

WDP

Water Distribution System



EQUIPMENT

WDP

- Quick and easy installation
- Easy maintenance and cleaning
- Flexible positioning of the water supply and discharge
- Resistant to corrosion (stainless steel 304, epoxy pre-coated galvanised steel)
- Designed to ensure an even wetting of the entire pad wall
- Stabilisation of the pad wall
- Fits any size of pad in height and width
- Available as complete system with all fitting parts
- Water filtration available upon request

Introduction

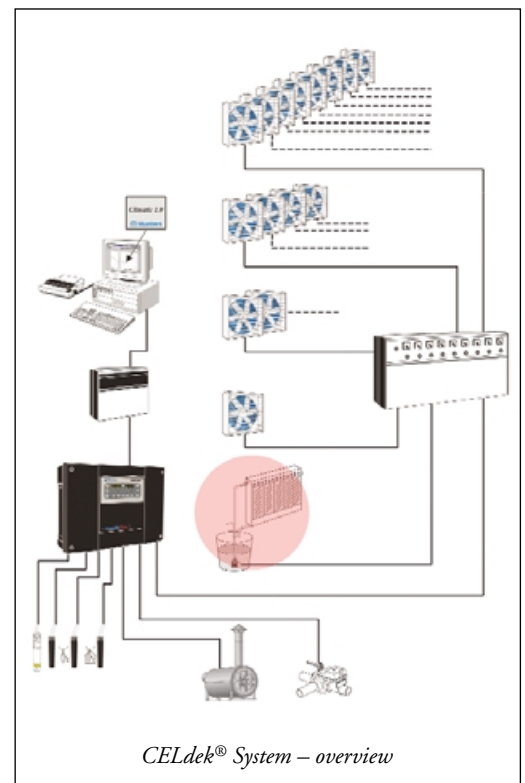
WDP is a complete water supply and drainage system for wetting of evaporative cooling pad walls. The complete system includes gutter system, water tank, water pump, water supply and drainage kit, pad wall stabilisation and ending kit.

The WDP system has been specially designed to ensure even wetting of the CELdek® evaporative cooling pad, continuous water recirculation and mechanical stabilisation of the pad wall.

Technology basis

The WDP system has a modular design, which allows for high flexibility in matching desired length of the pad wall (usually a multiple of standard pad width – 600 mm).

The pressurised water is supplied at the top of the CELdek evaporative cooling pad via a distribution header. The distribution header has small calibrated holes orientated upwards. This design feature prevents the clogging and thus ensures efficient water distribution over the entire wall. This is true even in cases where the evaporative cooling pads are not perfectly horizontally aligned, for example due to ground movements.

