

THE LATEST DEVELOPMENT IN WASHING TECHNOLOGY

THE AFRI-TECH POWER NOZZLE

The Afri-Tech Power Nozzle is a self-cleaning spray-nozzle, South African designed and has won the new product award in the category South African invention during the Electra Mining Expo 2018.

This **Afri-Tech Power Nozzle** was designed with two clear goals in mind. To be able to use process water and to become the most efficient washing nozzle around.

[Spray Render2.bmp](#)

- 1) The power nozzle manifold is operated by timer and will flush out any small debris at pre-set times, resulting in continuous washing of your screen. The cost saving on downtime which normally occurs due to replacing blocked traditional polyurethane spray nozzles has been a major contributor to its success.
 - For large particles we do however suggest to install a strainer box in your water line, something which is part of our product line and solution for our clients. Please do not hesitate to contact us for our strainer boxes which can be fully automated!
- 2) The power nozzle has a double washing action due to its cone shaped spray and, combined with high impact, has resulted in unprecedented **magnetite savings** at a South African coal mine. As a result this leading South African coal producer has decided to enrol the power nozzle onto 16 more vibrating screens as well as rolling it out onto their other operations

Other successful installations have resulted in massive **FeSi savings** on a diamond plant, **carbon washing** on gold plants, **woodchips washing** on gold plants, **foam suppression** on flotation cells, **filter cloth washing** on linear screens and belt filters

Some exceptional functions of the Power Nozzles are as follows:

- 1) Resistance to wear due to Stainless Steel manufacture
- 2) Ability to unblock up to 4mm particles without affecting production throughput
- 3) Adjustable nozzles allowing increase in volume (bigger gap adjustment) or increase in force by reducing spray gap

- 4) Versatile directional setting - Afri-Tech Power Nozzles could be angled to wash into or away from flow of product, as well as adjustment of angle to aim to the middle of the screen, conveyor or wash table
- 5) Operator independent, operates without requiring attention during process time
- 6) Manufactured to customer requirements
- 7) Can be used with recycled water

Successful installations of the Afri-Tech Power Nozzle include:

Gold

Following a successful trial on carbon and woodchips screens, the customer installed Power Nozzle manifolds on all their Linear Screens running with many more gold plants following suit

Diamonds

A trial was conducted on a 3050mm Fines Float Screen.

After running the Power Nozzle manifold effectively for a month, the customer purchased 5 more units to install

Platinum

90 Power Nozzles were installed on flotation cells to keep product from overflowing and spilling

Following this success two more plants in the group requested proposals for a similar application

Coal

Afri-Tech installed a Power Nozzle Manifold on a screen for magnetite washing.

The recovery in magnetite was so incredibly successful that the customer is in the process of ordering 16 more units with many more companies to follow suit

In actual fact the POWER NOZZLE can be used in all kind of screening and washing applications. With the ability to adjust the nozzle it can obtain increased volume or higher impact so it can suit all requirements

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