

Flotation machine

Reactor cell system RCS™ 300

The RCS™ (Reactor Cell System) flotation machine has been developed to combine the benefits of the circular cell concept with the unique features of the DV™ mechanism to create the ideal conditions to maximize flotation performance for roughing, scavenging, and cleaning duties.

Maximum flotation recovery and performance have been achieved by careful attention to tank design.

Applications

- Iron flotation
- Non-ferrous metals
- Industrial minerals

New improved DV™ flotation mechanism

The new patent pending design improves air dispersion and bubble size distribution.

The patent-protected DV™ (Deep Vane) mechanism impeller consists of a unique arrangement of vertical vanes with shaped lower edges and air dispersion shelf.

The mechanism design produces powerful radial slurry pumping to the cell wall and gives strong return flows to the underside of the impeller to minimize sanding.

Additionally it is the only mechanism to give maximum slurry recirculation to the upper part of the impeller.

Vertical diffuser vanes promote these radial flow patterns and completely eliminate slurry rotation in the tank.

Froth handling

- Maximum particle-bubble contacts within the mechanism and the flotation tank.
- Effective solids suspension during operation and re-suspension after shutdown.
- Effective air dispersion and distribution throughout the complete cell volume.



- Small even size bubbles gives a smooth froth surface and fast froth removal.

Tank design

- Circular tank concept with low level slurry entry and exit to minimize slurry short circuiting.
- Modular tank design to simplify construction, shipment and site installation.
- Cell superstructure designed to rigidly support the flotation mechanism and drive and to act as a support for both the drive maintenance platform and a walkway which extends across all cells in the flotation bank. Where environmental regulations apply, the complete cell top can be enclosed to minimize the release of ultra-fine particles into the concentrator atmosphere.
- Wear protection is only required in high warm zones
- Peripheral launders with radial fingers and froth discharge on one side only.
- Internal dart valves

For more information, contact your local Metso representative. www.metso.com
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Specifications

	Standard Drive ⁽¹⁾	Cell volume ⁽²⁾		Connected motor ⁽³⁾			Air requirements ⁽⁴⁾		
		m ³	ft ³	kW	HP	Am ³ /min	kPag	Acfm	psig
RCS 3	VB	3	105	11	15	2	17	70	2,5
RCS 5	VB	5	175	15	20	3	19	110	2,8
RCS 10	VB	10	355	22	30	4	22	140	3,2
RCS 15	VB	15	530	30	40	6	25	210	3,6
RCS 20	VB	20	705	37	50	7	27	250	3,9
RCS 30	VB	30	1060	45	60	9	31	320	4,5
RCS 40	VB	40	1410	55	75	10	34	350	4,9
RCS 50	VB	50	1765	75	100	12	38	420	5,5
RCS 70	VB	70	2470	90	125	15	41	530	5,9
RCS 100	VB/GB	100	3530	110	150	19	47	670	6,8
RCS 130	VB/GB	130	4590	132	200	23	51	810	7,4
RCS 160	GB	160	5650	160	200	25	55	880	8,0
RCS 200	GB	200	7060	200	250	30	59	1060	8,6
RCS 300	GB	300	10 600	250	340	35	67	1 413	11,5

(1) VB - spindle bearing with v-belt drive GB - gearbox with v-belt drive

(2) Active flotation volume

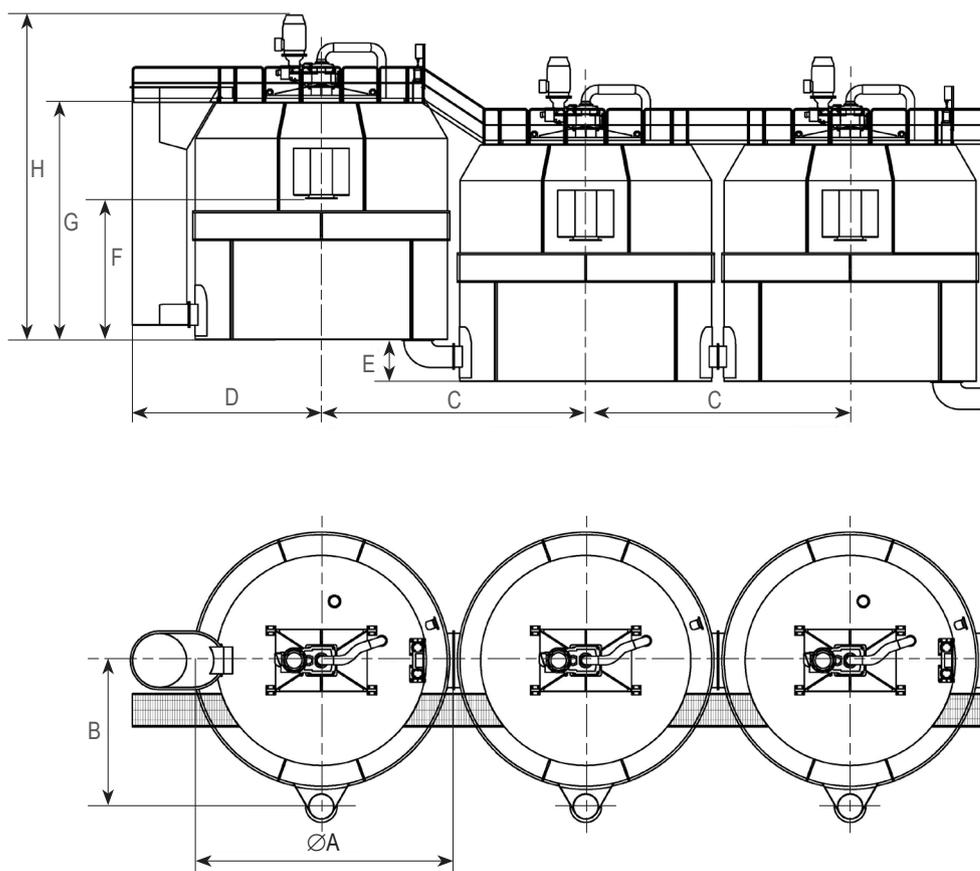
(3) Per cell and applicable up to 1.35 slurry sg. If higher slurry sg, consult Metso

(4) Per cell and applicable up to 1.35 slurry sg. If higher slurry sg, consult Metso

Air requirement is at flotation mechanism, pressure losses from blower to flotation bank should be considered when specifying blower.



Dimensions



RCS™ flotation machines are available in sizes 0,8 m³ to 300 m³

Cell dimensions

	A	B	C	D	E	F	G	H
RCS™ 160	6 500	3 800	6 850	4 550	1 100	3 320	6 115	8 650
RCS™ 200	7 000	4 085	7 350	5 000	1 200	3 500	6 565	9 100
RCS™ 300	8 100	4 700	8 500	6 075	1 350	4 530	7 615	10 450