

Complete topping-up equipment for Alcad Ni-Cd batteries

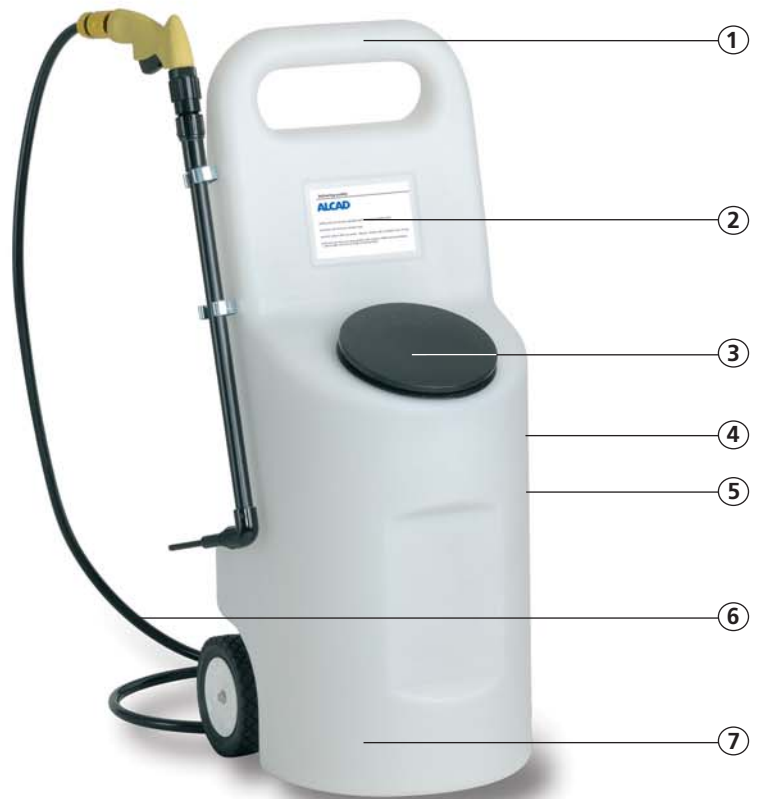
Alcad's complete topping-up equipment consists of a filling pistol "cell topper" and a water containment unit connected by a flexible hose. The filling pistol, which has a flow rate of 8 litres/min., shuts off at the correct level when the appropriate spacer tube is used.

Designed to simplify the water replenishment procedure for large sizes or numbers of cells, the equipment is effective especially where the electrolyte levels cannot be seen easily.

Safety precautions

- Remove all rings, watches, and other items with metal parts prior to working with battery.
- Wear protective gear, rubber gloves, long sleeves, closed goggles or shield.
- Never allow an exposed flame or spark near the battery.
- Never smoke while performing any operation on the battery.
- Discharge any possible static electricity from clothing and/or tools by touching an earth-connected part "ground" prior to working with the battery.
- Use insulated tools.
- Electrolyte is harmful to skin and eyes. In the event of contact with skin and eyes, wash immediately with plenty of water.

If eyes are affected, flush with water, and obtain immediate medical attention.



- ① Easy to manoeuvre: handles like a hand truck
- ② Easy to use: instructions displayed directly on the unit
- ③ Easy to fill: large opening
- ④ Dependable water source
- ⑤ On/off switch: located on the rear of the unit
- ⑥ Output hose
- ⑦ Sealed cell battery is included

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Water cart equipment operation

- 1 The battery for the watering cart is shipped disconnected. Before using the cart, connect the battery according to supplied instruction.
- 2 Remove the cap ③ and fill tank with ONLY distilled or de-ionized water (per IEC 60993). Replace the cap when full.
- 3 Connect the output hose ⑥ of the watering cart to the bottom of the filling pistol's handle. A quick connector is preassembled.
- 4 Turn the power switch ⑤ to the ON position. The switch is located on the back of the cart. The pump will energize for a few seconds and then stop.
- 5 Refer to "Filling pistol operation" (page 3).
- 6 Once all topping-up is complete, turn the power switch to the OFF position.
- 7 Charge the cart battery as needed. The battery needs 13 hours to fully charge. The battery shall be kept at a good level of charge.

