

Expert since 1928



# **hth**® easiflo® First Chlorine Feeder System Operation Manual for Models 20 & 50



# How to Use This Manual

Please read this manual carefully before commencing installation of the feeder, to ensure the safety of users and bathers in both installation and operational conditions.

The information contained within this document must be followed precisely. Innovative Water Care cannot be held responsible for any incident if the instructions contained within this manual are not followed.

To help with the installation the following symbols are used throughout:



Injury or accident risk



Electrical hazard



Malfunction or damage may be caused if ignored



Observation

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# 1. General Information

## 1.1 Storage and Transport

It is necessary to store and transport your **hth**<sup>®</sup> easiflo<sup>®</sup> Feeder in its original packaging to prevent any damage.



Ambient temperature and humidity for storage must be within the following parameters:

Temperature:	-5°C – 40°C
Humidity:	Maximum 90%

## 1.2 Warranty

This product is guaranteed for 2 years under the terms of our general conditions of sale and delivery, to the extent that the following conditions are met:

- Use of the equipment in accordance with the instruction manual.
- No modifications are carried out on the **hth**<sup>®</sup> easiflo<sup>®</sup> First feeder which may alter the performance of the dosing system, without Innovative Water Care's prior written consent.
- Local electrical regulations are adhered to.
- Only **hth**<sup>®</sup> easiflo<sup>®</sup> Briquettes are used within the feeder.

## 1.3 Pool Water Chemistry

The following pool water conditions should be maintained:

Total Alkalinity:	60 – 80 mg/l
Calcium Hardness:	<250 mg/l
pH:	7.0 – 7.6

## 1.4 Supply Water

The **hth**<sup>®</sup> easiflo<sup>®</sup> First feeder(20 /50 models) requires the supply/ feed water to meet the following conditions:

Ideal inlet pressure :	1 – 2 bar
Total Alkalinity:	60 – 80 mg/l

This will then allow the feeder sufficient water to provide the following flow ranges:

<b>hth</b> <sup>®</sup> easiflo <sup>®</sup> First 20:	190 – 470 l/h
<b>hth</b> <sup>®</sup> easiflo <sup>®</sup> First 50:	250 – 610 l/h

The **hth**<sup>®</sup> easiflo<sup>®</sup> First feeders incorporate water spray technology with utilisation of designated jets to spray the **hth**<sup>®</sup> easiflo<sup>®</sup> briquettes, the top float washdown and the base of the tank to aid solution circulation.

	Model 20	Model 50
<b>Water Spray Jets</b>		
Top float wash-down spray	1	1
Briquette sprays	2	4
Base circulation spray	1	1

The table below identifies the spray flow in liters per minute at the individual jets relevant to differentials in inlet water pressure.

Inlet Water Pressure	0.5 Bar / 7.25 psi	1.0 Bar / 14.5 psi	2.0 Bar / 29 psi	3.0 Bar / 43.5 psi
<b>Performance Data – Spray Flow</b>				
Briquette sprays	0.5 l/min	0.70 l/min	1.0 l/min	1.20 l/min
Base circulation spray	1.20 l/m	1.80 l/min	2.50 l/min	3.0 l/min

# 2. Safety and the Environment

## 2.1 Equipment Use

The use and operation of this unit may change the chemical composition of your pool. Therefore, it is necessary to read these instructions carefully and ensure that ALL staff are properly trained and familiar with the use of the **hth**<sup>®</sup> easiflo<sup>®</sup> First feeder. Non-compliance with the instructions held within this document could lead to the feeder failing (resulting in inadequate chlorination of pool water) and the feeder warranty becoming invalid.



You will need to :

- Read the manual before unpacking, installing or servicing the feeder
- Complete a full site risk assessment before installation is carried out

## 2.2 Chemical Use

The **hth**<sup>®</sup> easiflo<sup>®</sup> First feeder is based on the exclusive use of calcium hypochlorite **hth**<sup>®</sup> easiflo<sup>®</sup> 7g Briquettes. The use of any other products within the feeder will invalidate the warranty and could cause operational issues, such as severe chemical reactions (see below).

### Remember – NEVER MIX CHEMICALS

This product should never be in contact or mixed with any other preparation, wherever this may be (bucket, feeder, skimmer, tank, etc.). Contamination and improper use or storage may cause fire, explosion or the release of toxic gases. Read product labels thoroughly before use.



### Health and Safety

Product Safety Data Sheets are supplied upon request. They should be read and understood by all supervisory personnel and employees before using the product. If there is any doubt please contact your local Innovative Water Care sales office for advice.



## 2.3 Conditions of Sale

Operators of the **hth**<sup>®</sup> easiflo<sup>®</sup> First Feeder must accept and adhere to the following conditions:

- Proper training and supervision is carried out for any employee servicing or using the **hth**<sup>®</sup> easiflo<sup>®</sup> First feeder.
- A total understanding of the functions of the feeder is required
- Any pool operator must have read and understood this manual before any work is carried out on the feeder.

## 2.4 Risk Management



The installation and commissioning of the **hth**<sup>®</sup> easiflo<sup>®</sup> First feeder must be completed by a fully qualified technician, this includes electrical qualifications relevant to the location of the installation.



The installation must adhere to all electrical requirements within the country of operation.

Before adjusting or working with any electronic valves, timing units and sensors the unit must be totally isolated from the mains electrical connection.

Repairs and maintenance must only be carried out by an authorised, fully qualified and trained technician.

## 2.5 Environmental Compliance

Any parts of the packaging or equipment that can be recycled must be disposed of within your local regulations.



Items such as cardboard, paper and plastic packaging can be recycled within your local environment recycling guidelines.

In accordance with the European Directive 2002/96/EC, this symbol indicates that from 12th August 2005 electrical appliances cannot be disposed of in household or industrial waste containers. Consumers within the European Union are required from that date, to dispose of electrical items marked with this symbol via the appropriate methods.



In accordance with the European Directive 2002/95/EC, this symbol indicates that the **hth**<sup>®</sup> easiflo<sup>®</sup> First feeder has been designed in compliance with the Restriction of Hazardous Substances.



