## THE JOHNSON EXPERTISE

• **Engineering :**

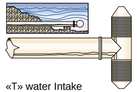
Taking into account the application requirements (depth, water quality, filtration threshold, total flow rate), Johnson's engineers will provide you with the optimum financial and technical solution.

Johnson's expertise is supported by more than 500 installations in various applications such as raw water supply for potable water treatment plants and desalination plants, cooling systems, process water, irrigations, …

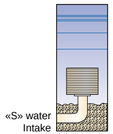
Johnson's intake systems are currently in operation throughout the world, including places where the site conditions prohibit the use of conventional intakes.

Stacked installation

Intakes connected in parallel



«T» water Intake

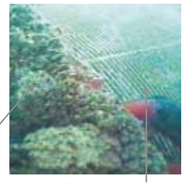


«S» water Intake

• **Materials :**

*Low maintenance with the proper material selection.*

Proper material selection to counteract biofouling and corrosion is a difficult and complex process, which is intrinsically dependent upon the site conditions and often requires preliminary testing.
Johnson offers on-site support and technical expertise to assist the customers in selecting the best alloy suited to their environment.



Side of the stainless steel flange showing severe encrustation

Z-alloy Johnson Screen, showing total absence of biofouling.

*Example:*

Our Z-alloy™ acts as a biocide for any organism that would attach to its surface. This material also offers a strong corrosion resistance to seawater.

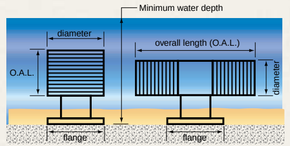
Once a material is selected, proven manufacturing techniques are used to preserve its corrosion resistance.

• **On site installation support :**

Experienced teams are at your disposal for the installation and commissioning of the water intakes.



*The tables below list the various standard flow capacities of water intakes, as well as their hydraulic capacities for a given filtration opening.*




Type «S» intake Type «T» intake

## MODEL SIZES

| | NOMINAL SCREEN FLOW | MINIMUM WATER |
|---|---|---|
| | ($m^3$ / h) *slot opening = 3 mm* | (mm) |
| S 12 | 90 | 0.6 m |
| S 16 | 160 | 0.8 m |
| T 12 | 180 | 0.6 m |
| T 16 | 320 | 0.8 m |
| T 24 | 710 | 1.2 m |
| T 36 | 1 600 | 1.8 m |
| T 48 | 2 840 | 2.4 m |
| T 60 | 4 430 | 3.0 |

## CHARACTERISTICS

| | DIAMETER | OVERALL LENGTH | MOUNTING FLANGE SIZE | AIR BACKWASH CONNECTION | WEIGHT |
|---|---|---|---|---|---|
| | (mm) | (mm) | (mm) | (mm) | (kg) |
| S 12 | 305 | 356 | 150 | 25 | 15 |
| S 16 | 406 | 457 | 200 | 40 | 20 |
| T 12 | 305 | 991 | 250 | 25 | 45 |
| T 16 | 406 | 1 295 | 300 | 40 | 60 |
| T 24 | 610 | 1 405 | 450 | 50 | 170 |
| T 36 | 914 | 2 819 | 800 | 80 | 480 |
| T 48 | 1 219 | 4 039 | 900 | 100 | 730 |
| T 60 | 1 524 | 5 055 | 1 000 | 150 | 1 100 |

**NOTE :** Data given for information only.

Johnson screens™
A Weatherford Company

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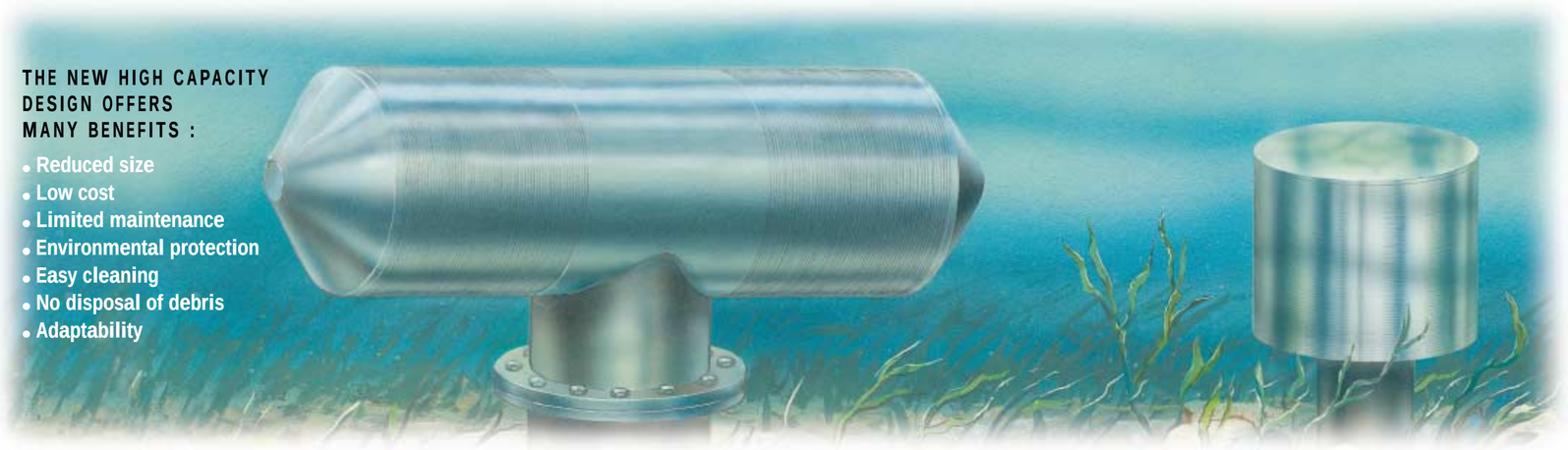
# JOHNSON HIGH CAPACITY INTAKE SCREENS

