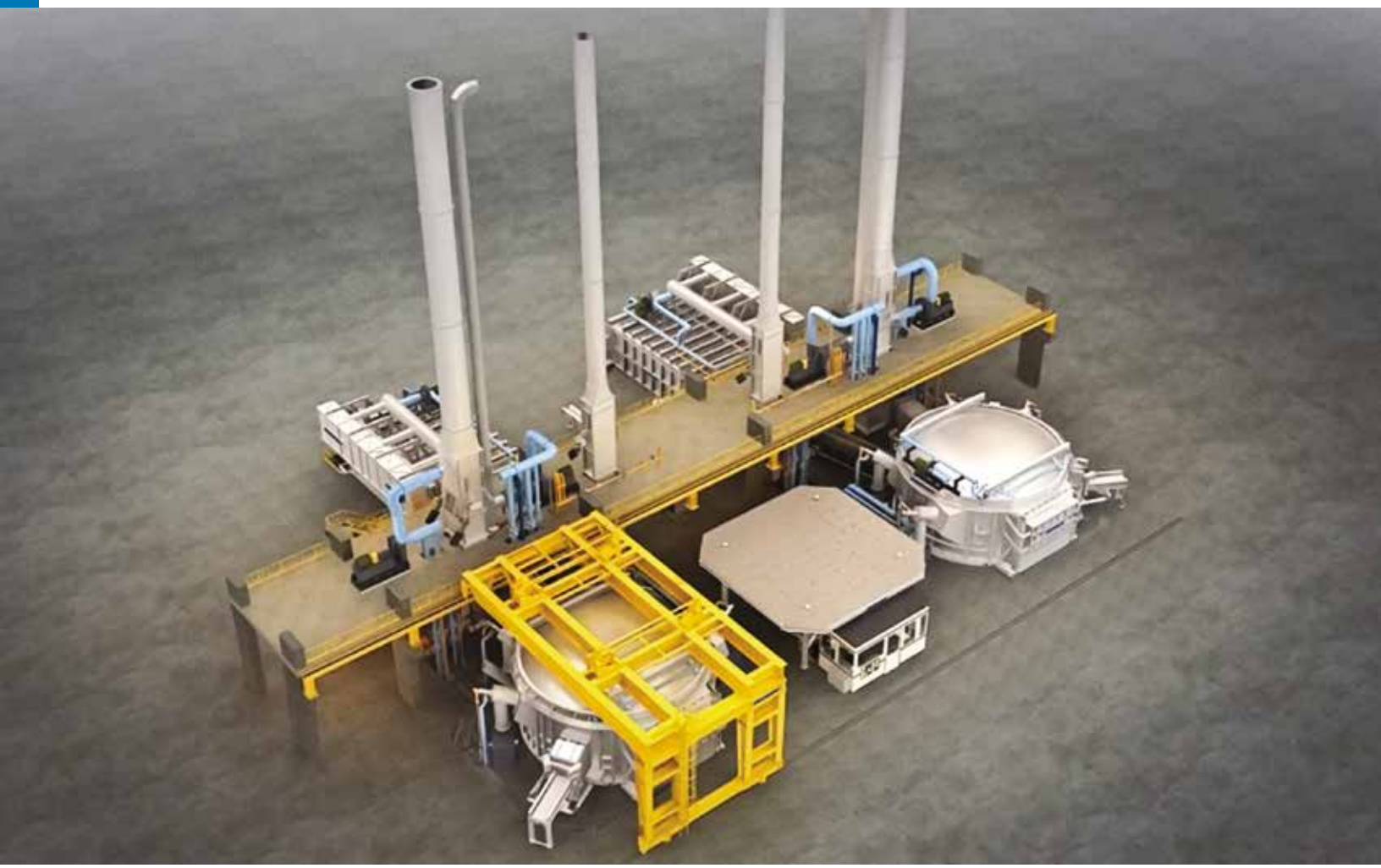
ANDRITZ Metals

Aluminum

Large-capacity melting, holding and heating solutions



www.andritz.com

Technology makes it possible, ANDRITZ makes it happen

ANDRITZ Bricmont's long-term experience and capabilities for serving the aluminum industry

CONTENTS

ANDRITZ Bricmont 02

Complete solutions 03

Melting 04

Holding 05

Heating 06

References 08

Long lasting experience

ANDRITZ Bricmont has a long-term experience in working with the metals industry in general and particular in the aluminum industry. Since 1966 we have provided as Bricmont Inc. a wide and diverse range of services and equipment to the metals manufacturing and processing industry, including analysis, studies, engineering, estimating, project management, training software, controls, continuous process improvements, processing lines, construction services for all types of furnaces.

