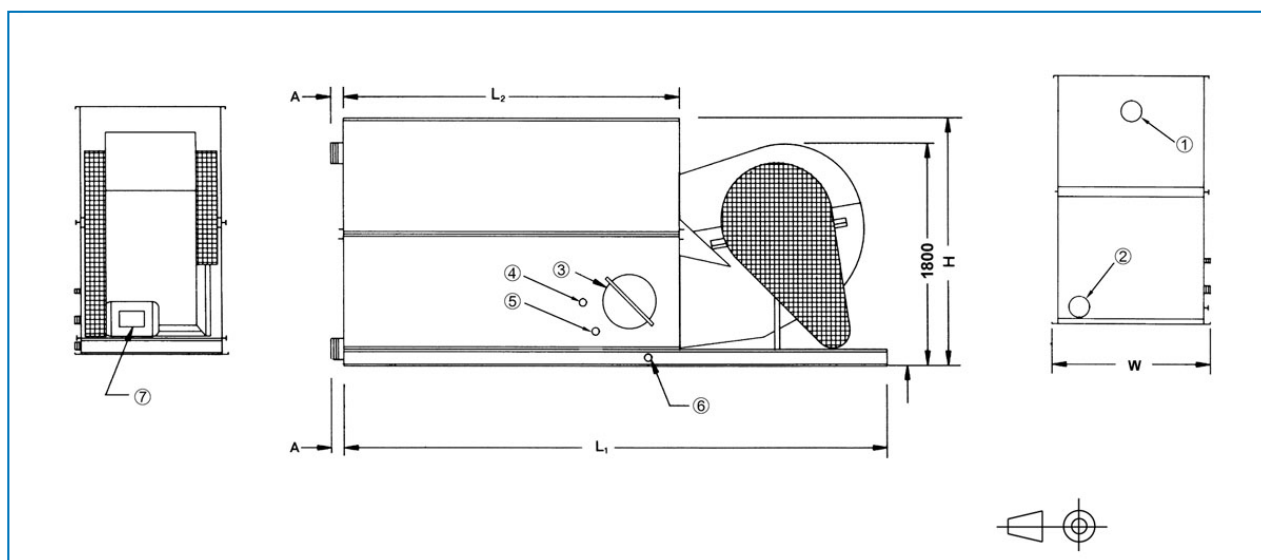
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General notes

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2. Fan kW is at 0 Pa ESP. To operate against external static pressure up to 125 Pa, consult your BAC representative for size and location.
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Last update: 30/06/2019

VTL-E 039G-137M



1. Water Inlet; 2. Water Outlet; 3. Access Door; 4. Make up ND25; 5. Overflow ND50; 6. Drain ND50; 7. Fan Motor. Overflow connection is 80 mm on models VTL-E 086L, VTL-E 094M and VTL-E 103K through VTL-E 137M.

Model	Weights (kg)			Dimensions (mm)				Air Flow (m³/s)	Fan Motor (kW)	Fluid Inlet ND (mm)	Fluid Outlet ND (mm)	Make Up ND (mm)
	Oper. Weight (kg)	Ship. Weight(kg)	Heaviest Section (kg)	L1	L2	W	H					
VTL-E 039-G	1200	720	720	3350	1820	1250	1560	7.0	(1x) 2.2	(1x) 100	(1x) 100	(1x) 25
VTL-E 045-H	1230	750	750	3350	1820	1250	1560	8.0	(1x) 4.0	(1x) 100	(1x) 100	(1x) 25
VTL-E 051-G	1279	799	799	3350	1820	1250	1990	6.3	(1x) 2.2	(1x) 100	(1x) 100	(1x) 25
VTL-E 059-H	1290	810	810	3350	1820	1250	1990	7.3	(1x) 4.0	(1x) 100	(1x) 100	(1x) 25
VTL-E 066-J	1320	840	840	3350	1820	1250	1990	8.1	(1x) 5.5	(1x) 100	(1x) 100	(1x) 25
VTL-E 072-K	1330	850	850	3350	1820	1250	1990	8.8	(1x) 7.5	(1x) 100	(1x) 100	(1x) 25
VTL-E 056-G	1369	889	889	3350	1820	1250	2480	5.632	(1x) 2.2	(1x) 100	(1x) 100	(1x) 25
VTL-E 065-H	1380	900	900	3350	1820	1250	2480	6.625	(1x) 4.0	(1x) 100	(1x) 100	(1x) 25
VTL-E 073-J	1401	921	921	3350	1820	1250	2480	7.537	(1x) 5.5	(1x) 100	(1x) 100	(1x) 25
VTL-E 079-K	1410	930	930	3350	1820	1250	2480	8.3	(1x) 7.5	(1x) 100	(1x) 100	(1x) 25
VTL-E 058-G	1688	978	978	4560	2730	1250	1990	7.149	(1x) 2.2	(1x) 150	(1x) 150	(1x) 25
VTL-E 067-H	1699	989	989	4560	2730	1250	1990	8.48	(1x) 4.0	(1x) 150	(1x) 150	(1x) 25
VTL-E 076-J	1720	1010	1010	4560	2730	1250	1990	9.7	(1x) 5.5	(1x) 150	(1x) 150	(1x) 25
VTL-E 082-K	1740	1030	1030	4560	2730	1250	1990	10.6	(1x) 7.5	(1x) 150	(1x) 150	(1x) 25
VTL-E 092-L	1773	1063	1063	4560	2730	1250	1990	11.78 9	(1x) 11.0	(1x) 150	(1x) 150	(1x) 25
VTL-E 066-G	1809	1099	1099	4560	2730	1250	2480	6.647	(1x) 2.2	(1x) 150	(1x) 150	(1x) 25
VTL-E 078-H	1820	1110	1110	4560	2730	1250	2480	8.007	(1x) 4.0	(1x) 150	(1x) 150	(1x) 25
VTL-E 088-J	1841	1131	1131	4560	2730	1250	2480	9.109	(1x) 5.5	(1x) 150	(1x) 150	(1x) 25
VTL-	1850	1140	1140	4560	2730	1250	2480	10.0	(1x)	(1x)	(1x)	(1x)

