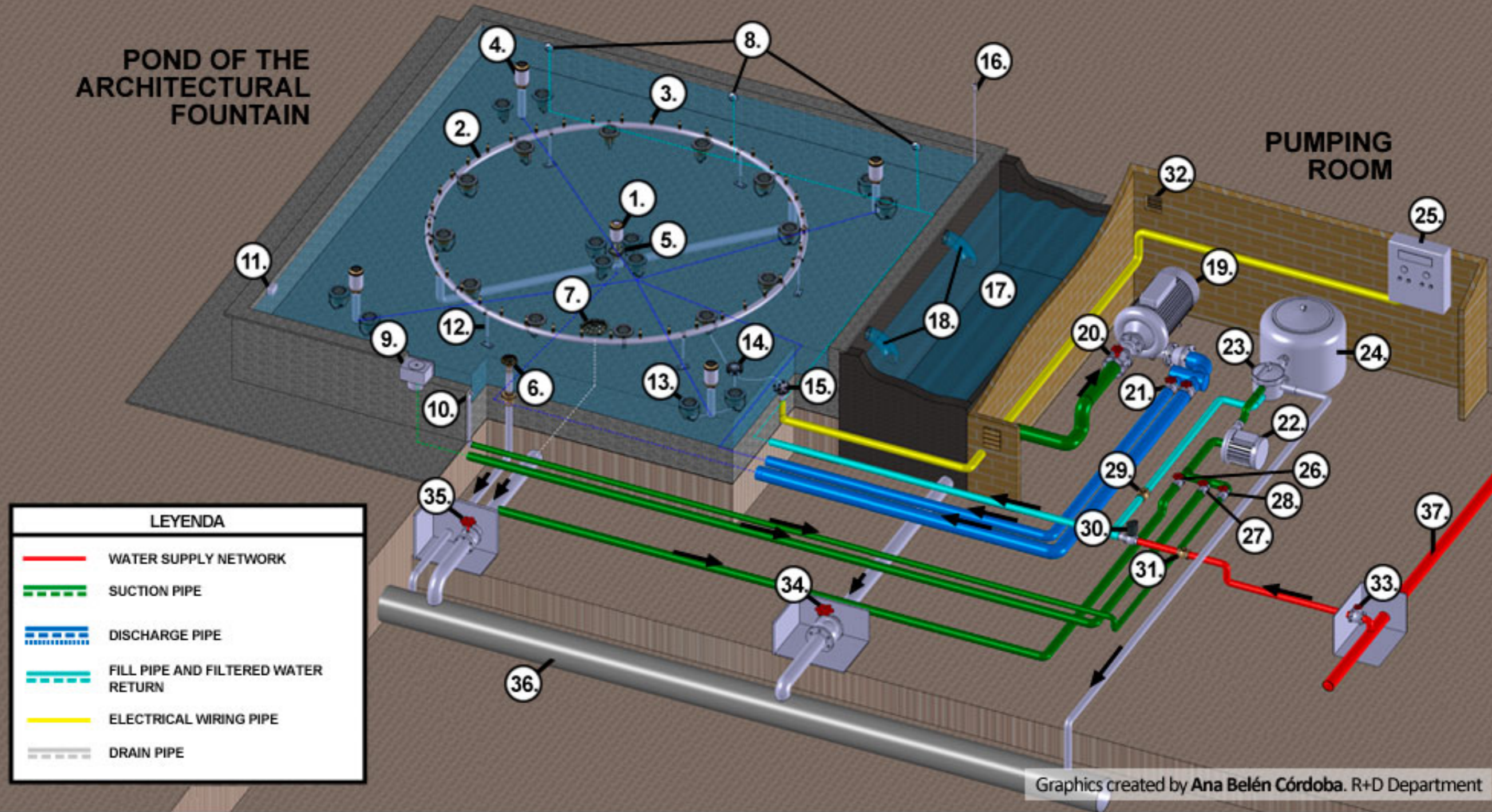


POND OF THE ARCHITECTURAL FOUNTAIN

PUMPING ROOM



Graphics created by Ana Belén Córdoba. R+D Department



- 1. GEYSER NOZZLE
- 2. COLLECTOR RING
- 3. LANCE JET NOZZLES
- 4. FOAM JET TYPE NOZZLE
- 5. BALL TYPE ARTICULATED JOINT
- 6. OVERFLOW
- 7. BOTTOM WATER INTAKE