Note: The watering cart cannot be operated while the charger is connected to the battery.

The expected run time of the watering cart, with a fully charged battery, is 2 hours continuous. Longer run times are likely with intermittent use of the system.

Table 1 - Water cart equipment

Container capacity	37.5 L (made in polypropylene)
Charger	120 V/230 V with exchangeable AC plug models
Hose	≈ 3.2 m in length
Battery	12 V/7.2 Ah
Dimensions (mm)	150 x 64 x 94 (L x W x H)
Dimensions (mm)	432 x 432 x 940 (L x W x H)
Packaging dimensions (mm)	413 x 413 x 950 (L x W x H)
Weight	14 kg (empty), 52 kg (full)

Table 2 - Parts list equipment

Item	Part Number for pocket plate cells	Part Number for Sintered/PBE, XHP cells
Complete topping-up equipment with universal charger 120 V/230 V (with filling pistol, spacer tube kit, charger + plugs)	08-00195-04	220325
Filling pistol (with spacer tube kit)	01-02002-01	220323
Spacer tube kit (with spacer tubes marked A to H)	01-02007-01	220 974
Battery charger (120 /230 V) + plugs (2-Pin Euro plug, 3-Pin UK plug, 2-Pin US plug)	01-02011-01	220 975

Topping-up

Filling pistol operation

- 1 Select the appropriate spacer tube for the cell type that is to be replenished. Refer to Tables 4 and 5 for correct spacer tube identification. Each spacer tube is individually marked with an identity letter.
- 2 Attach spacer tube to the front end of the probe.
- 3 Position the spacer tube so the stepped inside diameter is attached to the probe first; it must face up. The smooth (non-stepped) diameter must face down.
- 4 Push the spacer tube completely against the probe top. There should be **NO** visible space between the spacer tube and the probe top. Correct positioning of spacer tubes is illustrated on page 3.
- 5 Insert the probe of the filling pistol into the battery cell. Squeeze the handle until you feel the pistol shut off. The pump will also shut off at the same time. Release the handle. Remove the probe.

Note: Some water may drip from the probe after the handle is released. Allow this to drain into the cell or into another suitable receptacle.

- 6 Repeat above steps for each cell to be replenished.

Caution:

Use correct spacer tube to prevent overfilling or underfilling.

Only use distilled or de-ionized water. NEVER use tap water.

Topping-up equipment should be dedicated to Ni-Cd batteries.

Table 3 - Filling pistol

Total filling pistol length (mm)	625
Packaging dimensions (mm)	800 x 200 x 50 (L x W x H)
Kit of 8 spacer tubes supplied	Marked A to H
To function correctly, the filling pistol requires	1 – 1.7 bar

Correct installation for spacer tubes specified in Tables 4 and 5



Spacer Tubes A, B, C, D, E, F, H



Spacer Tube G



Table 4 - Spacer tubes – pocket plate cells

Battery type	Capacity range (Ah)	Spacer tube
LCE P	10 - 30, 47, 62	A
LCE P	35	B
LCE P	75 - 375	B
LBE P	415 - 1660	B
LB P	387 - 1540	B
MB P	369 - 1390	B
HB P	230 - 920	B
LC P	10 - 59	A
LC P	70 - 355	B
MC P	9 - 55	A
MC P	70 - 335	B
HC P	9 - 34	A
HC P	40 - 210	B
VTX 1L	15 - 75, 110	A
VTX 1L	95	B
VTX 1L	140 - 1700	B
VTX 1M	8 - 65	A
VTX 1M	75	B
VTX 1M	100 - 1330	B
LD P	10 - 70	H
L P	11 - 69	B
L P	76 - 128	C
L P	157 - 411	B
M P	11 - 59	B
M P	65 - 118	C
M P	145 - 341	B
M S	32 - 118	A
M S	145 - 435	B
H P	11 - 50	B
H P	58 - 137	C
H P	147 - 265	B
H S	67 - 128	A
H S	147 - 320	B

Table 5 - Spacer tubes – sintered / PBE cells

Battery type	Capacity range (Ah)	Spacer tube
XHP	11	A
XHP/F	16 - 52	D
XHP/F	60 - 80	B
XHP/F	90 - 190	A
XHP/F	220 - 320	C

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