In accordance with the Low Voltage Directive (2006/95/EC) and the Electromagnetic Compatibility Directive (2004/108/EC), this symbol indicates that the unit has been designed in compliance with this regulation.





# 3. How the System Works

## 3.1 General Overview

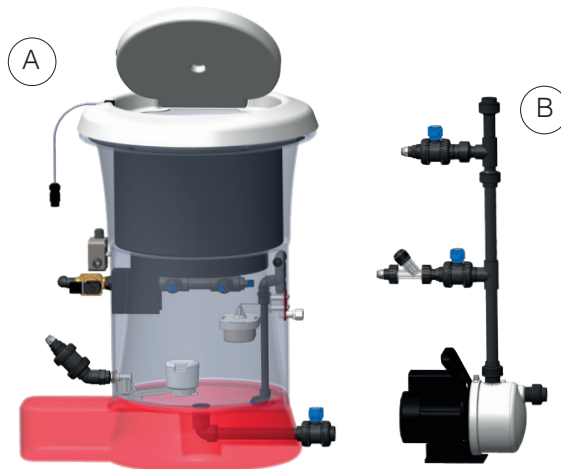
The **hth**<sup>®</sup> easiflo<sup>®</sup> First system used in conjunction with **hth**<sup>®</sup> easiflo<sup>®</sup> Calcium Hypochlorite briquettes will provide effective chlorination to your pool. The feeder is made of hard wearing plastic and components to help ensure an easy to maintain system with less down time and maintenance required. The system is comprised of :

**hth**<sup>®</sup> easiflo<sup>®</sup> First feeder (A) featuring:

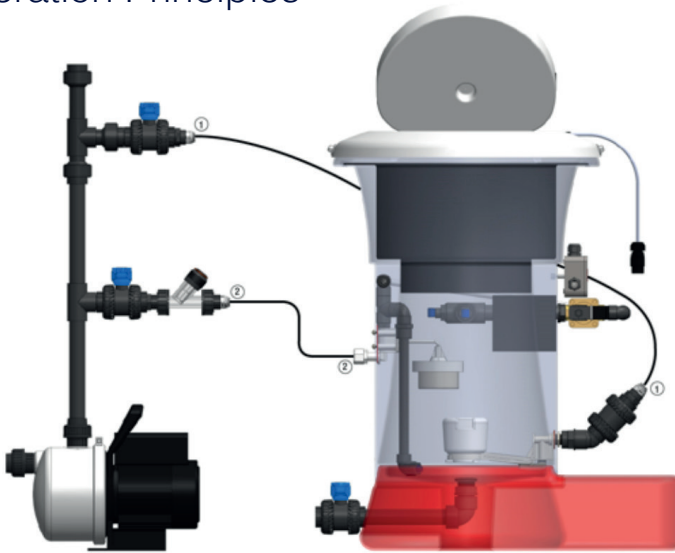
- A removable lid
- A hopper to hold the **hth**<sup>®</sup> easiflo<sup>®</sup> Briquettes with the following capacities:
  - hth**<sup>®</sup> easiflo<sup>®</sup> 20 First : 20Kg capacity
  - hth**<sup>®</sup> easiflo<sup>®</sup> 50 First : 50Kg capacity
- A collecting chamber for the liquid calcium hypochlorite solution to be held within the base

Hydraulic circuit (B) consisting of :

- Water supply inlet kit
- An evacuation venturi kit
- A booster pump (supplied separately)



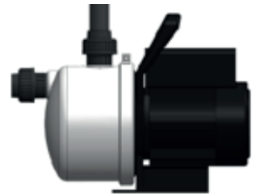
## 3.2 Operation Principles



The bypass loop enables the feeder to receive pressurised water for the inlet and also powers the venturi evacuation kit.

**Booster pump :** Connected to the filtration system

This is used to circulate water under pressure to allow the venturi to deliver the chlorine solution into the pool water system. Should the pool circulation stop, the booster pump will prevent water and pressure going to the feeder.



**Water supply kit**

Once the ball valve is opened the kit will supply pool water under pressure to the feeder. It has a filter to protect the solenoid valve from debris that could cause a malfunction. Regular cleaning of this filter is required.



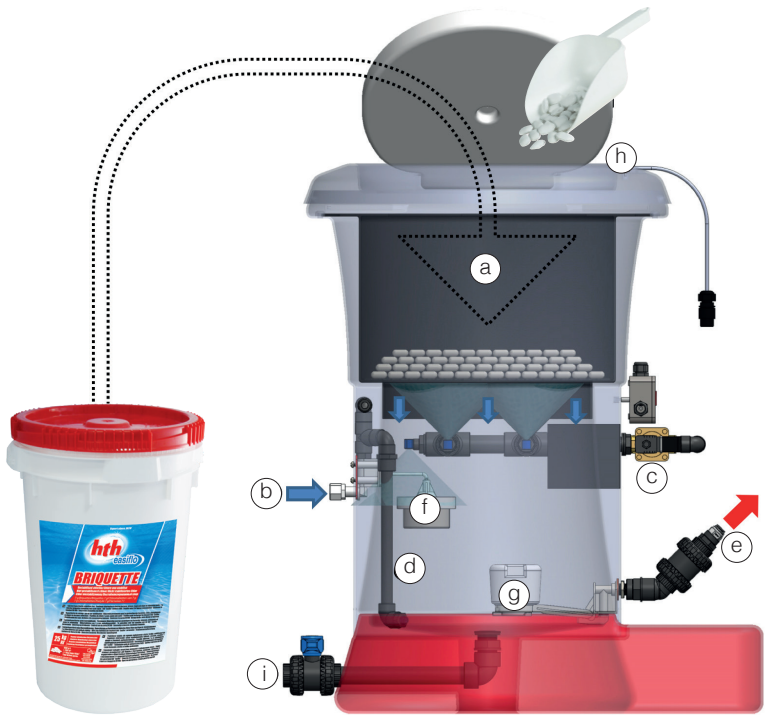
**Venturi Kit**

When the booster pump is active, and there is enough liquid within the base of the feeder to lift the bottom valve, the venturi will deliver the chlorine solution into the pool water system.