E 095-K									7.5	150	150	25
VTL- E 107-L	1883	1173	1173	4560	2730	1250	2480	11.36	(1x) 11.0	(1x) 150	(1x) 150	(1x) 25
VTL- E 117-M	1903	1193	1193	4560	2730	1250	2480	12.59 6	(1x) 15.0	(1x) 150	(1x) 150	(1x) 25
VTL- E 070-J	2008	1078	1078	5480	3650	1250	1560	11.11	(1x) 5.5	(1x) 150	(1x) 150	(1x) 25
VTL- E 077-K	2017	1087	1087	5480	3650	1250	1560	12.32	(1x) 7.5	(1x) 150	(1x) 150	(1x) 25
VTL- E 086-L	2050	1120	1120	5480	3650	1250	1560	14.0	(1x) 11.0	(1x) 150	(1x) 150	(1x) 25
VTL- E 094-M	2060	1130	1130	5480	3650	1250	1560	15.4	(1x) 15.0	(1x) 150	(1x) 150	(1x) 25
VTL- E 094-J	2141	1211	1211	5480	3650	1250	1990	10.76 3	(1x) 5.5	(1x) 150	(1x) 150	(1x) 25
VTL- E 103-K	2150	1220	1220	5480	3650	1250	1990	11.8	(1x) 7.5	(1x) 150	(1x) 150	(1x) 25
VTL- E 116-L	2180	1250	1250	5480	3650	1250	1990	13.3	(1x) 11.0	(1x) 150	(1x) 150	(1x) 25
VTL- E 126-M	2190	1260	1260	5480	3650	1250	1990	14.5	(1x) 15.0	(1x) 150	(1x) 150	(1x) 25
VTL- E 102-J	2278	1348	1348	5480	3650	1250	2480	10.21 2	(1x) 5.5	(1x) 150	(1x) 150	(1x) 25
VTL- E 111-K	2287	1357	1357	5480	3650	1250	2480	11.19 1	(1x) 7.5	(1x) 150	(1x) 150	(1x) 25
VTL- E 126-L	2320	1390	1390	5480	3650	1250	2480	12.8	(1x) 11.0	(1x) 150	(1x) 150	(1x) 25
VTL- E 137-M	2330	1400	1400	5480	3650	1250	2480	13.6	(1x) 15.0	(1x) 150	(1x) 150	(1x) 25