- 8. DIRECTIONAL AND FILLER NOZZLES
- 9. SKIMMER
- 10. SUCTION NOZZLE FOR CLEANING BASES
- 11. LEVEL SENSOR FOR REFILLING THE FOUNTAIN
- 12. COLLECTOR SUPPORT FEET
- 13. IP-68 UNDERWATER LIGHTS WITH LED BULBS
- 14. IP-68 UNDERWATER JUNCTION BOXES
- 15. IP-68 WALL BUSHING
- 16. ANEMOMETER
- 17. AUXILIARY TANK

- 18. WATER INLET OF THE AUXILIARY TANK
- 19. ELECTRIC PUMP
- 20. GATE VALVE
- 21. GATE VALVE
- 22. ELECTRIC PUMP
- 23. PURIFICATION UNIT SELECTION VALVE
- 24. SILEX SAND TANK
- 25. CONTROL PANEL FOR THE FOUNTAIN
- 26. BOTTOM OUTLET VALVE
- 27. SKIMMER VALVE

- 28. BOTTOM CLEANING VALVE
- 29. CHECK VALVE IN THE FILTERED WATER
- 30. ELECTRICALLY OPERATED VALVE
- 31. CHECK VALVE AT THE FILLING INLET
- 32. VENTILATION GRATES
- 33. SUPPLY VALVE
- 34. AUXILIARY TANK DRAINAGE VALVE
- 35. ARCHITECTURAL WATER FEATURE DRAINAGE VALVE
- 36. GENERAL WASTE WATER PIPES
- 37. PUBLIC SUPPLY NETWORK

Arquitectural Fountain design and equipment

In **architectural fountain design** must take into account many components and at **Safe-Rain** we are aware of the difficulties faced by a lot of our customers when it comes to getting an idea of everything required when **designing a water feature**. This is why we have written this article, which combines graphics with the fountain equipment and text to show all of the **hydraulic and electrical accessories** that you should consider for any **architectural fountain design**.

We have tried to ensure that the graphics used to show the **water feature fountain** are as comprehensive as possible, including all of the components that are most commonly used. However, this does not mean that all of these components are used in all **architectural water features**, and the same components are not always used.

1. **Geyser Nozzle:** mixes the water pumped by the electric pump (19) with water from the feature's pond and with air, forming a cylinder of white water with a foamy appearance.
2. **Collector Ring:** distributes the water pumped by the electric pump (19) to all of the lance jet nozzles (3) installed in the feature. In this case we have used a circular ring, but the ring can have an infinite number of geometrical shapes, depending on the **design of the architectural water feature**.
3. **Lance Jet Nozzles:** these are screwed onto the outlets of the collector (2) and form a structure of crystalline jets of water. These nozzles are fitted with articulated joints so that the *jet of water can be inclined as desired*.
4. **Foam jet type nozzle:** this type of nozzle mixes the water pumped by the electric pump (19) with air, forming an extremely beautiful foamy white jet of water.
5. **Ball type articulated joint:** this type of articulated joint is used to adjust the jet of water produced by the Geyser nozzle (1) to ensure that it is completely vertical.
6. **Overflow:** allows water that exceeds the desired level in the pond of the architectural water feature to flow out. It is an essential component whenever there is heavy rain, or if the water inlet fails, etc.
7. **Bottom water intake:** used to empty the **pond of the architectural fountain**. The pump fitted to the purification unit (22) is then able to *filter the water in the architectural water feature*.

