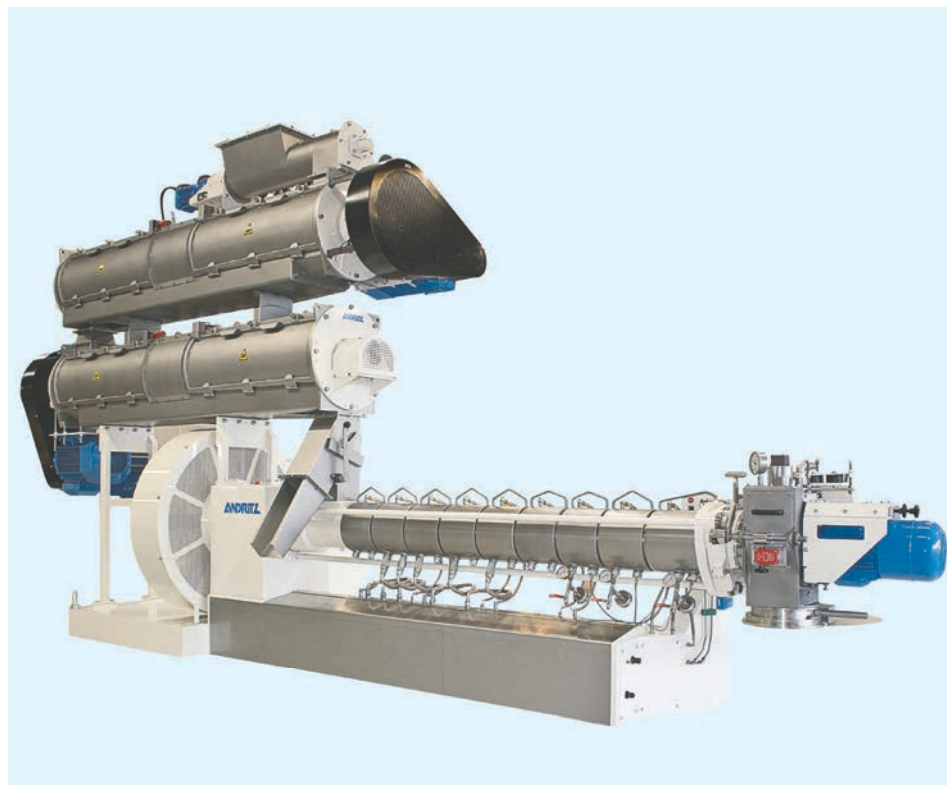


Extruders

Advanced feed production technology



The advanced single-screw extrusion concept



▲ EX 1021 series

ANDRITZ extruders provide the latest technology for production of the most demanding extrudates in the aquatic feed and pet food industries.

Extrusion features

- Starch cooking control
- Bulk density control
- Raw material flexibility
- Nutrient advantages
- Optimal product uniformity
- Unique visual appearance

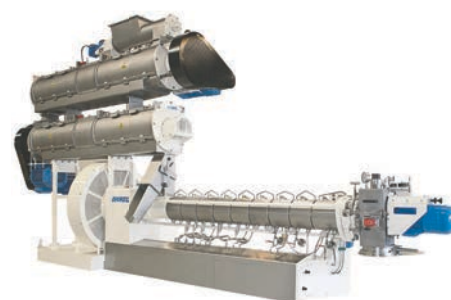
ANDRITZ extruders provide

- Long retention time during conditioning (DUAL Conditioner)
- High-capacity single extruders (EX 0618-0621, EX 1021 and EX1250 series)
- Starch cooking control (Flextex system – patented)
- Density control (ECS system – patented)
- Extrusion Control Management System (ECMS)