We hire and retain the best engineers in their fields and we incorporate their expertise and experience in our designs. Some of our senior staff engineers have been with us since the Davy-Swindell acquisition and are therefore very intimate with the design and engineering data and previous installation projects at customer sites.

One of us will be there

ANDRITZ Bricmont is part of the ANDRITZ GROUP. All the synergies through other furnace companies in the metal business area, like ANDRITZ Maerz, ANDRITZ Selas S.A.S. and ANDRITZ Thermtec, will help us to provide even more customer service in other locations around the globe.

Our customers are on every continent – so are we

A global technology leader
with complete process line solutions for your casting facility

Our typical customers process molten or solid aluminum

Our typical customers are processing molten or solid aluminum. We provide proven experience, expertise, design solutions, and construction services for both primary and secondary producers. Our large capacity Davy-Swindell round top melters and companion tilting holder furnaces are the industry standard. But in addition to these products we provide any melter, any holder, static or tilting, any fuel, remelt, or recycle. If you are processing solid aluminum, we are your experts for preheat and reheat pushers, pits, car bottoms, auto-batch, fuel fired, or electric furnaces.

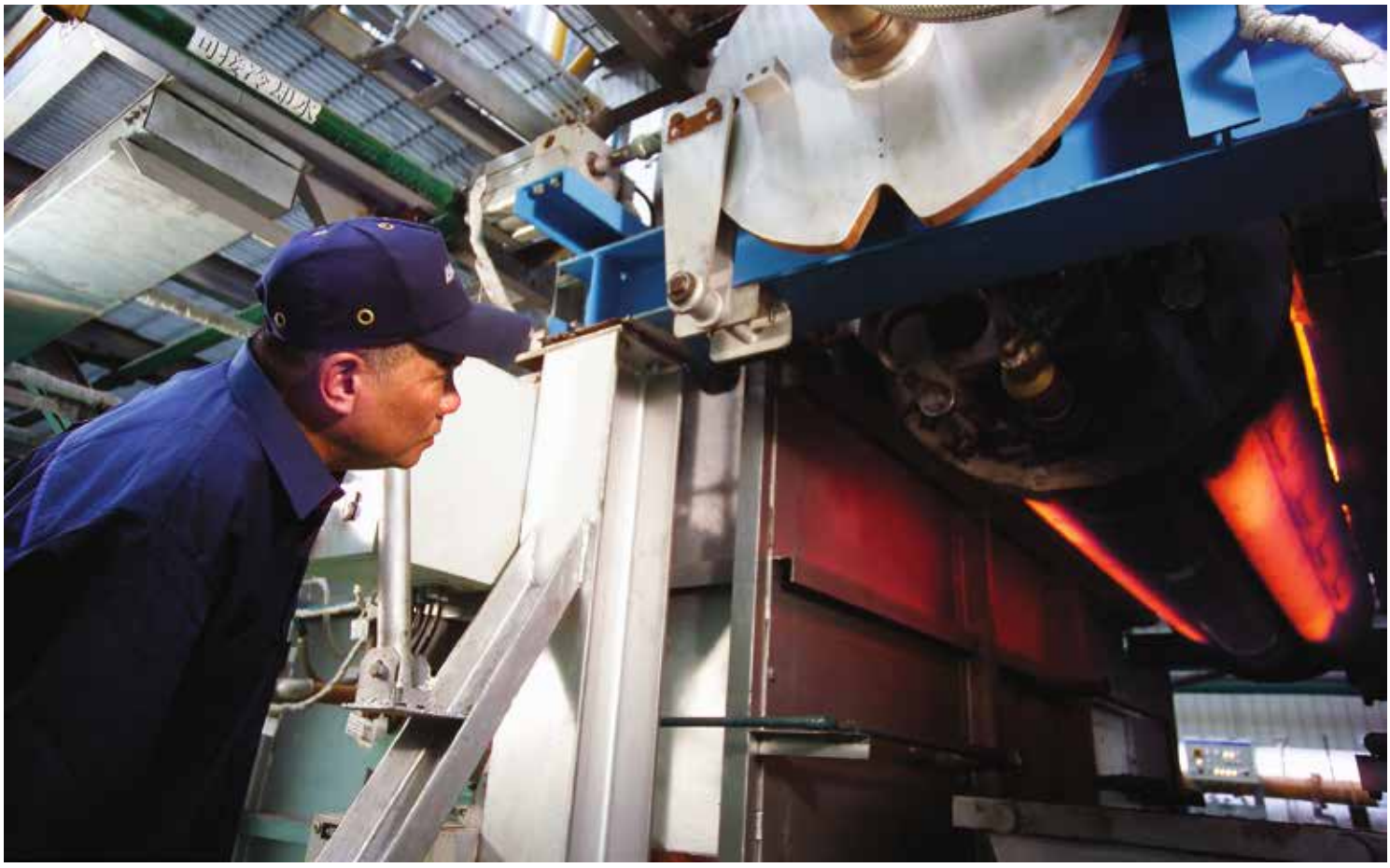
Any heat treating, strip annealing, homogenizing, or component reheating is in our portfolio.

