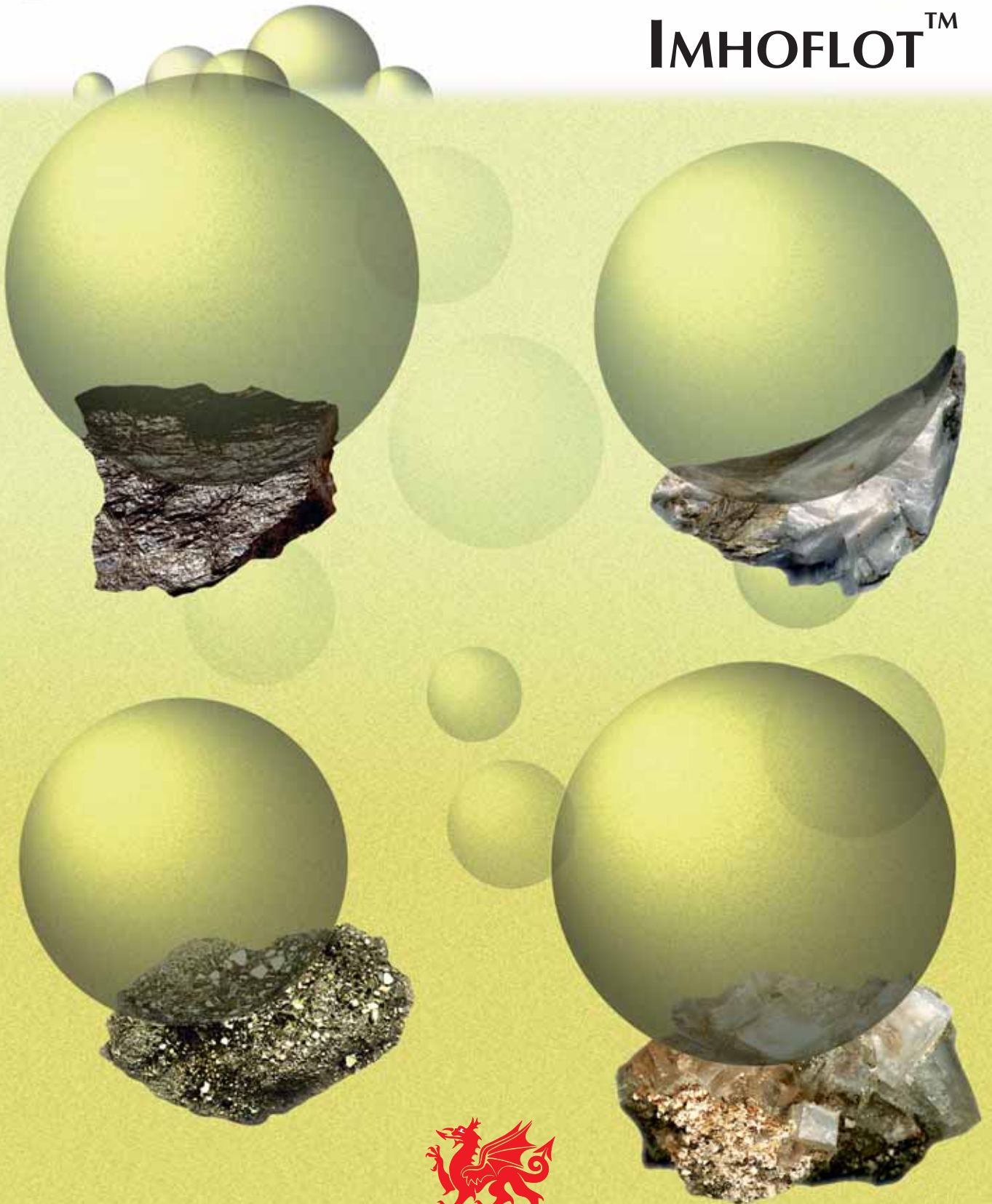


# pneumatic flotation

IMHOFLOT™



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Imhoflot pneumatic flotation technology has evolved through 25 years of industrial applications.

### IMHOFLOT OPERATING PRINCIPLES

Imhoflot technology has distinctive and unique principles of operation:



- Aeration contact process takes place outside the cell.
- Separation and recovery of floatable component takes place in the cell.
- Mechanical dispersion of air and process pulp is not required.
- Residence time is extremely short.
- Entrainment of non - floating components is reduced by cell design features.
- Proprietary aeration systems may be self aspirating or compressed air, depending on process.

### APPLICATIONS

MMS provides the Imhoflot Process technology for a wide range of applications including:

- Metallic or industrial mineral processes.
- Coal preparation.
- Solvent and oil separation.
- Environmental remediation.