Single-screw extrusion concept



▲ EX 0618-0621 series



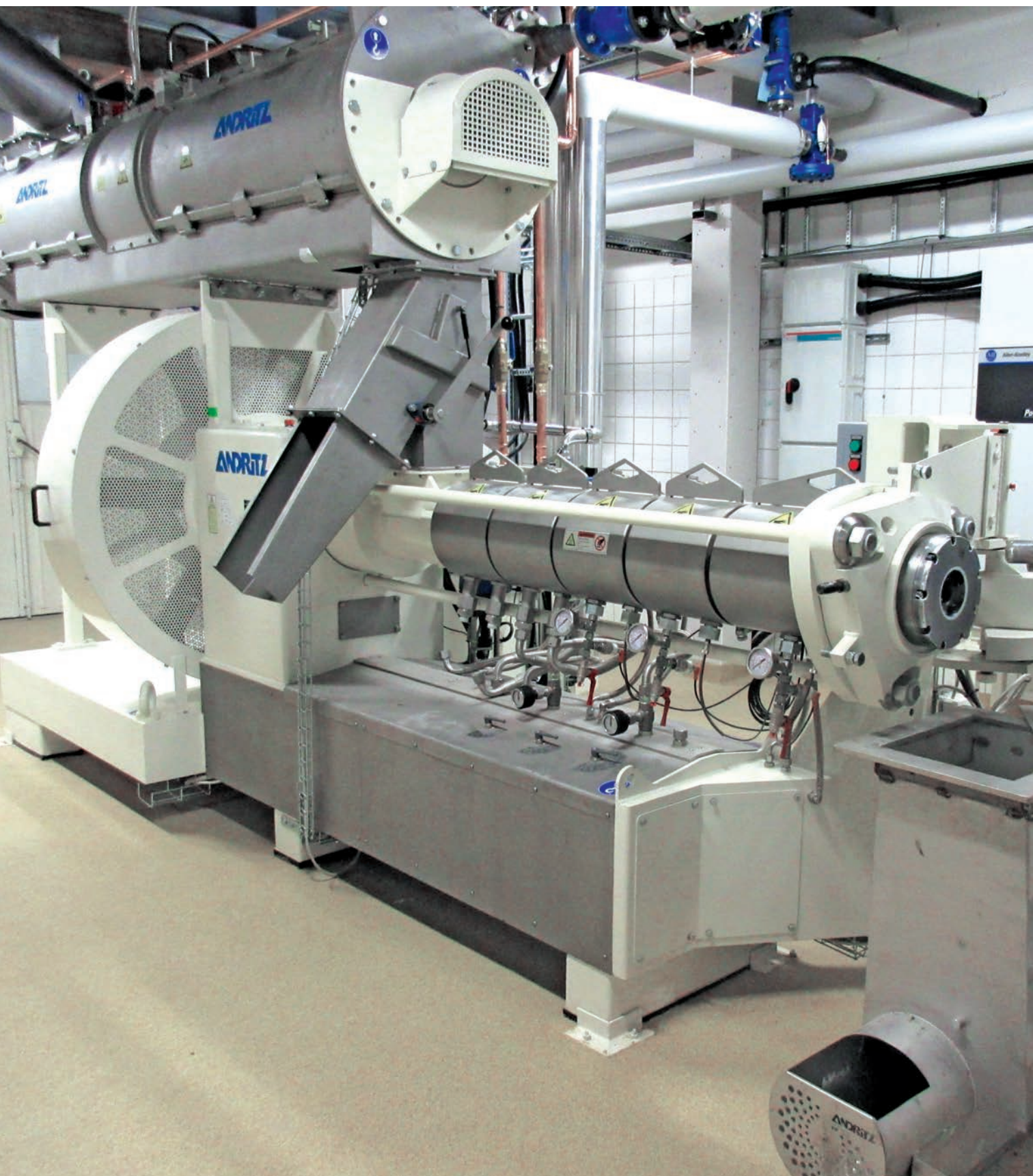
▲ EX 1021 series



▲ EX 1250 series

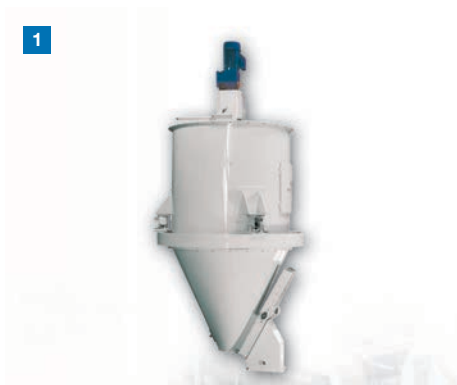
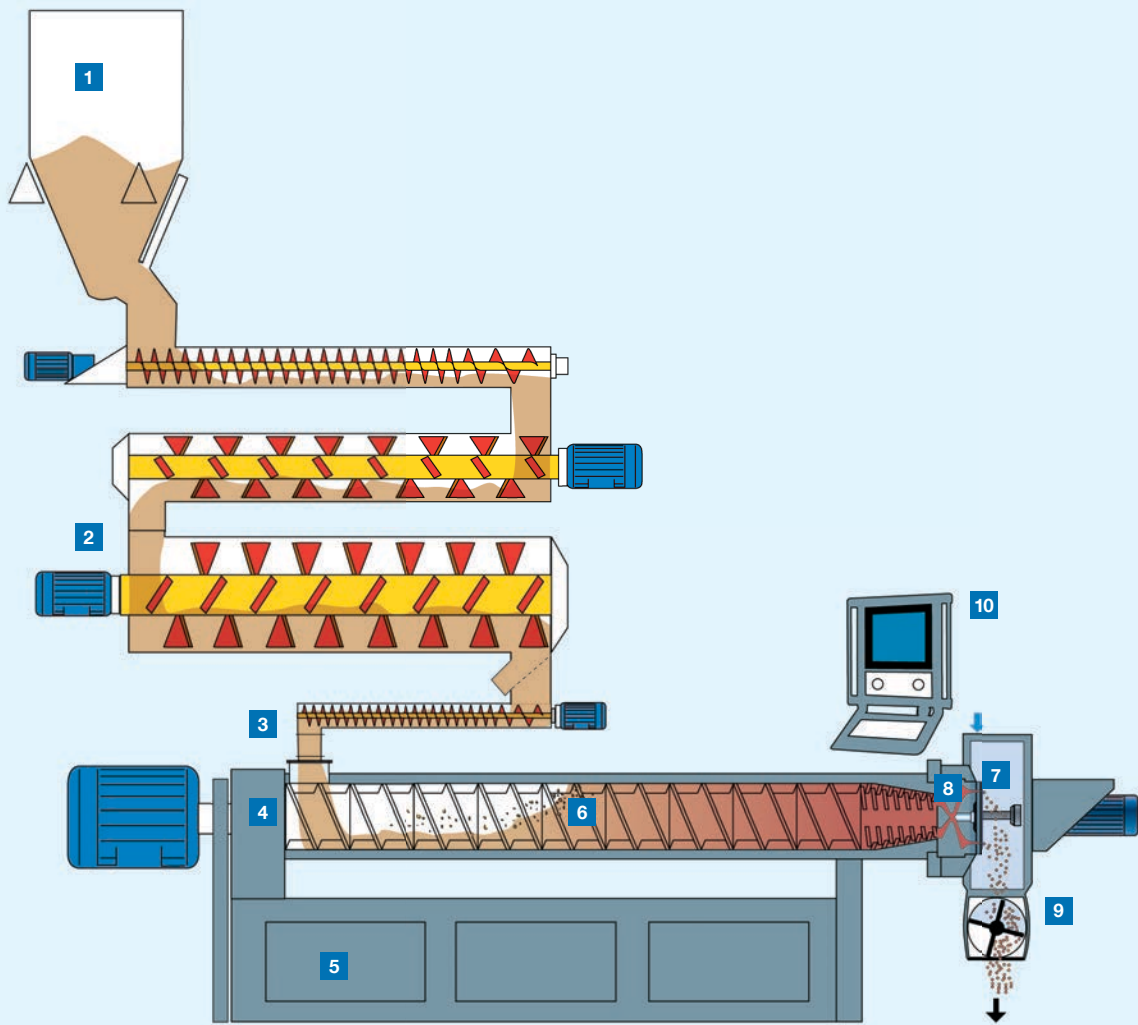
Extruder range

Series	0618-0621		1021	1250
Type	0618	0621	1021	1250
Screw diameter mm	177	210	210	250
Length mm	1670	1670	2670	3063
Motor kW	250	250	315	710
Capacity tph	1-5	2-9	2-12	8-20



Options and accessories

available to meet specific requirements

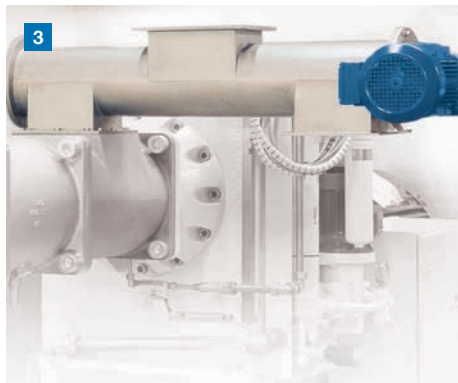


1 Loss in weight system

- Accurate feeding regardless of changes in raw material density
- Accurate metering of additives

2 Pre-conditioning

- Single or dual conditioners
- Up to 400 seconds retention time
- Flexible retention time depending on product requirement



- Constant high mixing efficiency whatever the retention time
- Optimal starch cooking through high mixing efficiency