Retrofitting and rebuilding

In retrofitting and rebuilding your existing installation you want to involve an expert. Our project management and engineering teams utilize their qualifications, skills and experiences. Combining our strength in engineering and rebuilding or upgrading your furnace system with our state of the art project management tools, critical path analyzes ensures that projects are completed on time, on budget, and to your specification.

Training, start-up services and consulting

Our training, start-up, and consulting engineers are eager to engage with your plant personnel to ensure better performance of your just installed plant or your existing installation that might require some tuning and improvements of controls to get to the maximum capacity with minimum fuel input.



Melting

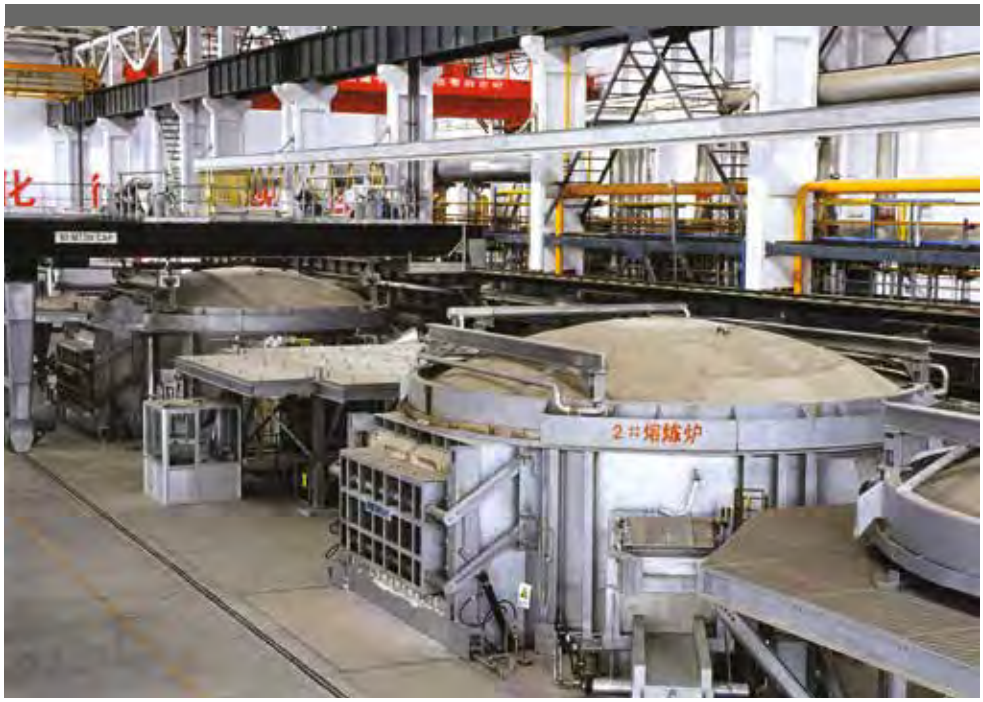
High productivity with minimum fuel consumption

ANDRITZ Bricmont is the world leading supplier for large round top melting and holding furnaces. Round top charge furnaces have significant productivity advantages compared to conventional rectangular units because of the quick and easy method of loading the charge. Round top charge furnaces can be loaded in large batches (25-30 t per charge) in bottom emptying buckets from a standard overhead crane. Each batch takes approximately 6 min. and a typical 100 t capacity furnace can be fully loaded and be ready to melt in less than 20 min.

While the typical range for a round top charge bath capacity is from 50-120 t, ANDRITZ Bricmont can supply capacities as low as 20 t and as large as 140 t.