### 3.3 Operation Process

- **hth**<sup>®</sup> easiflo<sup>®</sup> Briquettes 7g are added to the hopper (a) using the scoop provided inside the drum of product. We recommend to only place enough briquettes to last 24 hours. It is not necessary to fill the hopper to full capacity.
- The main water entry point (b) provides the water to spray the briquettes inside the hopper as well as the rinsing sprays inside the base of the feeder, reducing the risk of calcium deposits accumulating on the top safety float.
- The solenoid valve (c) acts as a control for these sprays. An automatic controller can be connected and control the solenoid valve for the feeder.
- A second water input (d) provides a rinsing spray for the base of the feeder to help prevent the build up of insolubles during operation.



### 3.3 Operation Process (continued)

- The chlorine solution produced is sent to the pool via the venturi evacuation kit (e).
- Inside the feeder are two safety floats :  
The top float (f) provides a safety cut off to prevent the unit from overflowing.  
The bottom float (g) allows chlorine to be dosed into the pool, but will close when no liquid is present, preventing air being drawn into the pool circulation system.
- The safety lid cut off switch (h) stops the sprays should the lid be opened during operation.
- At the base of the feeder there is a ball valve (i). This allows for regular rinsing to remove any insoluble build up around the bottom.

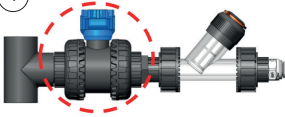


### 3.4 Start-up Procedure



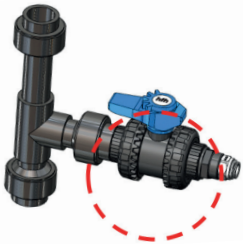
Before the system is in operation, you must ensure the feeder has been installed in line with the guidance given in the Installation Manual. Make sure the hydraulic and pressure requirements have been set correctly (see section 1.4) and the pool circulation system is in full working order.

①



1. Open the ball valve « water supply kit ». This is just before the 'Y' strainer on the booster pump system.

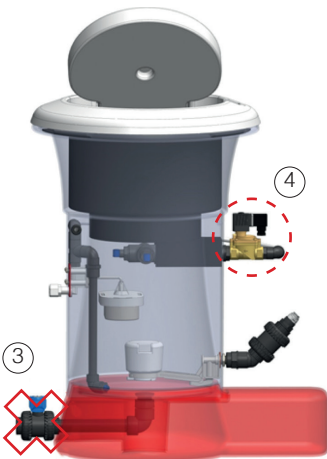
②



2. Open the ball valve « venturi kit ». This valve can be found on the venturi of the booster pump line.

3. Close the ball valve « base rinsing kit ». Situated at the base of the feeder.

③



4. Make sure the solenoid spray system opens when the pool controller is asking for chlorine.



Note : If your pool controller sends proportional signals or has a safety time out system, the solenoid valve may not open immediately. For this test, make sure the hopper lid is closed, otherwise the safety cut off switch will be activated. The top float safety valve should not be lifted.

5. Add **hth**<sup>®</sup> easiflo<sup>®</sup> 7g briquettes to the feeder hopper and close the lid fully. During this operation you must ensure the correct safety personal protection equipment is worn by the operator. A site risk assessment should be carried out by competent personnel.



You must ensure this manual is followed at all times when operating the feeder. Innovative Water Care Europe is not responsible, for any damages or malfunction of this equipment resulting from incorrect installation or use.



To keep the grid clean and in good working order, we recommend to only fill the hopper with enough briquettes to last 24 hours. This also means that the feeder needs to be attended to at least once a day, ensuring any operational or maintenance requirements can be carried out.

## 3.5 Maintenance



During any maintenance work on the feeder, you must ensure you have adequate PPE for working with liquid solutions of calcium hypochlorite :

- Goggles
- Gloves
- Apron / Overalls
- Any other PPE that is listed on the product's MSDS and described in any Innovative Water Care risk assessment

### Daily checks

- Check to make sure the hopper has sufficient **hth**<sup>®</sup> easiflo<sup>®</sup> briquettes to last for the following 24 hours.
- Check that all valves are correctly positioned and the lid is closed properly.

### Weekly clean

Stop the entire system (ensure the pool controller is not going to call for more chlorine).

1. Isolate the feeder from the supply water by using the ball valve at the inlet kit. Close the ball valve at the venturi kit. Open the rinse valve at the bottom of the feeder.

2. Open the hopper lid and if there are any unused **hth**<sup>®</sup> easiflo<sup>®</sup> briquettes inside the hopper, remove them and place in an empty, clean and dry **hth**<sup>®</sup> easiflo<sup>®</sup> Briquettes pail.

3. Open the entry valve and allow water to flow through the rinse kit and into the drain to remove the insolubles from the base of the feeder.

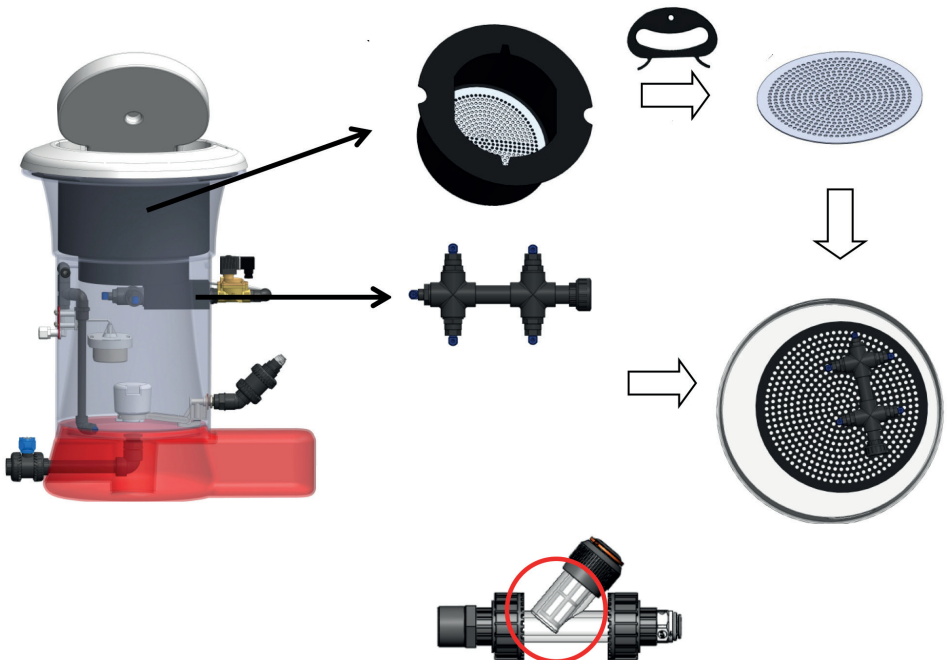
NOTE: any waste **hth**<sup>®</sup> Calcium Hypochlorite substances, mixtures and insolubles should be disposed of in accordance with local regulations and should not be allowed to enter the main sewage system.