Open cooling towers

Engineering data

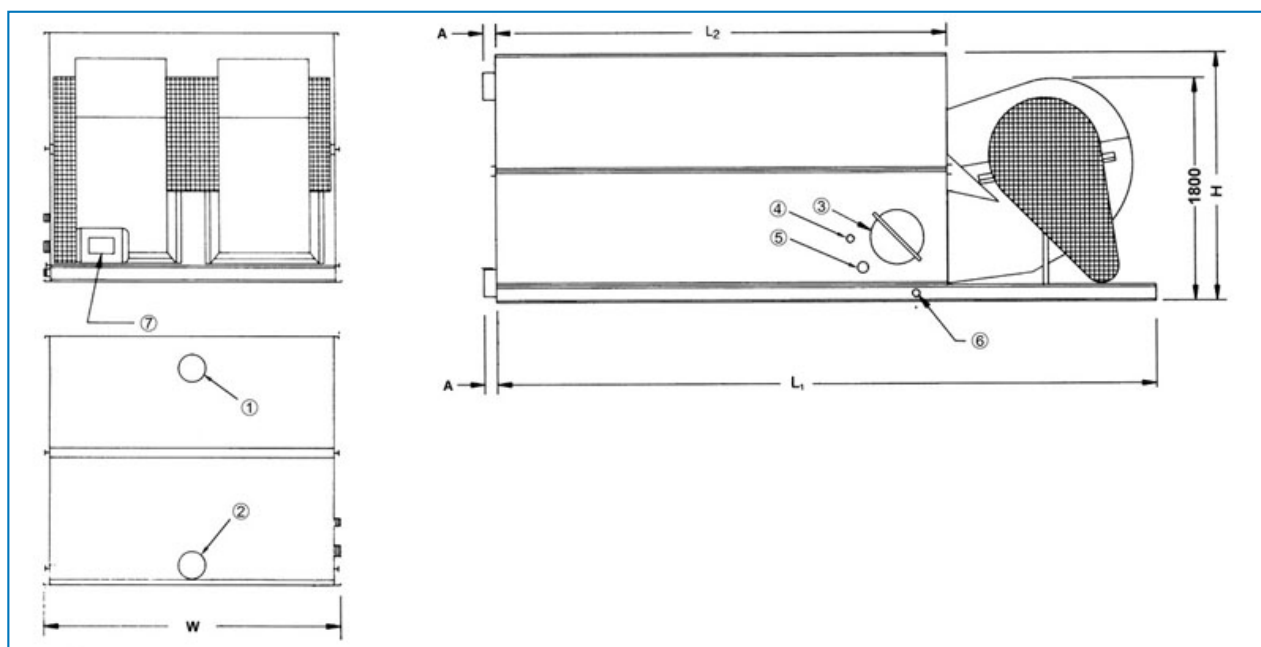
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Last update: 11/05/2016

VTL-E 139L-272P



1. Water Inlet; 2. Water Outlet; 3. Access Door; 4. Make up; 5. Overflow ND80; 6. Drain ND50; 7. Fan Motor.

Model	Weights (kg)			Dimensions (mm)				Air Flow (m³/s)	Fan Motor (kW)	Fluid Inlet ND (mm)	Fluid Outlet ND (mm)	Make Up ND (mm)
	Oper. Weight (kg)	Ship. Weight(kg)	Heaviest Section (kg)	L1	L2	W	H					
VTL-E 139-L	3000	1560	1560	4560	2730	2400	1560	19.9	(1x) 11.0	(1x) 200	(1x) 200	(1x) 40
VTL-E 152-M	3010	1570	1570	4560	2730	2400	1560	21.6	(1x) 15.0	(1x) 200	(1x) 200	(1x) 40
VTL-E 171-L	3100	1670	1670	4560	2730	2400	1990	18.8	(1x) 11.0	(1x) 200	(1x) 200	(1x) 40
VTL-E 185-M	3170	1740	1740	4560	2730	2400	1990	20.4	(1x) 15.0	(1x) 200	(1x) 200	(1x) 40
VTL-E 198-N	3190	1760	1760	4560	2730	2400	1990	21.8	(1x) 18.5	(1x) 200	(1x) 200	(1x) 40
VTL-E 209-O	3200	1770	1770	4560	2730	2400	1990	23.0	(1x) 22.0	(1x) 200	(1x) 200	(1x) 40
VTL-E 215-N	3380	1950	1950	4560	2730	2400	2480	20.8	(1x) 18.5	(1x) 200	(1x) 200	(1x) 40
VTL-E 227-O	3400	1970	1970	4560	2730	2400	2480	22.0	(1x) 22.0	(1x) 200	(1x) 200	(1x) 40
VTL-E 225-O	4000	2080	2080	5480	3650	2400	1990	25.5	(1x) 22.0	(1x) 200	(1x) 200	(1x) 40
VTL-E 245-P	4080	2180	2180	5480	3650	2400	1990	27.8	(1x) 30.0	(1x) 200	(1x) 200	(1x) 40
VTL-E 238-N	4110	2210	2210	5480	3650	2400	2480	23.4	(1x) 18.5	(1x) 200	(1x) 200	(1x) 40
VTL-E 272-P	4310	2410	2410	5480	3650	2400	2480	26.8	(1x) 30.0	(1x) 200	(1x) 200	(1x) 40