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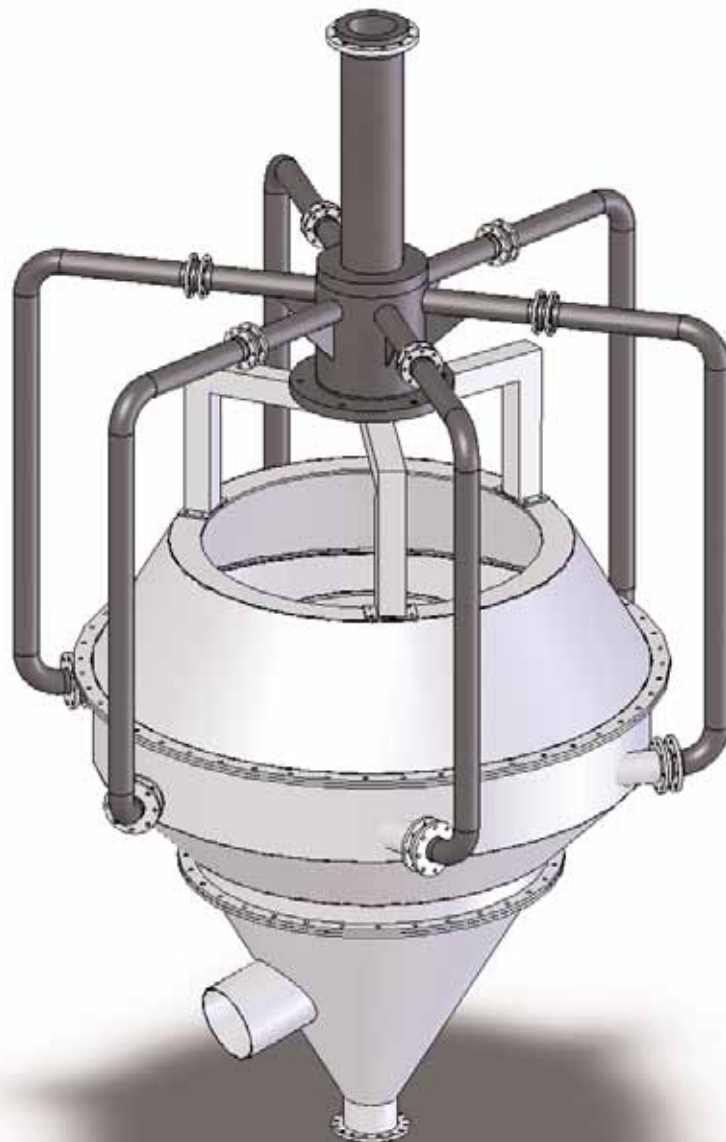
Imhoflot operating principles can be achieved with two cell designs, each having specific applications.

## **IMHOFLOT G-CELL**

Innovative and unique flotation concept for enhancing separation in difficult process applications.

Dynamic, centrifugal action improves mobility of rising air bubbles, promoting disengagement, reducing entrainment.

Reduced retention times, typically 30 seconds, compared with column flotation 5-10 minutes, conventional cell banks 10-30 minutes.





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## IMHOFLOT G-CELL

- High unit throughput.
- Self-aspirating aeration device.
- Applicable for a range of feed materials.
- Particularly appropriate for mobile process plants.