*With its innovative hydraulic design, the Johnson Water Intake provides trouble free operation, with no maintenance and no debris to dispose of, while being environmentally friendly for aquatic life, even in shallow waters.*



## THE NEW HIGH CAPACITY DESIGN OFFERS MANY BENEFITS :

- Reduced size
- Low cost
- Limited maintenance
- Environmental protection
- Easy cleaning
- No disposal of debris
- Adaptability

The Johnson Water Intakes have long been the most trouble-free means of surface water abstraction. Now they are even better, thanks to a new design: at equal size, their capacity has been increased by 30%.

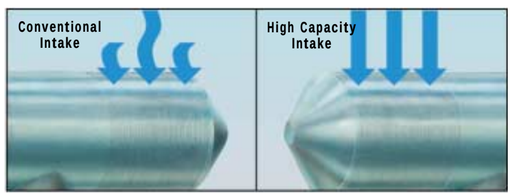
Thanks to this new conception, the key benefits now are:

• **Reduced size –** The new design allows a smaller, more easily handled screen to be used.

• **Low cost –** The Water Intake is directly connected to a pipe system, which avoids high civil engineering cost.

• **Limited maintenance –** The Johnson Water Intakes rely on an all-welded construction with no moving parts. They feature a non-plugging slot design and use corrosion and encrustation-resistant materials.

• **Environmentally friendly –** The flow-through velocities of the Johnson Water Intakes are so low that they do not draw any aquatic life into the system. They are also invisible from the shoreline.




Conventional passive intake design allows variation in entrance velocity across the screen face

Johnson High Capacity Screen has uniform flow rates at 90% of the maximum allowable velocity

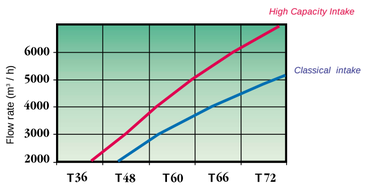
• **Easy cleaning –** The air backwash system (*Hydroburst™*) is remote controlled and does not require diver intervention.

• **No disposal of debris –** During backwash, the debris are carried away by the current, with no further on-land debris disposal.

• **Adaptability –** Each water intake is designed specifically for the site conditions, taking into account:

- The type of water, by selecting the best suited material in terms of corrosion and biofouling resistance (stainless steel, Z-alloy)
- The size of the particles to be screened, by selecting the proper slot opening (3 mm on average)
- The water source (flow rate, depth, existing current) and the available space (S or T shape intakes).

**Conventional Intake / High Capacity Intake**




Water intake nominal diameter (inches)

⟶ **Capacity : + 30%**

**All the characteristics of the Johnson High Capacity Intake Screen contribute to a very reliable system, with low capital investment and maintenance costs.**

For cases where the Intake Screens need to be cleaned regularly, Johnson has designed the "Hydroburst" system.

This process flushes out the debris away from the screen surface by releasing a large volume of compressed air inside the screen.

This systems has four primary components :

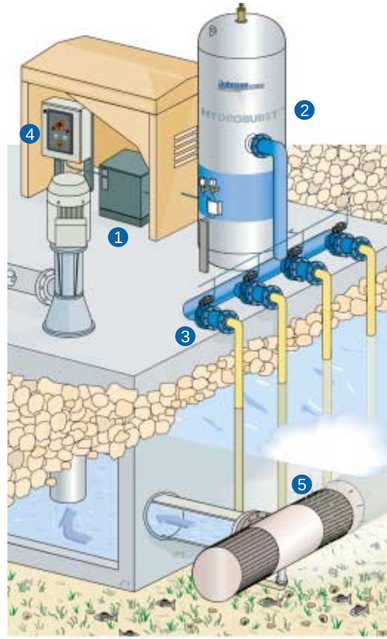
**(1)** A **compressor**, which supplies the compressed air, needed to recharge the receiver tank.

**(2)** A **receiver tank** which stores the compressed air supplied by the compressor.

**(3)** An **assembly of air-actuated valves and piping,** which connects the receiver to the water intake.

**(4)** A **control panel**, for manual or automatic operation.

**(5)** The **typical backwash procedure** cleans each water intake sequentially at regular intervals.
If needed, it is possible to clean several water intakes at once.




Control panel receiver tank

Hydroburst in action