3 Forced feeder

- Avoids blockage in downspout between conditioner and extruder
- Ensures even flow rate through the extruder

4 Drive

- Gear or belt drive
- High torque design suitable for high SME load

5 Extruder chassis

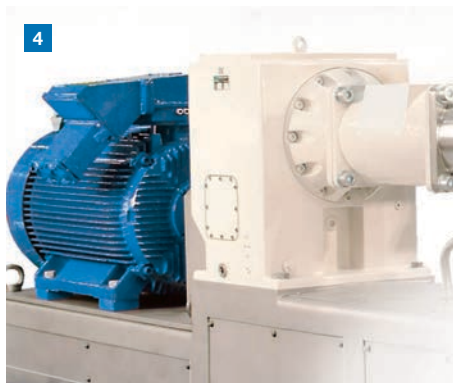
- Integrated steam and liquid system
- All pipes and valves are located in the extruder cabinet to ensure optimal hygiene

6 Segmented screw and barrel

- Modular screw and barrel configuration, which can be tailor-made for each application
- The state-of-the-art screw assembly design allows reconfiguration and maintenance with minimum down time
- Tapped screw and barrel design

7 Knife housing

- Hinged to the extruder, which al-



lows the operator to replace knives during operation

- Replacing die plates and knives takes only a few minutes
- Standard stanley knife blades used

8 FLEXTEX system features

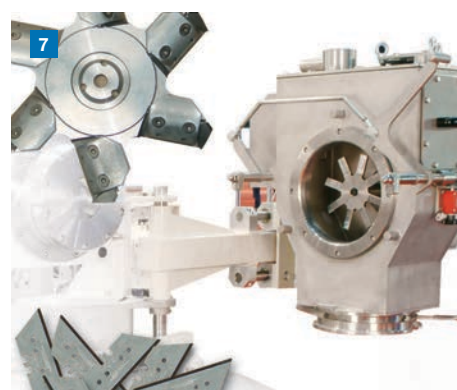
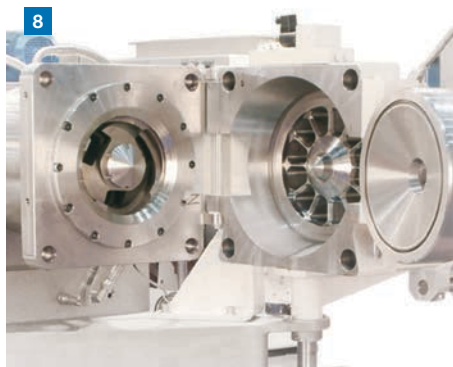
- On-line control of starch cooking
- On-line control of product expansion
- Reduced formulation costs, optimum starch cooking

9 ECS features

- On-line control of product density
- 100% sinking feeds made possible
- Increased extruder output 15 to 50%

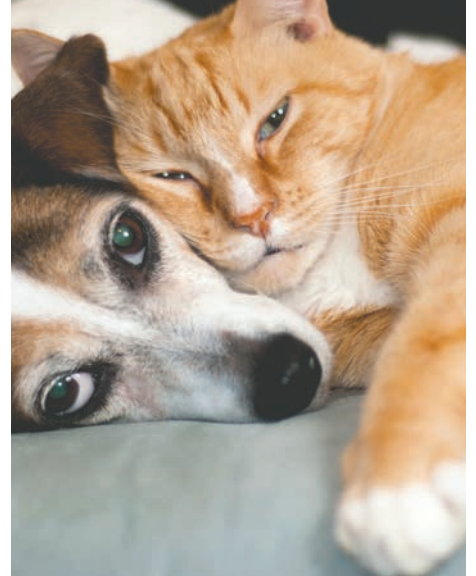
10 Extruder controls

- Full automation
- Full traceability
- Product and process repeatability



State-of-the-art technology

Production of high-quality feed products



ANDRITZ provides unique, patented process concepts to ensure our customers are rewarded with good performance:

ECS

The Expansion Control System ECS controls sinking speed accuracy and efficiency, regardless of formulation, raw material quality, and operator skills.

The ECS expansion control system controls the density of the extrudates externally from the extruder. The product density is controlled whatever process parameters are used in the extrusion process.

Flextex

The Flextex System controls the starch cooking in the extrusion process. The required product density is maintained by means of on-line control of the SME (specific mechanical energy).



High-performance aquatic feed

- Fast sinking
- Slow sinking
- Floating
- Low or high oil content
- Size Ø 0,6 - 40 mm
- High FCR (Feed Conversion Rate)
- Optimal cost efficiency



Fast sinking, slow sinking, and floating aquatic feed.