8. **Directional and filler nozzles:** these types of nozzles are used to **fill the architectural water feature**. They can be used to push dirt on the surface towards the *Skimmer* (9), if they are properly orientated.
9. **Skimmer:** collects any dirt that may be floating on the pond of the architectural water feature. It should be located on the prevailing downwind side. Skimmers should be fitted such that just one third of their inlets are above the level of the water. They are fitted with self-floating lids, with horizontal hinges that allow dirt to pass into their interior but prevent dirt from exiting once it has passed over the lid.
10. **Suction nozzle for cleaning bases:** allows a sweeper to be connected via a self-floating hose, which sucks up the dirt deposited on the bottom of the feature's pond.
11. **Level sensor for refilling the architectural water feature:** when the water is below the desired level in the **pond of the architectural water feature**, the level sensor activates the electrically-operated valve and the architectural water feature is filled.
12. **Collector support feet:** these types of supports are fixed to the floor and are used to level the water collector ring and to position it at the desired height.
13. **IP-68 underwater lights with LED bulbs:** these types of underwater fountain lights are essential for illuminating any architectural water feature. The latest generation of LED bulbs can be used to obtain a wide range of colors for illuminating water features, thanks to the DMX controller that allows the most suitable program to be selected.
14. **IP-68 underwater junction boxes:** allow the electrical connections necessary for operating the lights and electrical valves, etc. to be made. They are completely watertight.
15. **IP-68 wall bushing:** these types of accessories are used to pass cables into the *pond of the architectural water feature*, from the outside. As these fittings are completely watertight, the water cannot enter.
16. **Anemometer:** controls the **operation of the architectural water feature** depending on the wind speed. When the wind exceeds a certain speed, the anemometer lowers the height of the jets of water in the architectural water feature, or turns them off completely, to prevent splashes outside the pond.
17. **Auxiliary tank:** the installation of this water storage tank is optional. Its function is to keep the water in the architectural feature at the desired level when it is in operation. It reuses water and has the minimum depth required for the proper operation of the electric pump (19).
18. **Water inlet of the auxiliary tank from the architectural water feature:** Water flows along these pipes to keep the water in the pond of the architectural water feature at the desired level.

19. **Electric pump for supplying the nozzles:** the water is pumped to the nozzles by this electric pump.
20. **Gate valve:** regulates the flow of the suction of the water pump (19). It is also necessary for removing the electric pump unit in case of breakdown, without it being necessary to *empty the water from the architectural water feature*.
21. **Gate valve:** regulates the water flow and/or pressure that is transferred to the nozzles of the architectural water feature. It is recommended that a check valve should be installed after this gate valve, to prevent the electric pump from suffering water hammer damage.
22. **Electric pump for the purification unit:** this electric pump is used to pump the water to the Silex sand tank (23), where it is filtered before it returns clean to the architectural water feature through the directional nozzles (8).
23. **Purification unit selection valve:** this valve allows one of the following positions to be selected: *Filter, wash, clarify, re-circulation, close and drain*, allowing the Silex sand to be washed and clarified, and the processes to filter all of the water in the architectural water feature to be carried out.
24. **Silex sand tank:** where any impurities that may be in the feature's water are kept, returning clean water to the pond of the architectural water feature.
25. **Control panel for the architectural water feature, underwater fountain lights and purification:** this electrical panel allows the operating schedule of the hydraulic and lighting parts of the architectural water feature to be programmed. It also allows the water jets to be set to different heights through speed adjusters, which allow the water coming out of the nozzle to reach different heights, based on the desired program. This is particularly important in the cases of musical or cybernetic fountains.
26. **Bottom outlet valve:** used to suck the water from the bottom of the architectural water feature.
27. **Skimmer valve:** allows water to be sucked from the skimmer (9) towards the purification unit.
28. **Bottom cleaning valve:** allows suction to be used with a bottom sweeper to clean the dirt deposited on the base of the ornamental fountain and to send it to the purification unit.
29. **Check valve in the filtered water return piping:** prevents water from returning to the *Silex sand tank*.



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30. Electrically operated valve for filling the architectural water feature and the auxiliary tank: operates with the level sensor (11) and allows the architectural water feature to be automatically filled or refilled.

31. Check valve at the filling inlet: prevents water from the water feature from returning to the public supply network.

32. Ventilation grates: provides natural ventilation to the pumping room, where the electric pumps are installed, preventing water from condensing inside.

33. Supply valve: connected to the public supply network.

34. Auxiliary tank drainage valve: allows the auxiliary tank to be drained.

35. Architectural water feature drainage valve: this valve is used to empty the pond of the architectural water feature through the bottom water intake (7).

36. General waste water pipes.

37. Public supply network.

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