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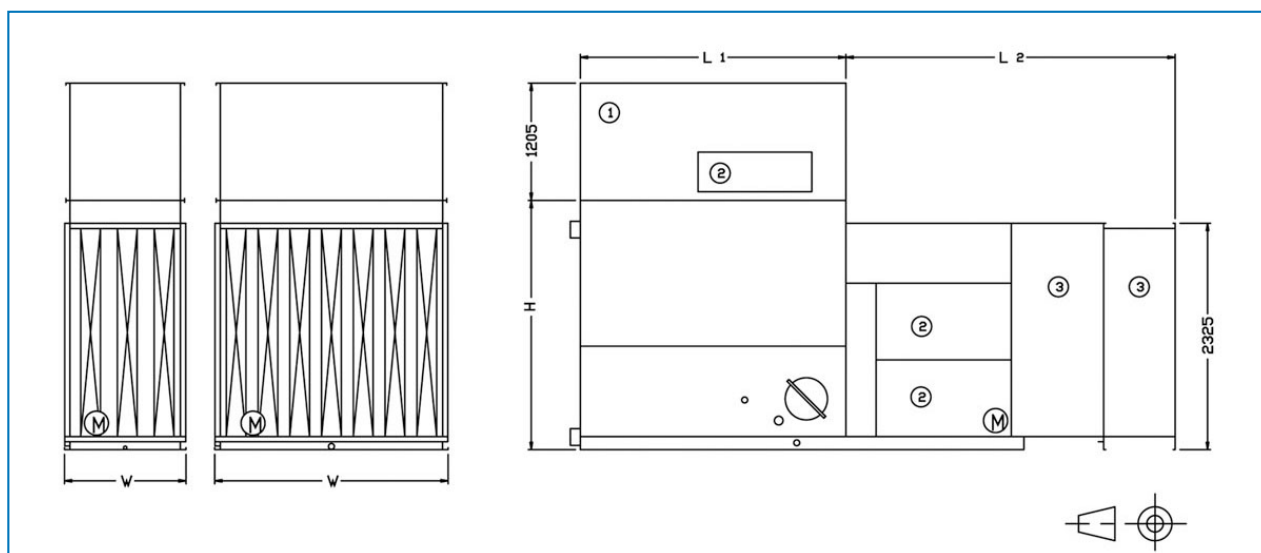
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Last update: 23/07/2019

Sound attenuation HD



1. Discharge attenuator; 2. Access Door; 3. Intake attenuator; H & W: unit height and width (see engineering data).



Model	Dimensions (mm)		Weights (kg)		
	L2	L	Intake	Discharge	Total
VTL-E 039 G - 079 K	3125	1820	655	235	890
VTL-E 076 J - 095 K	3375	2730	660	315	975
VTL-E 086 L - 137 M	3375	3650	660	385	1045
VTL-E 139 L - 227 O	3375	2730	980	500	1480
VTL-E 225 O - 272 P	3375	3650	980	605	1585

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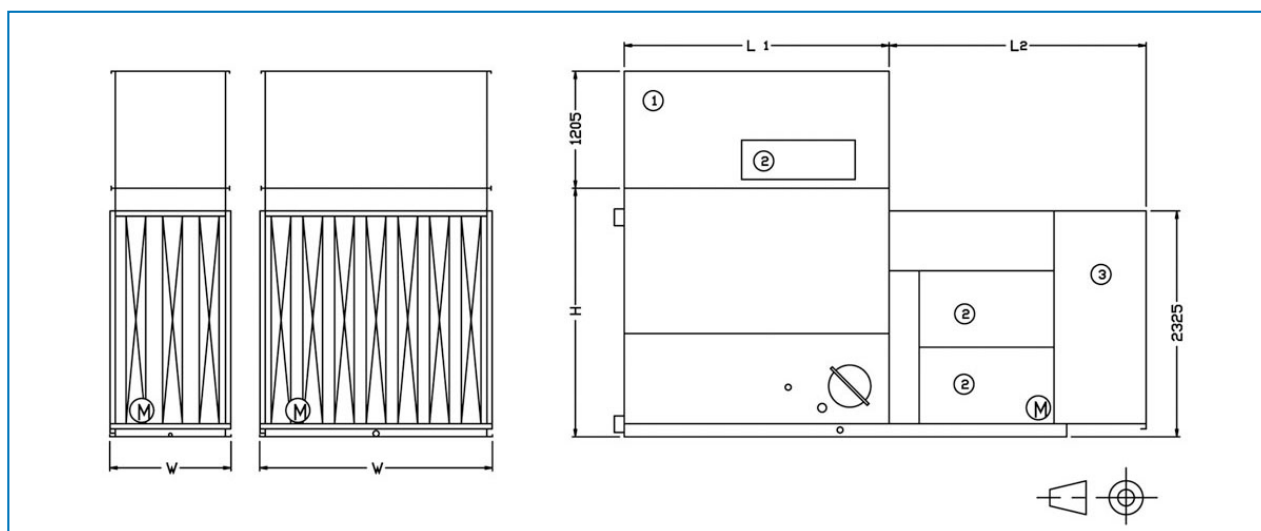
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Last update: 23/07/2019