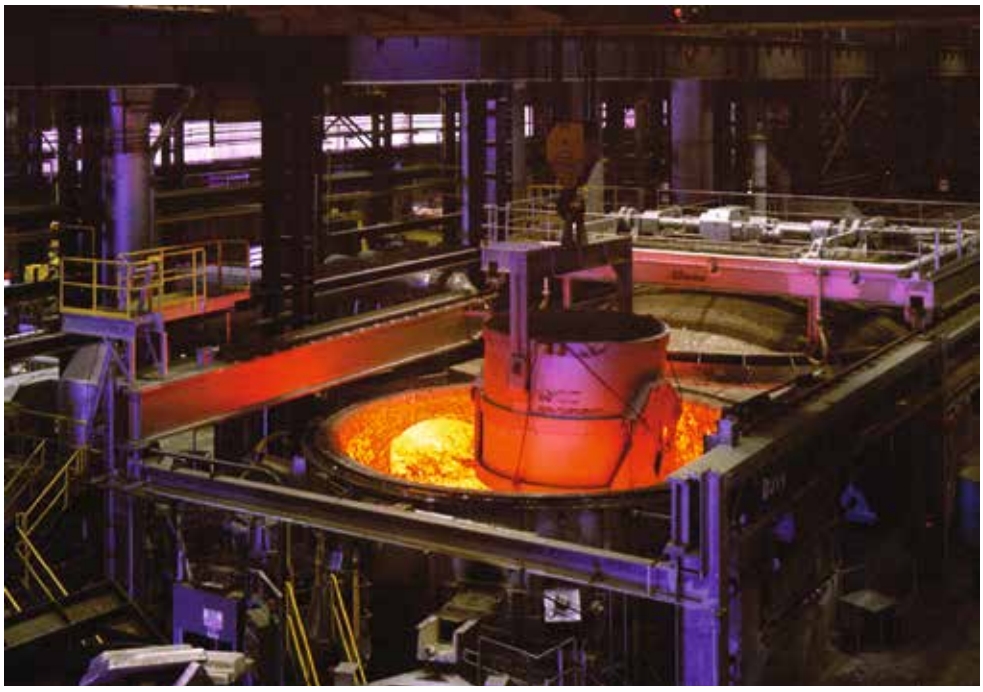
Round, top charge melting furnaces receive a charge from charging buckets and melt it. These furnaces are tapped to transport the molten metal to holding furnaces. A typical installation has one holder for each melter.

All aluminum grades or alloys can be melted using one of our round top furnaces. ANDRITZ Bricmont has completed installations for alloys in the 1000, 3000, 4000, 5000, 6000, 7000 and 8000 series. Our customers deliver aluminum into the automotive, building, food packing, and marine industry to just name a few options. Special designs are offered to the aerospace industry to suit the special demands of 2000 and 7000 series alloys.



▲ Bricmont-Davy-Swindell melting capacity 120 Mt/hr

▼ Charging a round top charge furnace



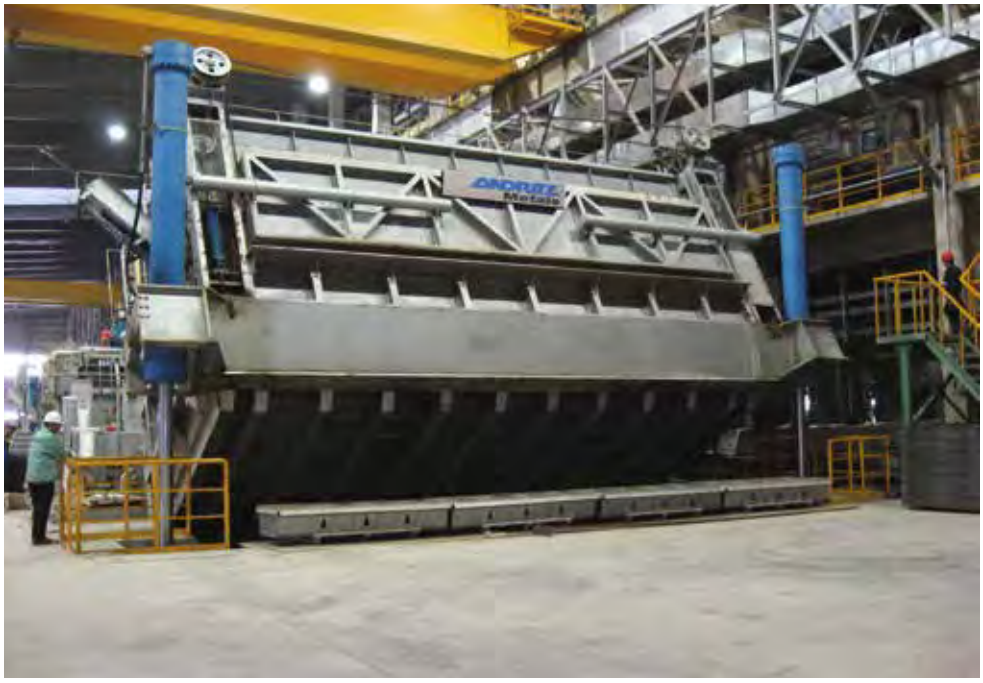
Holding

Very robust construction with tilting designs available up to 140 t molten metal capacity

The essential purpose of the holding furnaces is to accept molten metal from its corresponding melting furnace and to deliver uniformly heated metal to the casting operation.