4. Once the insolubles have drained away, close the drain valve and reset the feeder for full operation. Open the venturi and supply valves, then recharge the hopper with briquettes – you can re-use any briquettes you removed in step 1.

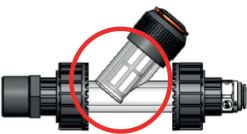
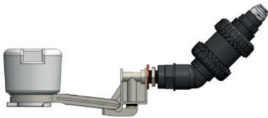
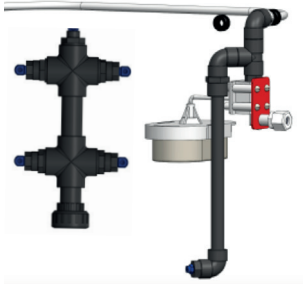


## Monthly Maintenance

1. Perform steps 1 and 2 as the weekly clean.
2. Remove the hopper from the base
3. Remove the spray bar and the metering pump suction kit by unscrewing the plastic unions.
4. Remove the briquette grill from the hopper by using the black grid tool.
5. Place all the removed parts into the cleaning pan provided with the feeder.
6. Thoroughly clean all the parts using hot water and a soft brush to remove as much of the scale deposits as you can. Once all the scale has been manually removed you can rinse once more before replacing all the parts back into the feeder
7. Place the unused briquettes back into the hopper and add more if required.
8. Clean the water inlet filter as required.







### End of Season Close-down

1. Run the feeder empty of briquettes before the close down procedure. Perform step 1 as the weekly clean routine.
2. Remove the spray bar from the base of the hopper.
3. Remove the top float and rinsing kit from the base of the feeder
4. Remove the base rinsing kit.
5. Remove the venturi kit form the booster line.
6. Remove the bottom float form the base of the feeder
7. Place all the spare parts into the cleaning pan provided with the feeder. Clean all the parts in hot water to remove as much scale from the parts as possible. Keep cleaning the parts until the scale has been removed (do not use a metal or wire brush for this task)
8. Once all the scale has been removed store the cleaned parts in a suitable place, so they can be made ready for the following season and the start up of the feeder once more.
9. Remember to clean the 'Y' filter on the water supply kit.



Plan ahead to purchase any new spare parts that are needed before the following season starts.

# 5. Emergency Response Procedure

1. In the event of a Health, Safety or Environmental Emergency involving Innovative Water Care water treatment products, including but not limited to the following:
  - Injury to persons requiring medical treatment
  - Loss of containment of product to the environment
  - Involvement of the Emergency Services (Police, Fire, Medical)
  - Involvement of the Environmental agencies
  - Major damage to property

## **FIRST telephone +44 (0)1235 239670**

This will connect you with the NCEC (National Chemical Emergency Centre) who support the Innovative Water Care Emergency Response (it operates 24 hours a day, 365 days a year).

## **THEN Phone your local Innovative Water Care office (during office hours)**

2. NCEC will provide initial assistance and advice (in English).
3. NCEC will also contact Innovative Water Care Head Office.
4. When calling the Emergency number, have the following information available (use your Emergency Response Procedure Checklist):
  - Your name
  - Your job title
  - Your company name and location
  - The Telephone (and fax) number that you can be contacted on
  - The Product Name
  - The Product Code
  - The nature of the emergency
  - The action you have taken
  - Are the emergency services involved?
  - Are the environmental agencies involved?

**Always contact NCEC in the event of a health, safety or environmental emergency involving Innovative Water Care water treatment products but please only use this number for health, safety and environmental emergencies (including those described above).**

# 5. Parts List & Drawings

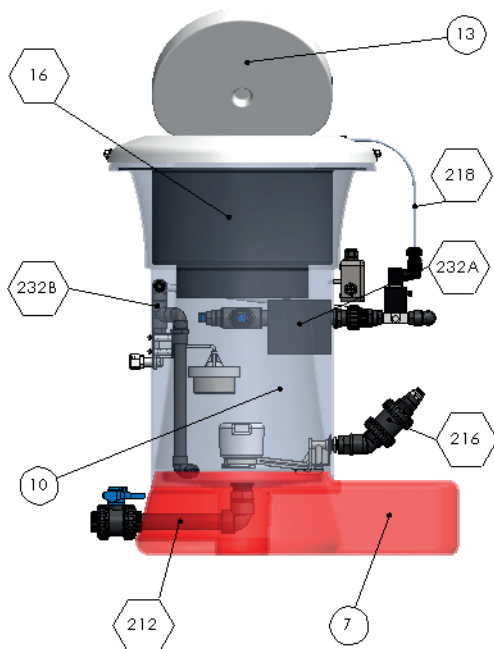
Note: some parts are not shown in drawings and some are universal to other feeders in the **hth**<sup>®</sup> easiflo<sup>®</sup> range

