

DE BEERS GROUP

IGNITE™

Non-Nuclear Dense Medium Controller

Coal, Iron Ore, Chrome, Diamonds

A non-nuclear density meter for the measurement of slurries containing magnetic particles. Ideal for the density measurement of magnetite or ferro-silicon slurries as utilised in coal, iron ore, chrome and diamond Dense Medium Separation plants.



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<https://ignite.debeersgroup.com>

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FEATURES

- Non-nuclear density measurement device
- Suitable for Magnetite, Milled FeSi and Atomised FeSi slurry applications
- Density measurement independent of flow rate
- Non-contact
- No moving parts
- Non-obtrusive to flow – no pressure drop
- Temperature stabilised
- Standard analog and various fieldbus output options
- No maintenance – no periodic cleaning required
- In-field, one point recalibration – no process adjustment or shutdown required
- ON-OFF and PID output control to achieve desired density
- Full density range 1.00 – 4.50 S.G. (Medium specific)
- Accuracy of 0.01 S.G



The Dense Medium Controller (DMC) is designed to measure the density of slurries accurately and reliably in Dense Medium Separation Plants.

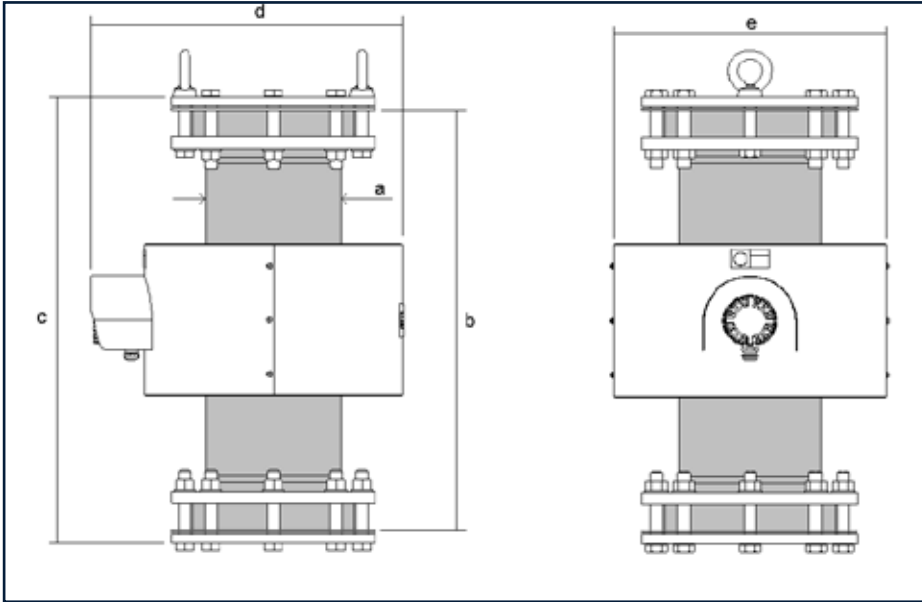
The technology used is non-nuclear and has been used in the diamond industry for over a decade.

Being non-nuclear eliminates the legislative, safety, environmental and personnel skill requirements associated with nucleonic densitometers.



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- Density readout on Controller screen.
- PID controller output to external control valve.
- Bang-bang (on-off) output with user defined hysteresis to optional solenoid valve control.

DIMENSIONS

| DMC Transducer Unit | a (pipe outer diameter) mm [inch] | b (stub flange to stub flange distance) mm [inch] | c (facing flange to facing flange distance) mm [inch] | d (maximum cover width) mm [inch] | e (minimum cover width) mm [inch] |
|---------------------|--------------------------------------|--|--|--------------------------------------|--------------------------------------|
| DMCT050 | 50 [1.97] | 450 [17.72] | 476 [18.75] | 254 [10] | 165 [6.50] |
| DMCT075 | 75 [2.96] | 450 [17.72] | 480 [18.90] | 294 [11.58] | 203 [8.0] |
| DMCT110 | 110 [4.33] | 550 [21.66] | 580 [22.84] | 362 [14.26] | 275 [10.83] |
| DMCT160 | 160 [6.30] | 550 [21.66] | 588 [23.15] | 396 [15.60] | 303 [11.93] |
| DMCT225 | 225 [8.86] | 700 [27.56] | 742 [29.22] | 519 [20.44] | 430 [16.93] |
| DMCT315 | 315 [12.41] | 750 [29.53] | 800 [31.50] | 631 [24.85] | 542 [21.34] |
| DMCT355 | 355 [13.98] | 750 [29.53] | 806 [31.74] | 671 [26.42] | 581 [22.88] |

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SPECIFICATIONS

| Dense Medium Controller | 50 | 75 | 110 | 160 | 225 | 315 | 355 |
|----------------------------------|--------------|----|-----|-----|-----|-----|-----|
| Process pipe outer diameter [mm] | 50 | 75 | 110 | 160 | 225 | 315 | 355 |
| Unit mass [kg] | 10 | 14 | 18 | 38 | 66 | 110 | 146 |
| Density range: | | | | | | | |
| Magnetite slurry [S.G.] | 1.00 to 2.20 | | | | | | |
| Milled FeSi slurry [S.G.] | 1.00 to 3.80 | | | | | | |
| Atomised FeSi slurry [S.G.] | 1.00 to 4.50 | | | | | | |
| Accuracy: | | | | | | | |
| Magnetite slurry [S.G.] | 0.01 | | | | | | |
| Milled FeSi slurry [S.G.] | 0.01 | | | | | | |
| Atomised FeSi slurry [S.G.] | 0.01 | | | | | | |

Pipe material: High Density Polyethylene (HDPE) PN16 PE100 (SDR11)

Degree of protection: IP66, certified by the SABS to SANS 60529:2001

Power supply:

- Recommended:
 - 85 to 264 VAC (47 to 63 Hz), 0.3A RMS at 230 VAC
 - 120 to 370 VDC
- Bypassing the internal power supply unit:
 - 24VDC
 - 1.0A

The Controller is protected against reverse polarity.

Analog output (2 wire): 4 to 20mA, 0 to 20mA, 0 to 24mA or 0-10VDC

Serial output: RS-232

Optional Fieldbus outputs:

- Currently available: Profibus DP, Ethernet/IP, Profinet
- On request: CANopen, DeviceNet, Modbus-TCP

For detailed technical specifications please visit www.debtech.com



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