



# PARTICLE DENSITY METER

PRODUCT BROCHURE



Innovative technologies for efficient  
resource processing solutions

THE CLEANPROTECH **PARTICLE DENSITY METER (PDM)** IS USED TO DETECT THE AVERAGE PARTICLE DENSITY WITHIN A SLURRY STREAM, ONLINE.

THERE IS NO OTHER PRODUCT ON THE MARKET THAT DOES THIS.  
OTHERS MAY CLAIM TO, BUT USE INCORRECT ASSUMPTIONS.

THE PDM PROVIDES THE USER A REAL TIME VALUE WHICH CAN BE USED FOR;

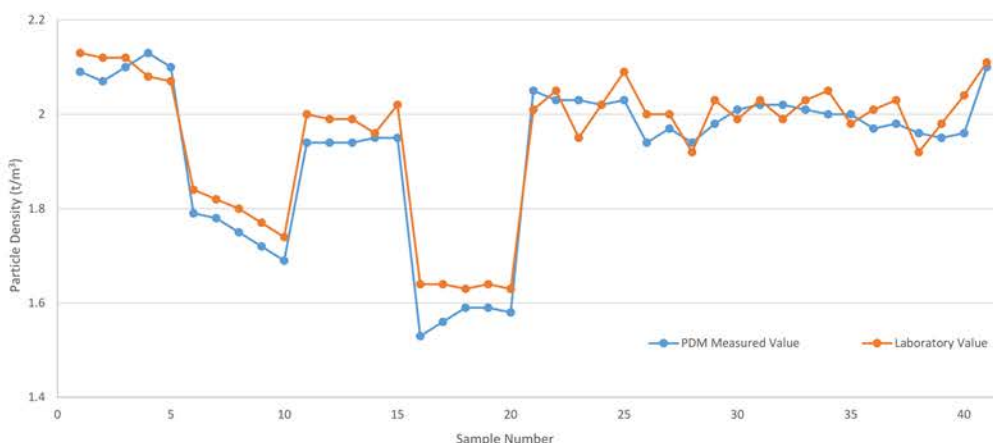
- TRACKING CHANGES IN TAILINGS QUALITY
- ESTIMATION OF SALEABLE COAL BEING LOST IN TAILINGS
- ANALYSING PRODUCT QUALITY OF INTERNAL STREAMS OR TOTAL PLANT PRODUCT
- 'REAL TIME' FEEDBACK FOR ONLINE OPTIMISATION OF THE SEPARATION CIRCUIT INCLUDING FLOTATION, SPIRALS, TBS, REFLUX CLASSIFIERS, HYDROCYCLONES, ETC
- CALCULATING ONLINE YIELDS OF PROCESS EQUIPMENT
- SETTING PARTICLE DENSITY TARGETS FOR OPERATORS TO ACHIEVE FOR VARIOUS SEAMS, COAL TYPES AND PRODUCT SPECIFICATIONS
- THE UNIT CAN ALSO BE TAILORED TO OUTPUT '% ASH' VALUE.

## NO WAITING FOR LABORATORY ANALYSIS RESULTS!

A UNIQUE 'HYDRAULIC' VALVE IS USED TO CONTROL SLURRY FLOWRATE. THIS REMOVES ANY POTENTIAL FOR BLOCKAGES THAT WILL OCCUR IF CONVENTIONAL MECHANICAL VALVES OR A FIXED ORIFICE ARE USED.

HIGHLY WEAR RESISTANT MATERIALS ARE USED TO PROLONG SERVICE LIFE.

AUTO BACK-FLUSH SYSTEM THAT ACTIVATES WHEN A 'NO FLOW' SITUATION IS PRESENT.



RESULTS SHOWN TO THE LEFT ARE ACTUAL PLANT TRIALS CONDUCTED BY CHPP STAFF AND ANALYSED BY 3 SEPARATE LABORATORIES. ALTHOUGH THERE IS OFTEN A SMALL DIFFERENCE BETWEEN THE MEASURED AND LABORATORY VALUE, THE PDM ALWAYS TRACKS CHANGES WELL, SHOWING THE GENERAL TREND AND ANY ALTERATION IN STREAM QUALITY. FLOTATION TAILINGS WAS BEING MONITORED.

ALL MEASUREMENT DEVICES ARE SUPPORTED WITHIN A FREE STANDING SUPPORT FRAME WHICH MEASURES 600 mm (w) x 1200 mm (d) x 3500 mm (h).

ALL ELECTRONICS ARE HOUSED WITHIN AN IP68, 316 STAINLESS STEEL ENCLOSURE.



**POWER:**

THE OSPDM REQUIRES 24 VDC AT 10 AMPS.  
ALL EQUIPMENT IS ELV - **NO 240 VAC USED.**

**COMMUNICATIONS:**

THE OSPDM CAN BE TAILORED TO PROVIDE OUTPUTS FOR THE FOLLOWING:-

- AVERAGE SOLIDS PARTICLE DENSITY
- SLURRY DENSITY
- TOTAL SOLIDS
- SUSPENDED SOLIDS
- DISSOLVED SOLIDS
- ASH VALUE (%)
- SLURRY CONDUCTIVITY
- SLURRY TEMPERATURE
- POWER FAIL ALARM
- FLOW ALARM / BACK FLUSH ALARM

THESE PARAMETERS CAN BE SENT VIA THE FOLLOWING COMMUNICATION PROTOCOLS;

- 4-20 mA ANALOGUE SIGNAL
- ETHERNET
- MODBUS
- FTP TRANSFER
- E-MAIL
- SMS/TEXT TO MOBILE PHONES

SAMPLE IS REQUIRED AT A RATE OF ~20 L/min.  
CLARIFIED WATER IS REQUIRED AT ~100 L/min

THE SAMPLE POINT AND TYPE SHOULD BE CHOSEN CAREFULLY, TO GIVE THE BEST REPRESENTATION OF THE SLURRY STREAM BEING MONITORED.

CLEANPROTECH CAN ADVISE ON THE BEST METHOD FOR OBTAINING A SLURRY SAMPLE.

# YOU CAN'T AFFORD TO NOT HAVE ONE!

FOR ANY FURTHER PRODUCT INFORMATION CONTACT

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