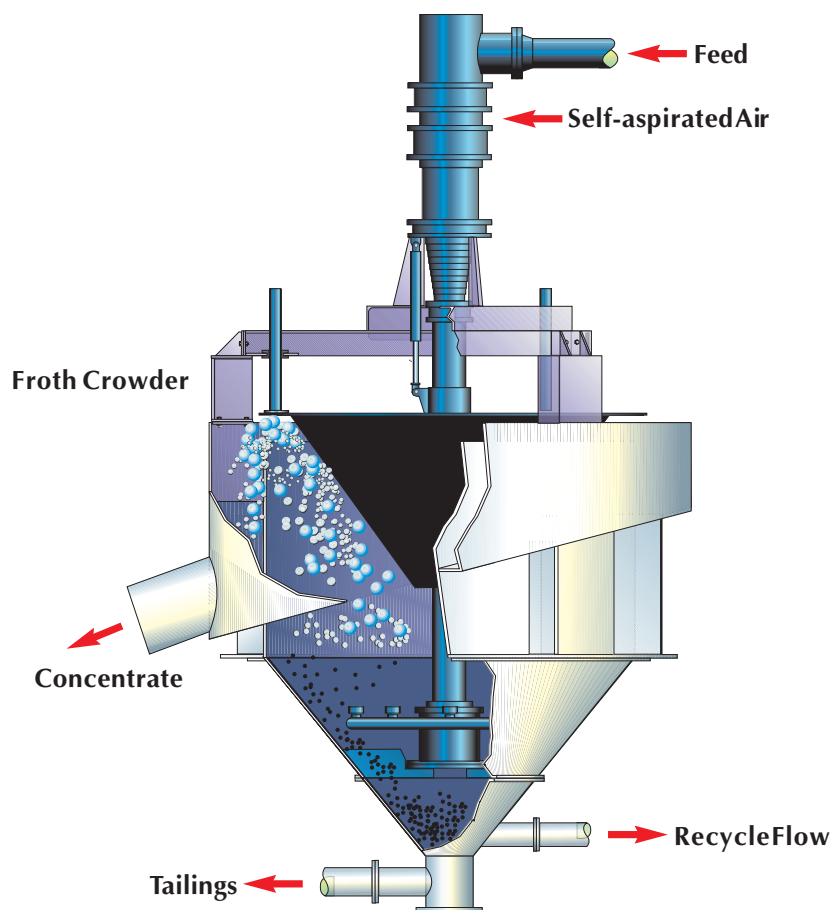




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## IMHOFLOT V-CELL

- Central cell feed is vertical and free draining.
- Self-aspirating aeration device.
- Pulp distributor is located in the separation zone.
- Cylindrical separator with peripheral froth collection.
- Conical froth crowder permits fine control of froth dynamics.
- Tailings flow and discharge through conical hopper.
- Overflow level control facility, with short-circuit prevention.
- Recycle flow and level control facility.





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## OPERATIONAL DESIGN FEATURES AND BENEFITS

The concept of the Imhoflot pneumatic flotation process results in higher recoveries with exceptionally low residence time.



- Imhoflot is characterised by high unit throughput capacity and is tolerant of wide variations in feed rate and grade of mineral.
- The process is suited to the recovery of slowly floating minerals – requiring reduced investment and operating costs.
- Specific power consumption can be less than 60% of conventional type cells.
- The space required is smaller compared to other flotation systems.
- The process has simplified flowsheets due to selectivity between the mineral and gangue.
- The process is of modular design.
- Imhoflot lends itself to automatic control for the entire flotation plant and requires minimum supervision via PLC control.
- The process is maintenance friendly.
- The process is proven for both coarse and ultra fine mineral recovery applications.
- There are no moving parts.
- Critical parts are made of ceramic and wear resistant materials.



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### DESIGN AND SIZE

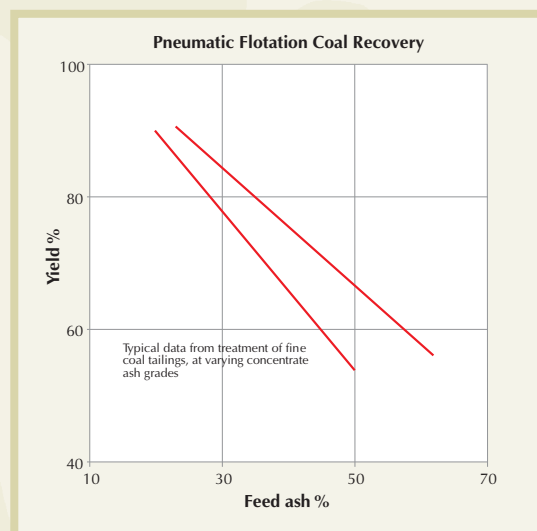
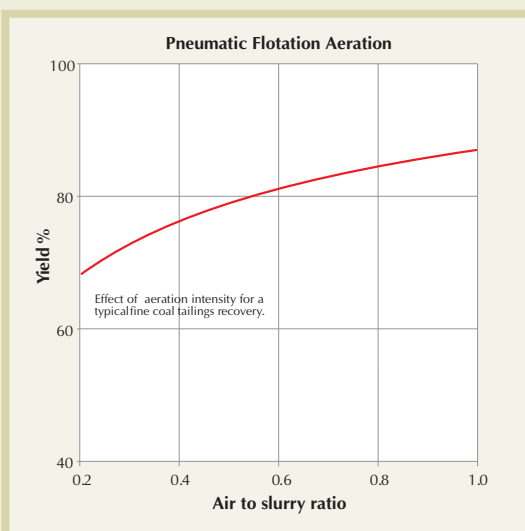
The largest design of separating cell can be over 5m in diameter and can treat over 1200m<sup>3</sup>/h of feed.

The cell can be sized to cater for virtually all throughput requirements, from small pilot sized cells having a diameter of 0.8m and processing about 5-8m<sup>3</sup>/h of feed. Even for the largest design throughput, only one aerator unit is required per separating cell.

### TESTING

MMS has developed a method of scale-up and plant layout, which can be based on conventional laboratory cell testwork. This determines the required grind, reagent regimes, number and configuration of cells. If more detailed work is required then MMS recommends pilot testing using commercial pilot plant test rigs. Pilot plants are equipped with different probes and a PLC for automatic control. Throughput ranges are 5-30m<sup>3</sup>/h of feed for vertical cells and 50-150m<sup>3</sup>/h for G-cells of similar sizes.

This size of pilot plant demonstrates the process on an industrial scale and eliminates possible scale-up problems.





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## **MMS TECHNICAL SUPPORT**

MMS engineering staff are experienced in process operations in a broad range of industries.

MMS can provide a complete range of customer services, from design concept and testing through installation and process commissioning to after sales service.

MMS has a world-wide network of agents and associates to offer expert technical back-up ensuring the best service.

MMS works with the customer to identify the flotation requirements and to determine the optimum solution for each specific application.



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