



# Supply Proposal for Sibanye Stillwater

## KEY POINTS

- Hydrocore valves unique design separates it apart from every valve in the market in terms of robustness, cost efficiency, longevity and ease of use. Apart from that, Hydrocore's prices are currently more competitive than their competitors.
- The electrical running cost savings of using the Hydrocore valve, instead of the standard globe valve, results in a net saving of the entire valve itself within a few months. Another way of rephrasing this statement: not utilizing the energy efficient Hydrocore valve means wasting capital expenditure on electrical consumption fees.
- Besides for the running costs savings, the Hydrocore valves is by far more robust than its rivals, needing less maintenance and repairs thus reducing the expenses further and allowing production to go uninterrupted for longer periods of time.

## PROPOSAL

Hydrocore proposes to conduct a thorough audit on three pumping stations to prove the key points stated above. The audit will encompass the following aspects:

1. Determine current running costs by acquiring the following information (using digital equipment only):
  1. Differential pressure drop between the inlet of the non-return valve to the outlet of the pump discharge valve.
  2. Flow rate between the inlet of the non-return valve to the outlet of the pump discharge valve.
  3. Running time of each pump per day.
  4. Cost of running each pump (kW/H).

2. Provide a report of the cost savings and ROI for replacing the current non-return valve and the pump discharge valve with a Hydrocore non-return valve and the pump discharge valve.
3. Furthermore, the audit should encompass obtaining the following information of the non-return valve and the pump discharge valve: Frequency of repair/maintenance, downtime for repair/maintenance and valve longevity (before it needs to be replaced).

Optimally, Hydrocore can supply all of its valves to Sibanye Stillwater at wholesale prices which translates to roughly 25%~40% lower costs on capital expenditure. We are confident that none of our competitors can offer this price discount for the following reasons:

1. Hydrocore is a very small staffed company with low overheads.
2. Our valves do not need as many external parts such as gearboxes, pilots, pistons to operate. Many of these expensive components are eliminated. Apart from that, replacing these external components is almost a certainty which increases subsequent costs.
3. 90% of all our manufacturing is done in China saving greatly on the manufacturing costs when compared to South African costs. The Chinese manufacturer that Hydrocore uses has the following certification: CE, TUR, ISO and API (certain standards).
4. By offering wholesale prices for directly signing an agreement between Hydrocore and Sibanye Stillwater, we are cutting out a major middleman expense.

As an illustration, a recent quotation for a complete set of pump station valves<sup>1</sup> (including the electric actuator) illustrates the difference in our prices. The rival's set was quoted at R547,225. The equivalent Hydrocore set would cost \$23,170 or R322,969 (approximately 59% of the rival's quoted price).

<sup>1</sup> One only 250mm Class 900 Full bore Reliaball valve combined with 250mm Class 900 RGR Concentric non return valve(TBA) complete with Auma SA10.2 (MWG control unit 4-20Ma feedback, 550V, F10,180RPM) electric actuator, Auma AC01.2 matic controller (wall mount) and Auma G5 160.3(GZ160.3) quarter turn gearbox @ R547,255-00 each nett excluding V.A.T. - quoted on the 27th of September 2018.



Comparison of a 250NB Pump Station Valves Set	Hydrocore PDV	Hydrocore NRV	Competitor Globe PDV	Competitor NRV	Competitor Full-Bore Ball PDV	Competitor NRV
Cv	1464	2867	480	768	n/a	768
Nominal Flow Rate (litres/sec)	275	300	275	300	300	300
Differential pressure loss (bar)	0.617	0.191	5.735	2.666	0	2.666
Valve Power Losses (kW)	9.667	3.000	89.925	41.804	0	41.804
Cost of Valves (when \$1 is R15)	R 284,250		R 434,850		R 419,906	
Monthly Penalty (16 hr day)	R 3,283		R 34,144		R 10,836	
Annual Savings (16 hr day)			R 370,333		R 90,629	
Recovery Period (both valves)			9 months		38 months	
Monthly Penalty (24 hr day)	R 7,478		R 77,773		R 24,681	
Annual Savings (24 hr day)			R 843,536		R 206,434	
Recovery Period (both valves)			4 months		17 months	

### SAVINGS ON ELECTRICAL RUNNING COSTS

To illustrate the costs savings, we have chosen two local competitors to illustrate the immense gap between the running costs of a set of Hydrocore valve versus a set of our competitors valves. The two types of competitors valves include one globe valve and one full-bore ball valve. Both the competitors use the same type of non-return valve.

The following parameters were used to calculate the power loss for the valves. The nominal working pressure is 120 bar. The cost per kW (when used at a 16 hours per day tariff) is 54 cents per KW or 82 cents per kW (when used at a 24 hours per day tariff). The pump efficiency is 75%.

### CONCLUSIONS

As is evident, the electrical cost savings of using the Hydrocore valve versus our competitors valves is astronomical. Assuming that the price of electricity is not going to go down in the future, those cost savings will only increase. We highly recommend replacing existing valves with the Hydrocore valve range in order to reduce monthly electrical overheads. As illustrated, the recovery period for the initial capital outlay of purchasing

new Hydrocore valves is extremely short (within 4 - 9 months vis-a-vis globe valves, and 12 - 28 months vis-a-vis ball valves). The long-term benefits of reducing heavy running costs and maintenance will quickly make up for the initial capital outlay of the valves.

We would also recommend a follow-up meeting with Sibanye Stillwater engineering and procurement department heads to illustrate and discuss the merits of our valves. We have sold over 7,000 valves since our company started and we are not new to the mining sector. We feel that familiarity with our valves and their advantages would compel Sibanye Stillwater to purchase our valves exclusively in their new projects.

We look forward to continuing this discussion and hope to realize an agreement to our mutual long-lasting benefits.

Your's sincerely,  
The Hydrocore Team.

