Ecolab Penguin 4U

Read and understand this instruction sheet prior to installation and set-up of the unit.

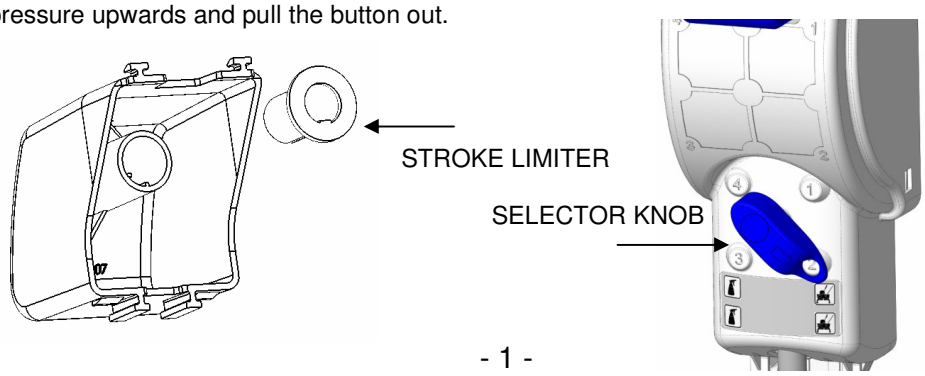
Observe personal protection in regard of chemical products during re-filling procedures (product replacement) and maintenance repair.Read product label and MSDS sheet.

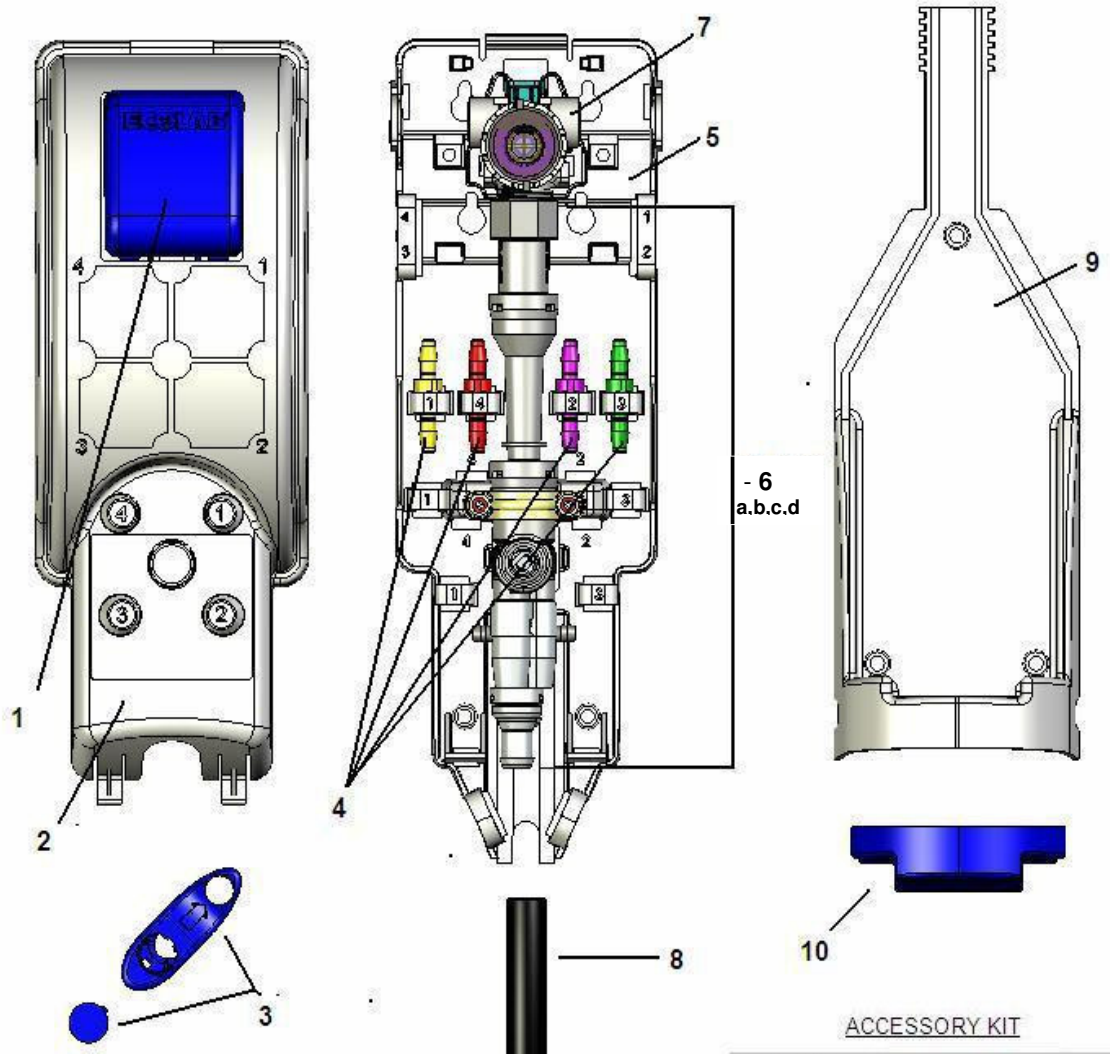
Package contents:

1. Penguin 4U dispenser
2. Pick up tube for each eductor
3. Discharge tube for each outlet
4. Metering tip kit(s)
5. Mounting kit
6. Hook(s) for discharge tube(s) – High Flow only
7. Label pack

Installation and Operation:

1. Using the mounting bracket as a template drill two holes for the wall anchors using an 8mm drill bit. Fix the mounting bracket to the wall with the screws provided. Slide the Penguin 4U and the bottle shelf onto the bracket before marking and drilling your final holes. Using the screws provided fix the whole assembly to the wall.
   N.B. Do not mount the dispenser more than 1.8 metres above the chemical container and never mount the chemical higher than the dispenser.
2. Select a metering tip (see table) and insert into hose barb on eductor body. (Repeat for all eductors.) In case an eductor is not connected to a product, always install a clear tip(no hole) to ensure proper operation of the unit.
3. Supply tube should reach from hose barb on eductor to bottom of the concentrate container. Cut each pick-up tube to the required length.
4. Slip other end of supply tube through an opening in either side of the cabinet and push over the hose/barb metering tip on the eductor port. (Repeat for all eductors.)
5. Place the foot strainer of the pick up assembly into chemical containers.
   N.B. Check foot valve strainers periodically for debris and clean as necessary.
6. Use the short discharge tube for the front outlet ports and the longer discharge tube for the back outlet ports. (For 4H version fit the longer discharge hose without flooding rings to all ports.) Do not remove the flooding rings from inside the tubes. Slide end of tube with flooding ring over eductor discharge outlet. (Repeat for all eductors.) Utilise the hose hook for the longer tubes to allow the discharge tube to hang conveniently when not in use.
7. Replace cabinet cover.
8. Connect water supply hose of at least 13mm ID to water inlet swivel. (Minimum 1.76 Bar pressure, with water running, is required for correct operation.) Connect opposite end of hose to water supply. Turn water supply on.
9. Purge air from system by depressing the button briefly.
10. Turn the chemical selector knob in turn to positions 1,2,3 & 4 and push the button to prime the system ensure all chemical feed tubes are full. Then push the button whenever dispensing is required, and release the button to stop flow of solution. If you wish to be able to lock the button in the “on” position: Remove the locking button stroke limiter located on the inside of the front cover. (see diagram)
    This allows the button to be fully depressed and allows it to latch in the “on” position. To unlock, apply pressure upwards and pull the button out.

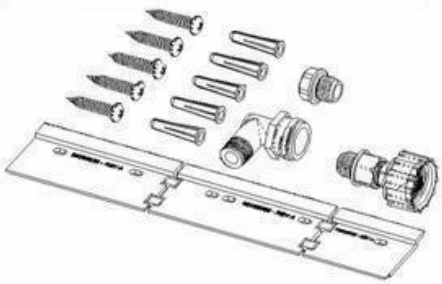




	Part Number	Description	Ecolab Eng. Part number
1	90085907	Penguin Pro Push botton	415705848
2	90085976	Penguin 4U front	
*	90090514	Penguin 4U front+icon labels	417402457
3	90089800	Knob lock assy - 10 in a bag	417402456
4	10092405	Aflas check valve	417402190
4	90085987	Dip molded tube - clear	417402194
5	90085975	Penguin 4U back	417402182
6a	100918582	4U Valve assy - 3 low 1 high	417402176
6b	100918580	4U Valve assy - 2 low 2 high	417402177
6c	100918584	4U Valve assy - 4 low	417402178
6d	100918583	4U Valve assy - 4 high	417402188
7	10075980	Valve parts kit	415705735
8	90085992	Black discharge hose LF	417402437
9	10089183	Bucket discharge hose HF	417402179
10	10092736	Double blk discharge hose 4high	417402189
*	90090510	Double hose and double hook	no separate no.
11	90092726	Double hose hook blue 4high	417402191
11	10080737	Hose hook blue	415705845
12	90085921	Optional reservoir	
*	90085924	Optional reservoir x 20 in a box	417402427
	90085980	Pick up tube assy (not shown)	417402180

ACCESSORY KIT

90086728
Screw and plugs
27cm wall bracket
3/8" blanking plug
Swivel stem water inlet with o-ring
90° water inlet connector



Metering Tip Selection:

The final concentration of the dispensed solution is related to both the size of the metering tip opening and the viscosity of the liquid being siphoned. For water-thin products, the chart below can be used as a guideline. If the product is noticeably thicker than water, consult the Measurement of Concentration Procedure below to achieve your desired water-to-product ratio. Because dilution can vary with water temperature and pressure, actual dilution achieved can only be ascertained by using the Measurement of Concentration Procedure. The clear, undrilled tip is provided to permit drilling to size not listed should you need a dilution ratio that falls between standard tip sizes.