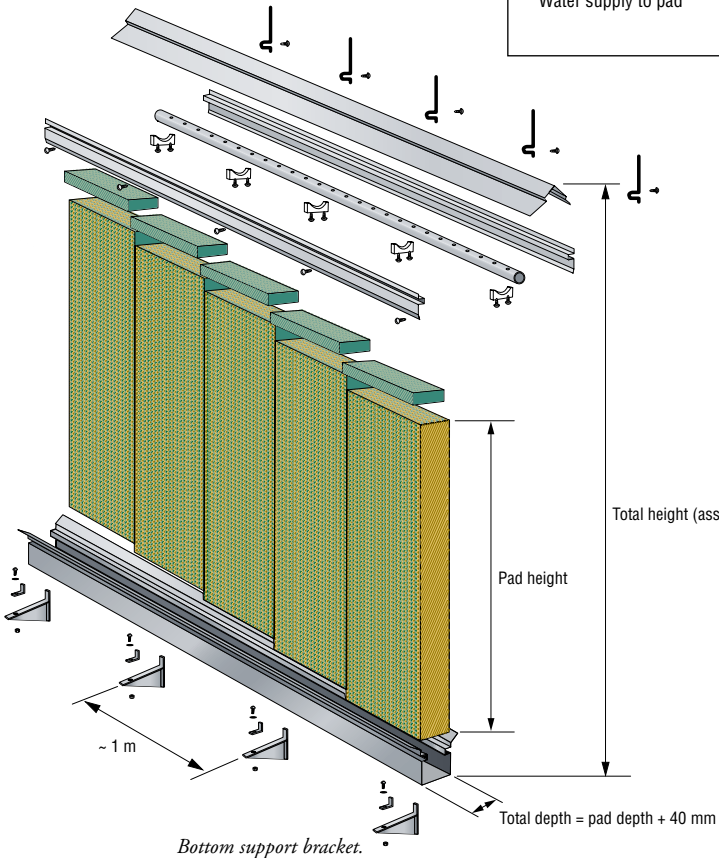
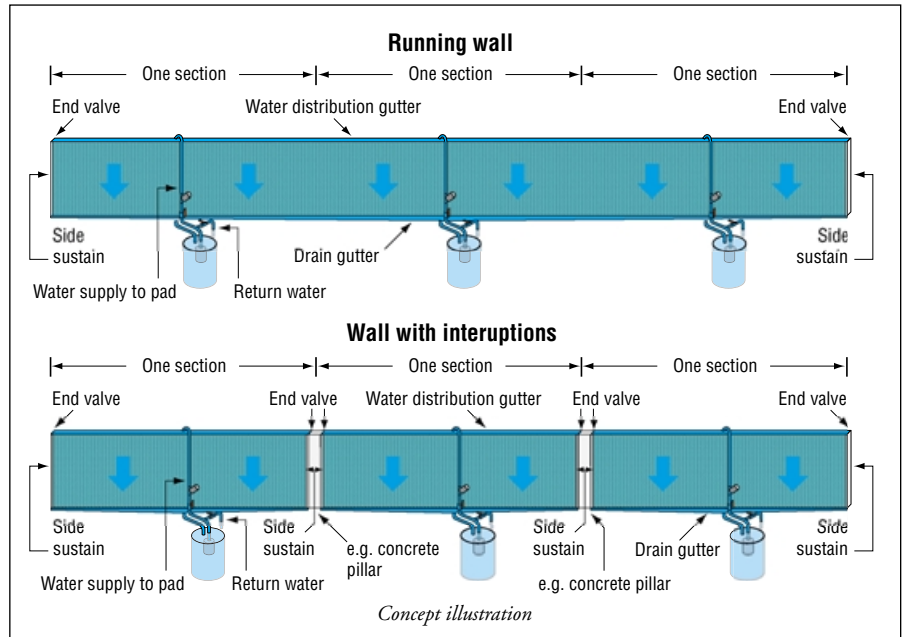


Gutter system

Pad wall section

In relation to the thickness of the evaporative cooling pad, options are available. Each option comes complete with a specific type of pump, tank and water supply and drainage kit.

In cases where the total desired length of the pad wall is longer than maximum recommended length of one section, several sections can be combined. There is no need to separate the two adjacent sections. The distribution header and the water recovery gutter are supplied in modules.



Options – Based on pad wall maximum section length

Max. length of one section [m]	Pad depth [mm]	Pump [hp]	Water tank capacity [l]
24	100	0.75	500
16	150	0.75	500
18	100	0.5	500
12	150	0.5	500
12	100	0.33	300
8	150	0.33	300

Note: The above values are valid for a WDP system not higher than 3 m.

The top and bottom gutters are available either in stainless steel 304 or epoxy pre-coated galvanised steel. The top gutter support brackets are made from the same material as the gutters. The bottom gutter support brackets are made from galvanised steel. Bottom support brackets are supplied only if specifically ordered.

Water pump

The single phase pump is equipped with floating electrical switch to prevent the pump from running dry. The three phase pump needs a separate level switch. This ensures a long service life of the pump components and prevents damage to the electrical parts.

The pumps have been selected and tested for optimum performance of the WDP system.

Technical specifications of submersible pump

Pump type	Nominal power [W]	Nominal power [hp]	Type phases	Frequency [Hz]	Voltage [V]	Current [A]	Max capacity [l/min] at height [m]	Weight [kg]	
a	0.25	0.33	1	50	230	1.4	128 1.7	3.75	
b	0.25	0.33	1	60	230	1.4	128 1.7	3.75	
c	0.37	0.5	1	50	230	2.1	165 2.9	4.7	
d	0.37	0.5	1	60	230	2.1	165 2.9	4.7	
e	0.55	0.75	1	50	230	3.5	250 3.8	6	
f	0.55	0.75	1	60	230	3.5	250 3.8	6	
g	0.55	0.75	3	50	400	1.9	250 3.8	6	
h	0.55	0.75	3	60	400	1.9	250 3.8	6	
Max operating temperature				40 °C					
Discharge pipe connection				1 1/4"					
Pump shaft				Stainless steel AISI 416					
Pump body				Type a-d: Polypropylene / Type e-h: Stainless steel AISI 304					
IEC protective class				IP68					
Winding insulation grade				Type a-d: F Type e-h: B					