Part Number	Description	Reference
1	SPRAY NOZZLE E20/50/100	00217916
2	TUBING 1/2" (m)	00205490
3	TUBE FITTING MALE 1/2" D1/2"	00217938
4	CARTRIDGE FILTER E20/50/100	00205474
5	LID SENSOR	00215312
6	LID MAGNET SENSOR	00215313
7	BASE E20	00218051
8	BASE E50	00218052
10	BODY E20	00218054
11	BODY E50	00218055
13	LID E20	00218057
14	LID E50	00218058
16	COMPLETE GRID E20	00218060
17	COMPLETE GRID E50	00218061
19	GRID SUPPORT E20	00218063
20	GRID SUPPORT E50	00218064
22	GRID E20	00218066
23	GRID E50	00218067
25	GRID TOOL E20/50/100	00218069
27.5	SPRAY DEFLECTION PLATE 20/50/100	00218072
28	BRIQUETTE CLEANING PAN E20	00218073
29	BRIQUETTE CLEANING PAN E50	00218074
32	WASHDOWN SPRAY NOZZLE E20/50/100	00218077
33	SOLENOID VALVE 6281 E20/50/100	00218078
34	ELECTRICAL BOX 80x80x45	00218079
36	CABLE GLAND PG13,5	00218081
37	PVC NON-RETURN VALVE Ø32	00218082
38	PVC BALL VALVE Ø32	00218083
41	NYLON SCREW M4x16	00218085
42	NYLON WASHER M5	00218087
43	NYLON NUT M4	00218088
46	PVC WALL CLAMP 3/4"	00218091

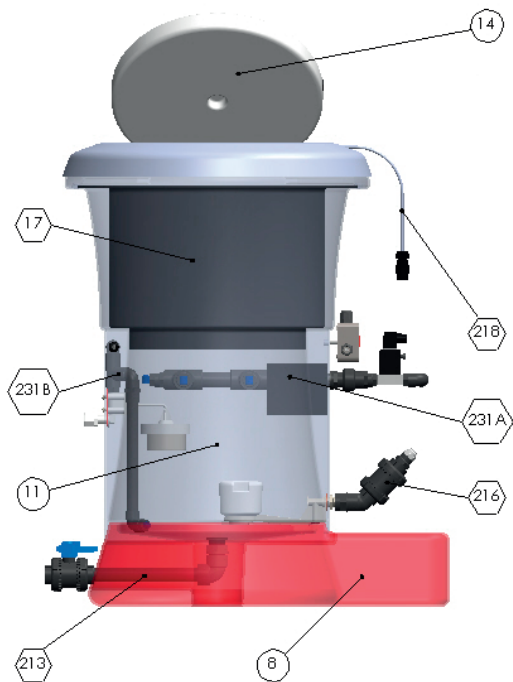
Part Number	Description	Reference
47	1/2 PVC WALL CLAMP 1"	00218092
48	PVC ELBOW 45° Ø32x32/25	00218094
49	PVC ELBOW 90° 1/2"	00218095
53	PVC ELBOW 90° Ø32x1"	00218100
56	PVC CROSS Ø32	00218103
57	PVC MALE THREADED FITTING Ø32x25x1/2"	00218104
59	PVC FEMALE THREADED FITTING Ø20x16x1/4"	00218107
63	PVC FEMALE THREADED FITTING Ø32x25x1/2"	00218111
64	PVC FEMALE THREADED FITTING Ø32x25x3/4"	00218112
71	PVC THREADED NIPPLE 3/4"x1/2"	00218119
72	PVC REDUCTION 1/2" TO 1/4"	00218120
74	PVC REDUCTION Ø32 TO Ø20	00218124
78	PVC UNION Ø32	00218128
80	PVC TE 1/2"	00218131
82	PVC TE Ø32	00218132
85	VENTURI Ø32	00218135
85.1	VENTURI NOZZLE Ø32	00218136
85.2	VENTURI UNION Ø32	00218137
85.3	VENTURI UNION Ø32	00218138
85.4	VENTURI O RING Ø32	00218139
94	CIRCULATOR	00218145
97	NIPPLE 1/2"	00205545
99	PVC MIXED THREADED UNION 1"x32	00218130
100	FILTER Y 1/2"	00219132
103	NIPPLE 1/2"-3/8"	00220472
104	PVC MALE THREADED FITTING Ø25x20-1/2"	00220473
105	ELBOW 90° Ø20-1/2"	00220474
110	EMERGENCY SHUT OFF VALVE	00205442
110.1	EMERGENCY SHUT OFF FLOAT	00217918
110.2	EMERGENCY SHUT OFF FLOAT PLATE	00205454
110.3	EMERGENCY SHUT OFF MOUNTING PLATE	00205451
110.4	EMERGENCY SHUT OFF VALVE BODY WITH ARM ONLY	00205450
110.5	EMERGENCY SHUT OFF MOUNTING NUTS	00205453
110.6	EMERGENCY SHUT OFF MOUNTING PVC SCREWS	00217927
110.7	TUBE FITTING MALE 1/4" D1/2"	00205483
113	RUBBER GASKET EMERGENCY SHUT OFF VALVE	00205540
114	GLAND Ø12	00223559

Part Number	Description	Reference
200	CIRCULATING PUMP KIT E20 50 100	00218148
201	VENTURI KIT E20 50 100	00218149
202	INPUT KIT E20 50 100	00218150
212	DRAIN KIT E20 FIRST	00220546
213	DRAIN KIT E50 FIRST	00220547
216	SUCTION KIT E20 50 FIRST	00220859
218	SAFETY LID KIT E20 50 FIRST	00220548
231	MANIFOLD KIT E50 FIRST	00220544
232	MANIFOLD KIT E20 FIRST	00220545

