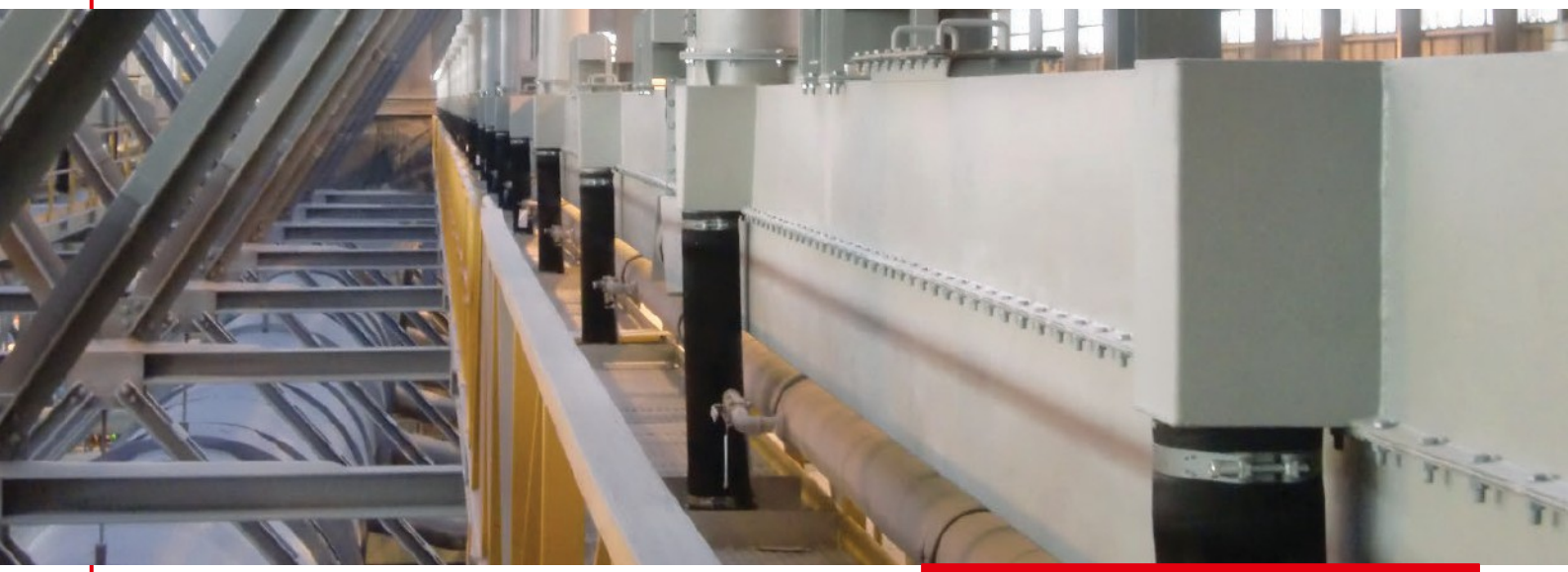
HyperDense phase system (HDPS)



This auto regulated system offers an environmentally friendly solution with the lowest operation and maintenance costs.

The HDPS is able to combine horizontal and vertical sections using our patented HDPS siphon system. It is highly adapted to complex configuration like in revamping context.

We are the aluminium industry's leading provider of pot feeding systems for smelters. The HDPS (HyperDense phase system) is based on a patented fluidisation principle operating at very low pressure.

HDPS: patented system for materials handling by fluidisation

Main HDPS conveyor features

Our patented HDPS conveyor system enables continuous materials supply from the silo to numerous consuming points, ensuring pot hoppers are full at all times. Material is conveyed by fluidisation in hyperdense phase. The system's length can be adapted to up to hundreds of metres.

In 2007, we reached a cumulative length of 100 km of HDPS, designed and installed.

Proven advantages

Safe technology involving very low air pressure (0.1 bar)

Environmentally friendly:

- Entirely closed and dust free device
- Low energy consumption (2 kWh/t)
- No alumina shortage to the pots and the associated anode effects due to a very high reliability

Best Full Economic Cost (FEC)

- No valve for distribution over more than 2,600 feeding points
- Horizontal, with no slope, lowering structure costs
- Can be installed outside
- Fully pre-assembled modules for easy erection
- Automatic system with low pressure fluidisation for reduced operating and maintenance costs

Available for multiple pot technologies and multiple pot configuration (end to end or side by side)

Possibility of revamping in existing smelters, without shut-down of running pots

Allow to combine vertical and horizontal section with our patented siphon system

Health, safety and environment (HSE) benefits

Our fully enclosed, dust free and low energy consumption potfeed system delivers an unrivalled environmental performance.

We are certified ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007.

Main features

100% shop tested for a reduced start-up time

Output capacity of up to hundreds of tonnes and hundreds of metres per hour

Polyester composite construction where electrical insulation is required

Cells fed continuously and simultaneously by thousands of outlets with a single system

Self-balanced, no electronics, no moving parts

Low velocity of the conveyed alumina (typically 5 cm/s): no wear, no product attrition

Fluidisation at very low pressure by centrifugal fans

REEL Alesa Ltd
Max Hoegger Strasse 6
CH-8048 Zurich
Switzerland

T +41 44 435 33 33
F +41 44 435 33 66

REEL Alesa Ltd
150 Rockland Road Town
of Mount Royal Quebec,
Canada H3P 2V9

T +1 514 937 9105
F +1 514 937 0473

REEL Alesa SAS
2580 Rte Départementale 58a
CS20015
13549 Gardanne Cedex, France

T +33 4 42 99 36 45
F +33 4 42 58 07 93

Birrus International PTY Ltd
10 Dandenong Street
Dandenong, Victoria 3175
Australia

T +61 3 9769 2646
F +61 3 9769 2535

www.reel-alesa.com