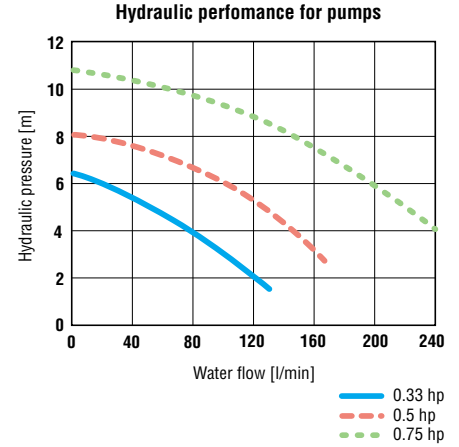
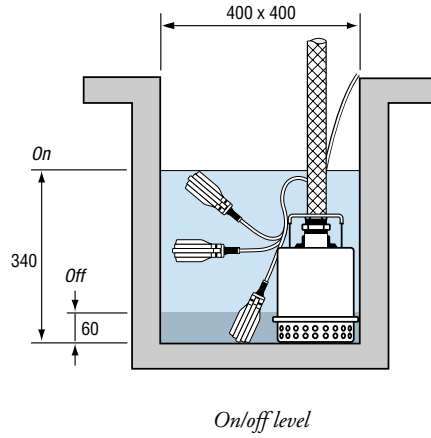
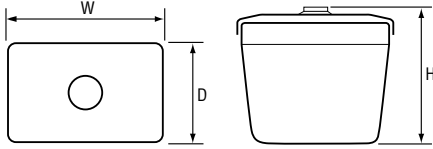
One phase pumps are equipped with floating valve (electrical switch), not available for three phase pumps.

Water tank

Tank type	Capacity [l]	W [mm]	D [mm]	H [mm]
A*	500	990	840	910
B**	300	800	660	860

*Supplied with 0.5 and 0.75 hp pumps

**Supplied with 0.33 hp pumps



Water supply and drainage kit (Plumbing kit)

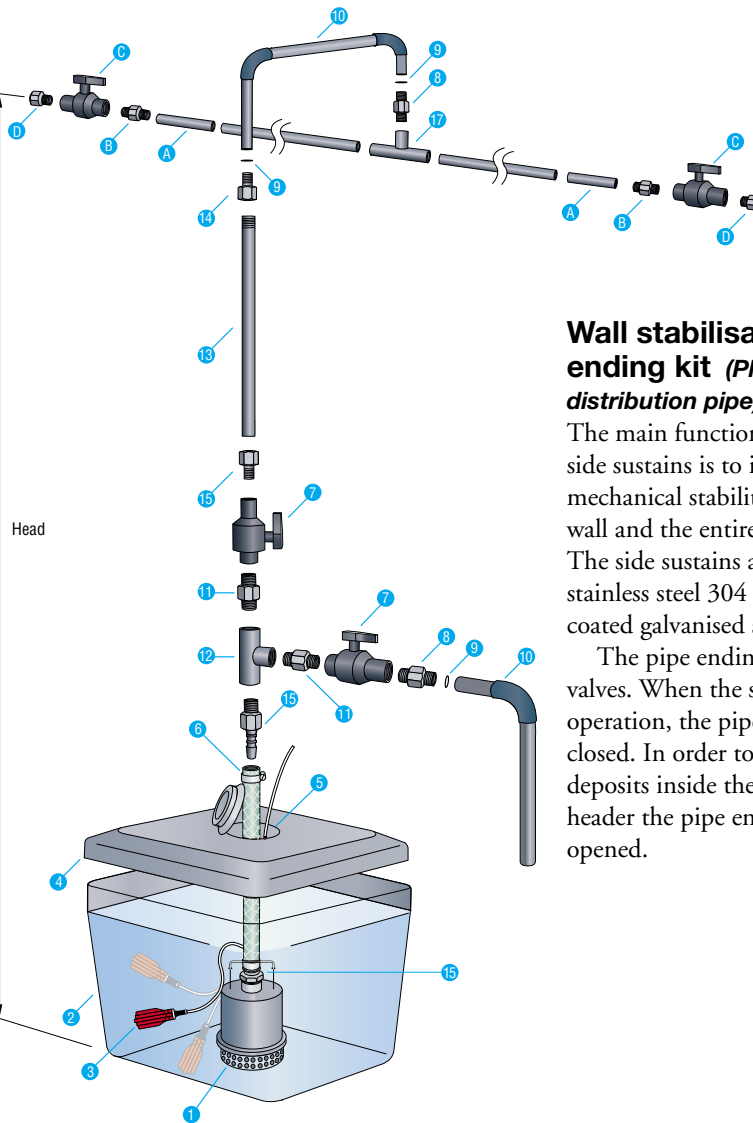
One of the key components of the WDP system is the water supply and drainage kit. It contains:

- Bleed-off valve.
- Fitting pipes and joints for connecting water pump to the top water distribution gutter.
- Water discharge spout (connection Ø 63 mm).