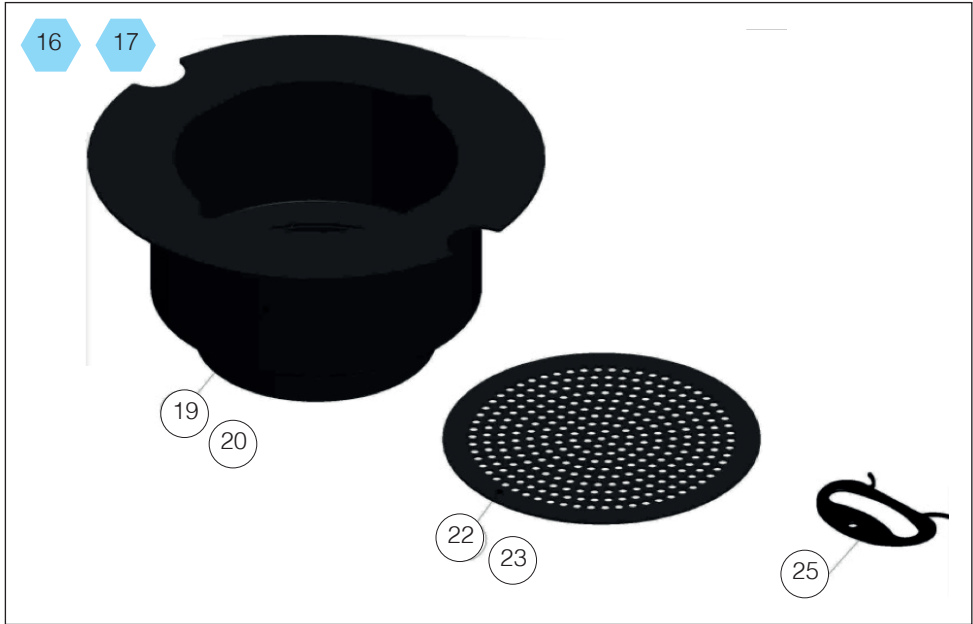
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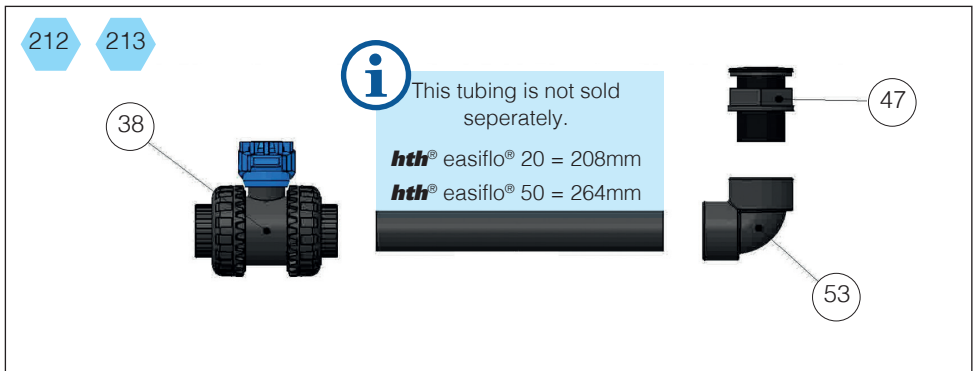
**hth**® easiflo® First 50



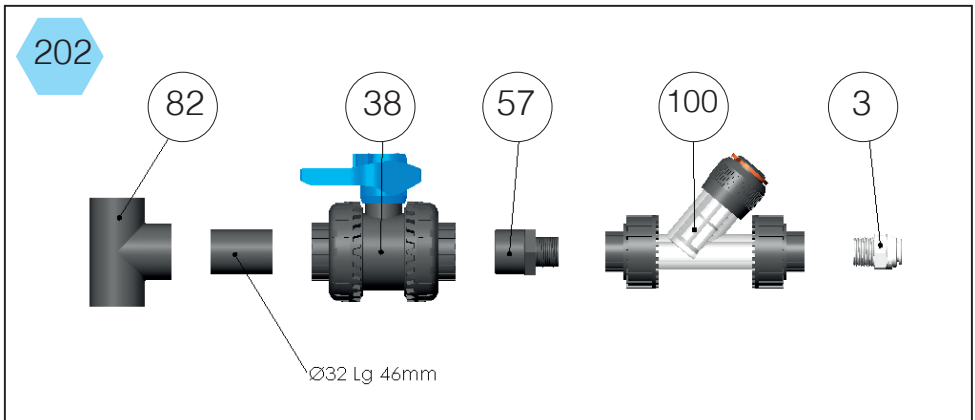
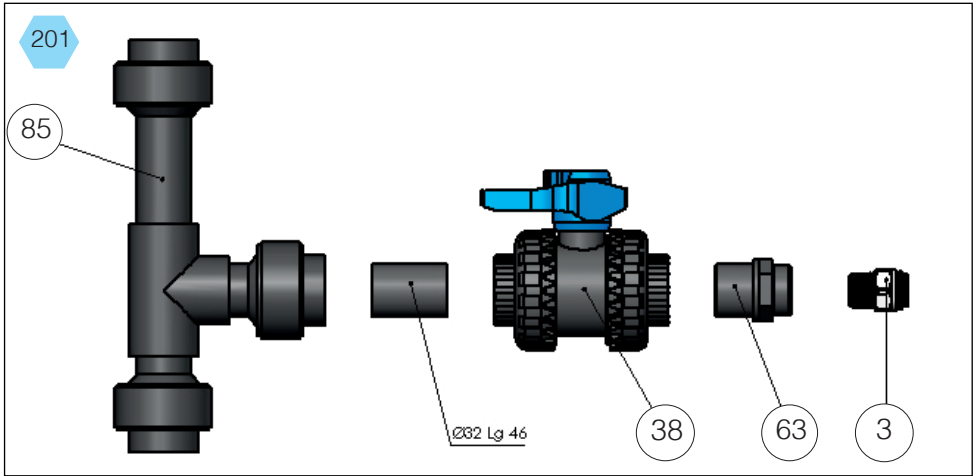
# Hopper & Grid



Drain Kit

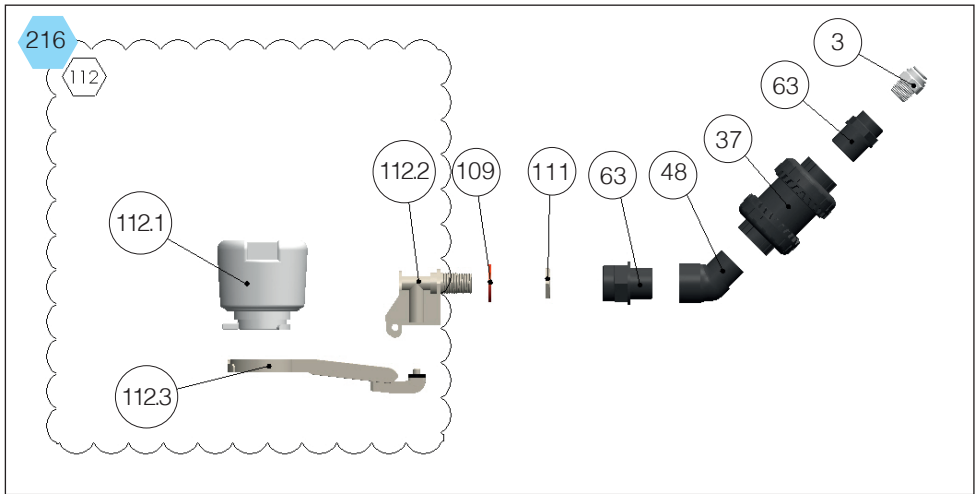
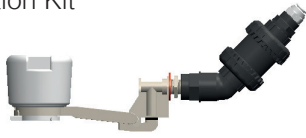