Metal is delivered to the caster launder system by tilting the holding furnace. ANDRITZ Bricmont utilizes two large hydraulic cylinders around pivot points at the furnace discharge rear wall. The tilt is regulated to maintain the launder level within close limits to ensure consistent flow to the downstream casting operations for a better controlled and uniform casting process.

Maintaining temperature during the casting process ensures the uniformity and quality of your aluminum cast product. Using one of our holding furnaces with adjacent systems will enable you to maintain a uniform casting temperature and be able to provide continuous good quality to your customer.



▲ Typical tilting of a holding furnace to ensure uniform flow to the casting machine

▲ Melter and holder casting cell utilizing 3D design tools help our engineers and your operators to develop, understand and discuss the layout before any soil is broken

Heating with pusher type furnaces

Designs available to efficiently heat wide range of ingot thicknesses

ANDRITZ Bricmont offers a range of furnaces to re-heat or homogenize aluminum ingots prior to hot rolling and then annealing of coils after cold rolling.

Several airflow designs are offered each designed to suit the customer's specific ingot thickness range and market segment. In addition to the normal travers nozzle design optimized for a normal ingot thickness range ANDRITZ Bricmont has special designs available which are capable of heating a very wide range of ingot thicknesses efficiently.

Re-heating and homogenizing is carried out in a step-continuous process for high production volumes.

Tight temperature tolerances of better than ±3° C throughout the load are easily obtained with our airflow systems which use high performance fan units built to very high standards to ensure a long service life. Most fans are plug mounted and come fitted with standard, and therefore easily obtainable electric motors, which are in most cases directly coupled to the fan shaft to further simplify maintenance.

Materials handling systems are of equal importance in pusher type furnace installations. Our handling systems are designed to prevent damage to the ingot rolling surfaces and all handling configurations are custom-designed to suit.

▲ Pusher shoe furnace for heating ingots

▲ Typical shoe return system

Heating with pit and car bottom furnaces

Solution for ultimate production flexibility and ideal for small hatch operation

Pit and car bottom furnaces are used to reheat or homogenize aluminum ingots in relatively small batches and provide the ideal solution where production flexibility is of paramount importance.

These furnaces can be used to re-heat or homogenize ingots and provide a very economical solution for customers' production needs. Both furnace types feature powerful air circulation systems and fuel-fired or electrical resistance heating strategies can be specified.

Our pit furnaces feature elevated hearth structures for optimal airflow past the ingots and unidirectional or reversing airflow patterns can be specified and have been the “traditional” furnace type used for small batch operation with approx. 400 units being supplied.

▲ Soaking pit utilized for large coils or ingots

▲ Car bottom ingot heating furnace

More than 800 installations worldwide

Application / Furnace type	Slab heating	Liquid & Prep	Heat treatment
Pit	400		
Pusher	23		
Car bottom	65		
Melting holding		179	
Pre-heat		6	
Coil annealing			63
Log homo			13
Vertical H.T.			58
TOTAL	**488**	**185**	**134**

Worldwide presence, wherever you need us

ANDRITZ METALS is a specialist for industrial furnace plants and a leading supplier of engineering, know-how, and process technology to the iron and steel, copper, and aluminum industry. ANDRITZ METALS delivers furnace systems for reheating and heat treatment, as well as melting and refining furnaces. Furthermore, we are one of the leading global suppliers for the production and further processing of stainless, carbon steel and nonferrous metal strips. ANDRITZ operates over 220 production sites, service and sales companies all around the world.

CONTACT
ANDRITZ furnace companies

USA
ANDRITZ Metals Inc.
PA 15317-9584 Canonsburg
furnace@andritz.com

GERMANY
ANDRITZ Maerz GmbH
40215 Düsseldorf
welcome-maerz@andritz.com

INDIA
ANDRITZ Technologies Pvt. Ltd.
Bangalore 560 045
atech@andritz.com

ANDRITZ Bricmont
ANDRITZ Technologies Pvt. Ltd.
700105 Kolkata
atech@andritz.com

CHINA
ANDRITZ AG
Beijing, 100004
andritz.cn@andritz.com

ANDRITZ AG
Shanghai, 200021
andritz.shanghai@andritz.com

ANDRITZ AG
Eibesbrunnergasse 20
1121 Vienna, Austria
Phone: +43 50805 0
metals.at@andritz.com

Bricmont.Aluminum.EN.indd