The water used in the WDP system will contain a certain amount of minerals and salts, the concentration of which varies from place to place. During the cooling process, pure water vapour is released to the air. The minerals and salts remain in the water and are returned to the tank. A proportion of water in the tank is continually drained through the bleed-off valve and replaced with fresh water to control the mineral concentration. This helps to keep the surface of the evaporative cooling pad clean and prevents clogging. Thus the service life of the evaporative cooling pad can be significantly extended.

Water filter is available upon request.

The return pipe from the water spout to the water tank is not a standard offer. Delivered on request.



Wall stabilisation and ending kit (Plumbing kit for distribution pipe)

The main function of the metal side sustains is to improve mechanical stability of the pad wall and the entire WDP system. The side sustains are available in stainless steel 304 or epoxy pre-coated galvanised steel.

The pipe endings are closed by valves. When the system is in operation, the pipe endings are closed. In order to remove the deposits inside the distribution header the pipe ends must be opened.

Plumbing kit

- Submersible pump
- Water tank
- Floating 1/2" valve for water alimentation
- Water tank lid
- Trap door
- Rigid 1 1/4" tube
- Single union safeblock b.s.p. f/f threaded 1 1/4"
- Threaded 1 1/4" hose adaptor

- Fixing strip for rubber tube
- Spiralled ø40 mm rubber tube (internal)
- Threaded 1 1/4" nipple
- Threaded 1 1/4" 90° tee
- Rigid 1 1/4" tube
- Hose adaptor for solvent cement ø40x42x40 mm
- Male threaded adaptor ø40x50x1 1/4"
- Double socket for solvent cement

- Tee with central off-take ø40 mm x 1 1/4"
- Water discharge spout

Plumbing kit for distribution pipe

- ø40 mm plastic tube
- Male threaded adaptor ø40x50x1 1/4"
- Single union safeblock b.s.p. f/f threaded 1 1/4"
- Threaded 1 1/4" hose adaptor

Simple to install and maintain

Due to its modular design, the WDP system is easy to assemble and maintain. A unique removable cooling pad retain-

ing plate allows for easy access to the CELdek evaporative cooling pads for replacement or servicing from either side.

It is easy to clean the holes in the distribution header manually in case of clogging. The header is accessed simply by lifting the lid.

Order information for gutter system (pad wall)

Gutter system WDP-GS-X-X-X-X

Code for material of the gutter. _____

2 Pre-coated galvanised steel

3 Stainless steel AISI 304

Length, m _____

Multiple of 600 mm.

Preferable multiple of 3,000 mm.

*Depth, mm _____

100, 150 mm

Option code _____

wb With bottom brackets (one bracket/m delivered)

nb Without bottom brackets

*Depth of evaporative cooling pad.

e.g. WDP-GS-2-11.4-150-wb

Order information for wall stabilisation and ending kit (one required for each running wall, see illustration page 2)

*Wall stabilisation and ending kit WDP-WS-X-X-X

Code for material of the gutter. _____

2 Pre-coated galvanised steel

3 Stainless steel AISI 304

Number of kits _____

Height of side sustaining, mm _____

Standard heights 500, 600, 900, 1,000, 1,200, 1,500, 1,800, 2,000

*Includes two pieces side sustainings and one plumbing kit for distribution pipe (see page 3).

e.g. WDP-WS-2-1-2000

Order information for water pump and tank

Water pump WDP-WP-X-X

Pump type _____

(see table on page 2)

Number of pumps _____

e.g. WDP-WP-C-1

Water tank WDP-WT-X-X

Tank type _____

(see table on page 3)

Number of tanks _____

e.g. WDP-WP-A-1

Order information for water supply and drainage kit/plumbing kit

(one required for each pad wall section – pump and tank)

Plumbing kit WDP-PK-X-X

Number of kits _____

Head, mm _____

Available options are:

Max head up to 1,500 – 2,000 – *3,000 mm

*See drawing on page 3.

e.g. WDP-PK-S-1-3000

Gutter system is developed and produced by Munters euroemme S.p.A., Italy.



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