Measurement of Concentration:

You can determine the dispensed water-to-product ratio for any metering tip size and product viscosity. All that is required is to operate the primed dispenser for a minute or so and note two things: the amount of dispensed solution and the amount of concentrate used in preparation of the solution dispensed. The water-to-product ratio is then calculated as follows:

$$\text{Dilution ratio (X: 1) where X} = \frac{\text{Amount of mixed solution} - \text{Amount of concentrate drawn}}{\text{Amount of concentrate drawn}}$$

Dilution ratio, then, equals X parts water to one part concentrate (X: 1.) If the test does not yield the desired ratio, choose a different tip and repeat the test. Alternative methods to this test are 1) pH (using litmus paper), and 2) titration. Contact your concentrate supplier for further information on these alternative methods and the materials required to perform them.

Penguin 4U - 4/14 Litres per minute
Approximate dilutions @2.67 Bar (40 P.S.I.) for water-thin products (1.0 CP)

Tip colour	Orifice size	Low flow (E-Gap)		High flow (E-Gap)	
		ratio	%	ratio	%
No Tip	0.187	2:1	33	3:1	25
Grey	0.128	3:1	25	3:1	25
Black	0.098	3:1	25	4:1	20
Beige	0.070	4:1	20	8:1	11
Red	0.052	6:1	14	14:1	7
White	0.043	8:1	11	20:1	5
Blue	0.040	9:1	10	24:1	4
Tan	0.035	12:1	8	30:1	3
Green	0.028	20:1	5	45:1	2
Orange	0.025	26:1	4	56:1	1.7
Brown	0.023	32:1	3	64:1	1.5
Yellow	0.020	42:1	2	90:1	1.0
Aqua	0.018	50:1	1.9	128:1	0.8
Purple	0.014	64:1	1.5	180:1	0.5
Pink	0.010	128:1	0.8	350:1	0.3
Ultra lean tip					
Olive	0.008	163:1	0.60	626:1	0.159
Minimum working pressure 1.76 Bar/25 P.S.I Maximum working pressure 6.00 Bar/87P.S.I.					

TROUBLESHOOTING CHART:

Problem	Cause	Solution
1. No discharge	a. No water b. Magnetic valve not functioning c. Excessive water pressure d. Eductor clogged	a. Open water supply b. Install valve parts kit c. Install regulator if water pressure exceeds 6 Bar d. Clean or replace
2. No concentrate draw	a. Clogged foot valve b. Metering tip or eductor has scale build-up c. Low water pressure d. Discharge tube and/or flooding ring not in place e. Concentrate container empty f. Inlet hose barb not screwed into eductor tightly g. Clogged water inlet strainer	a. Clean or replace b. Clean or replace c. Minimum 1.76 Bar (with water running) required to operate unit properly d. Push tube firmly onto eductor discharge hose barb, or replace tube if it doesn't have a flooding ring e. Replace full container f. Tighten, but do not over tighten g. Disconnect inlet water line and clean strainer
3. Excess concentrate draw	a. Metering tip not in place	a. Press correct tip firmly into barb on eductor
4. Failure of unit to turn off	a. Water valve parts dirty or defective b. Magnet doesn't fully return c. Push button stuck d. Excessive water pressure	a. Clean or replace with valve parts kit b. Make sure magnet moves freely Replace spring if short or weak c. Realign cabinet or clean grommet that button passes through d. Install regulator if pressure exceeds 6 Bar
5. Excessive Foaming	a. Loose connections on the chemical ports b. Only using 3 products	a. Ensure all connections to the ports are tight and secure b. If only using 3 products ensure there is a clear tip (no hole) in the unused port to prevent any air entering the system.

Shipping details:

SP6883 3L + 1H
SP6996 2L + 2H
SP6997 4L + 0H
SP7311 0L + 4H

Dimensions: 30cmx32cmx22cm
Weight: 1.43 kg
Euro Pallet quantity 72 to a pallet (8 to a layer/9 layers high
Standard pallet quantity 100 to a pallet (12 to a layer/8 layers high +4)