# Booster Pump and Venturi

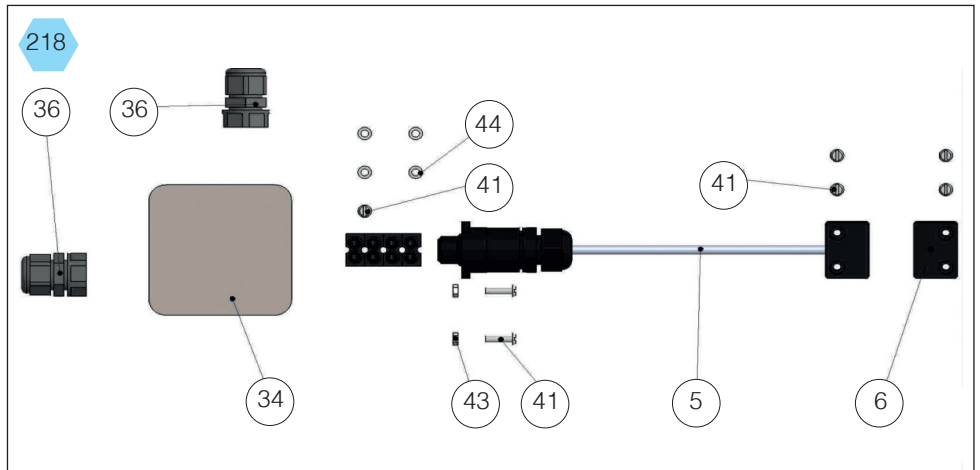




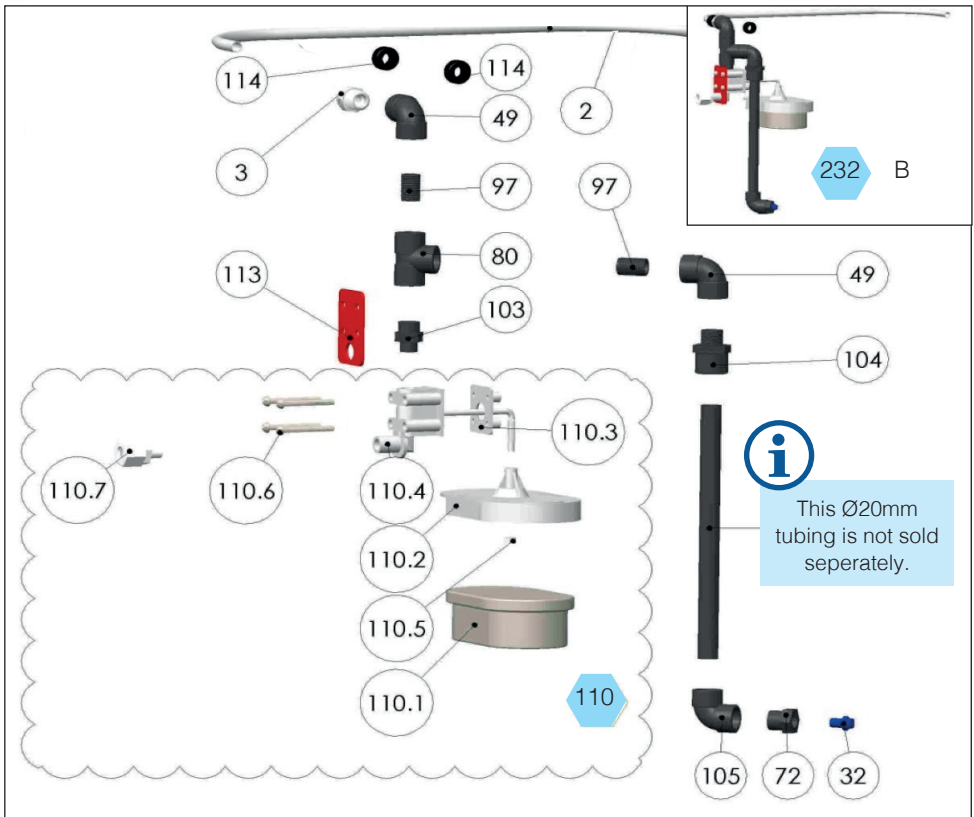
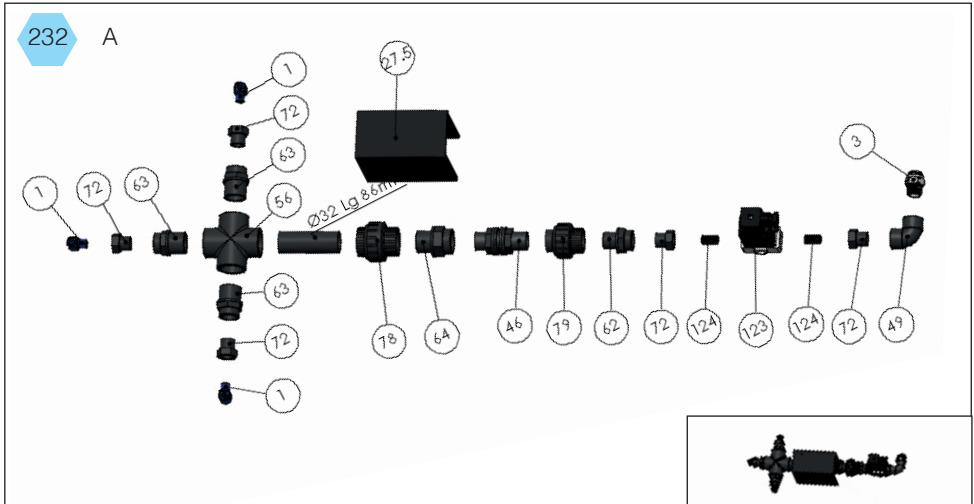
# Suction Kit