Sound attenuation HS



1. Discharge attenuator; 2. Access Door; 3. Intake attenuator; H & W: unit height and width (see engineering data).



Model	Dimensions (mm)		Weights (kg)		
	L2	L	Intake	Discharge	Total
VTL-E 039 G - 079 K	2390	1820	460	215	675
VTL-E 076 J - 095 K	2640	2730	465	295	760
VTL-E 086 L - 137 M	2640	3650	465	365	830
VTL-E 139 L - 227 O	2640	2730	665	465	1130
VTL-E 225 O - 272 P	2640	3650	665	565	1230

Open cooling towers

Engineering data

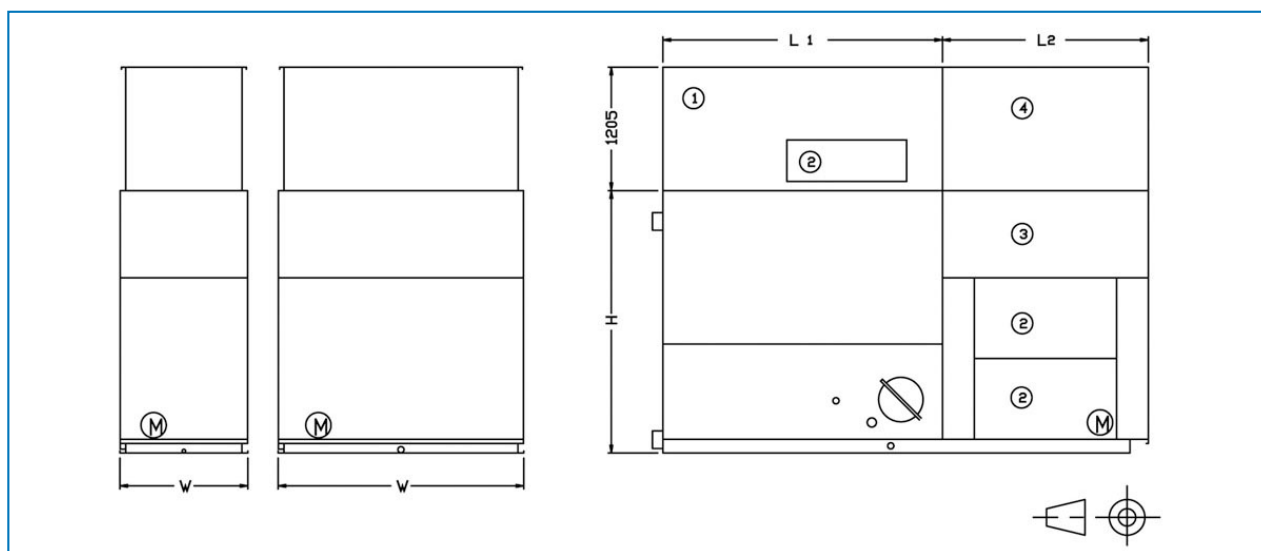
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Last update: 23/07/2019

Sound attenuation VS



1. Discharge attenuator; 2. Access Door; 3. Intake attenuator; 4. Plenum; H & W: unit height and weight (see engineering data).



Model	Dimensions (mm)		Weights (kg)		
	L2	L	Intake	Discharge	Total
VTL-E 039 G - 079 K	2010	1820	N.A.	N.A.	725
VTL-E 076 J - 095 K	2010	2730	N.A.	N.A.	830
VTL-E 086 L - 137 M	2010	3650	N.A.	N.A.	915
VTL-E 139 L - 227 O	2010	2730	N.A.	N.A.	1205
VTL-E 225 O - 272 P	2010	3650	N.A.	N.A.	1310