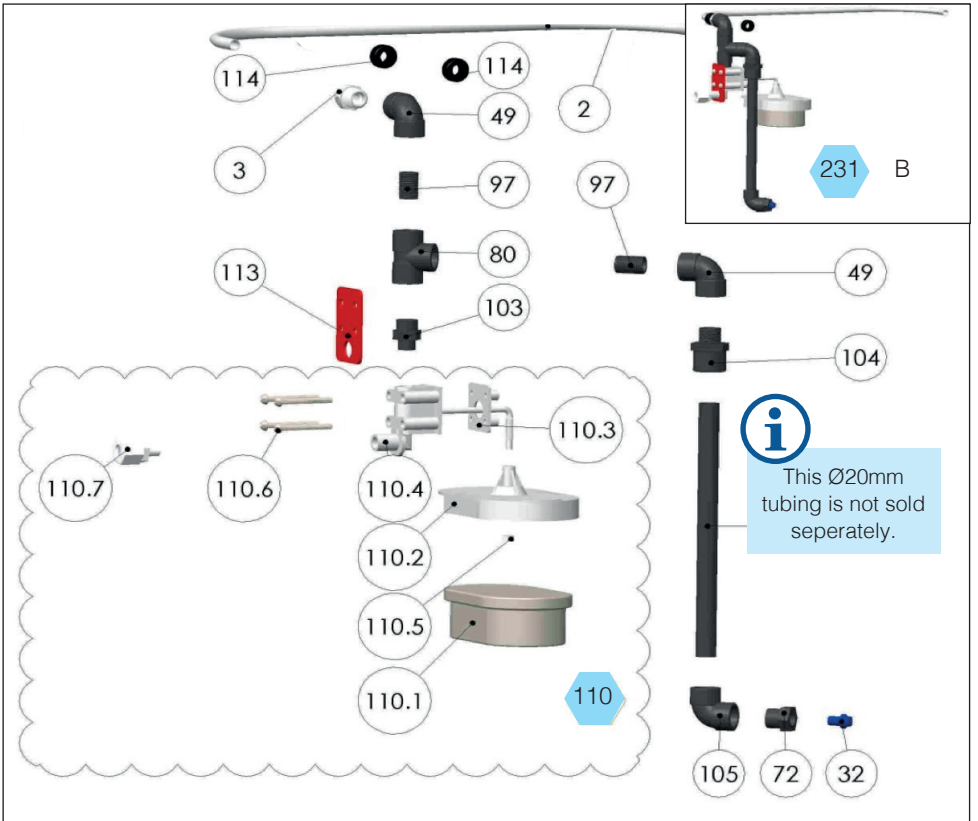
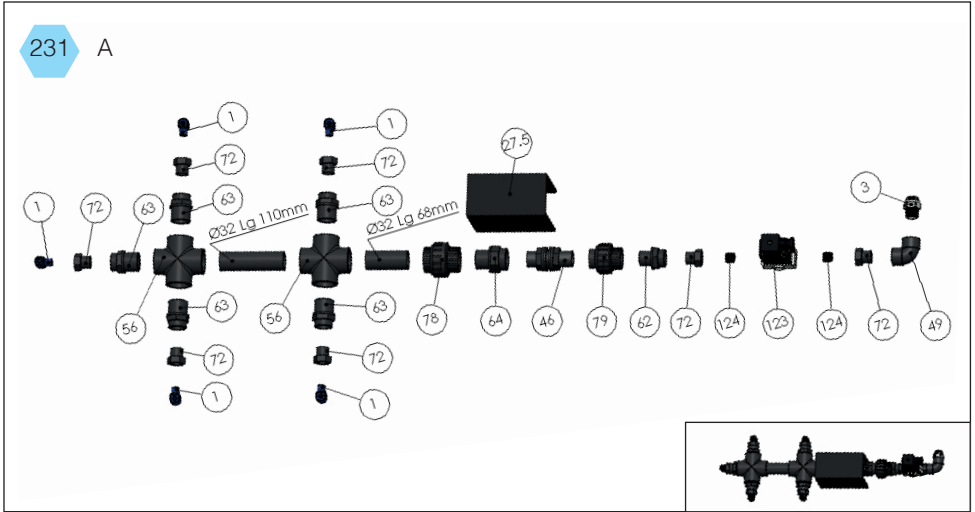


# Safety Lid Kit



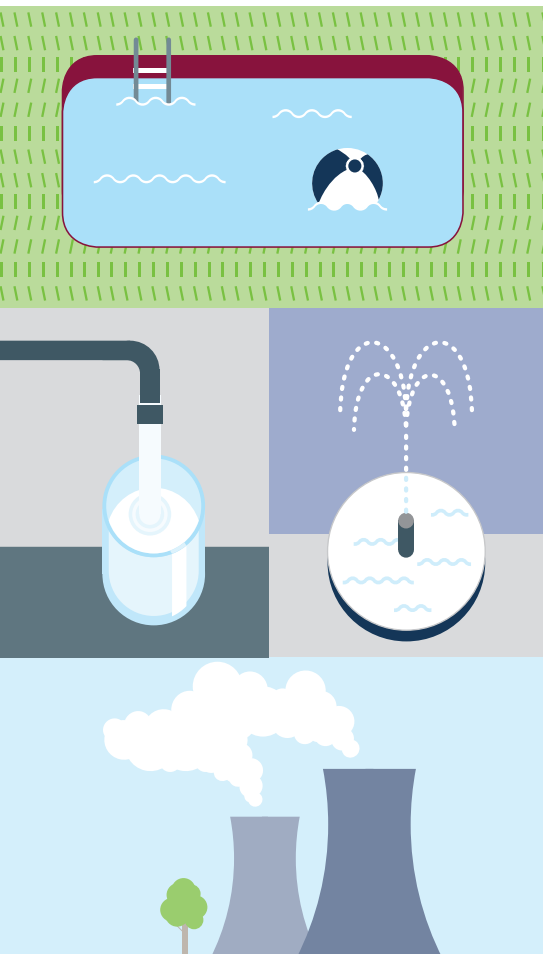
Manifold Kit **hth**® easiflo® First 20





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