High-performance pet food

- Controlled density according to bag sizes
- Variety of shapes and sizes
- Optimal crispness and texture
- Even uniformity
- Unique digestibility and palatability



Process control systems

for all key processes in processing lines

Basic function control

Stand-alone control system

- Extruder – ECPS;
Extruder control panel system
- Dryer – DCPS;
Dryer control panel system
- Coater – VCPS;
Coater control panel system

Functions

- Basic functions
- Basic operation of equipment
- Manual settings/readings



▲ Touch control panel system

Extended function control

Client server-based control system

- Extruder – ECMS;
Extruder control management system
- Dryer – DCMS;
Dryer control management system
- Coater – VCMS;
Coater control management system

- Total traceability
- Auto start/stop feature
- Production management
- Database
- Recipe logging
- Remote online support

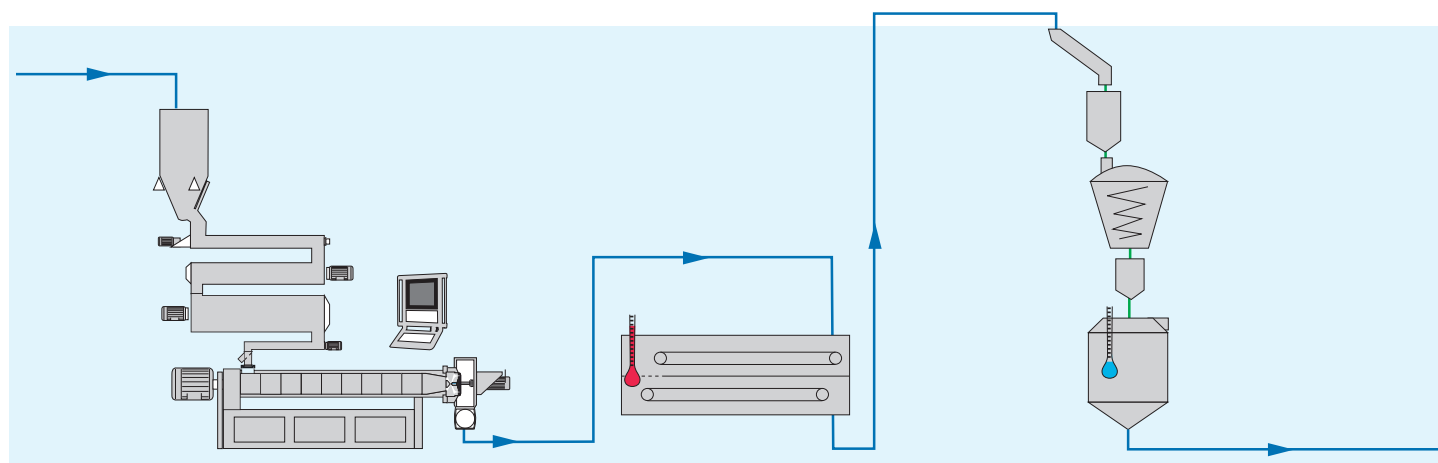


▲ Touch client for field installation
◀ Server installation for control room

Functions

- Extended remote control
- Fully automatic control

ECPS/ECMS	DCPS/DCMS	VCPS/VCMS
Extrusion control	Drying control	Coater control



Process control systems					
Type	Extruder	Dryer	Coater	Touch control panel system	PC remote management system
Basic	ECPS	DCPS	VCPS	x	
Extended	ECMS	DCMS	VCMS	x	x

Where to find us

Global supplier – local presence

ANDRITZ is truly a global organization – but also with local presence. We are represented all over the world. The global market for feed technologies is served from five main locations:

- Esbjerg, Denmark
- Sanshui, Guangdong Province, China
- Geldrop, Netherlands
- Muncy, PA, USA
- Humenné, Slovakia

In addition, we operate from several strategic regional sales, engineering, and service locations in China, Vietnam, India, Australia, Mexico, Venezuela, Brazil, Chile, France, the UK, and Germany – and are also represented locally by agents and distributors in many other markets.



CONTACT

AUSTRALIA

ANDRITZ Feed & Biofuel Australia
Division of ANDRITZ Pty. Ltd.
 Phone: +61 3 8795 9800
andritz-fb.au@andritz.com

BRAZIL

ANDRITZ Feed & Biofuel Brasil Ltda.
 Phone: +55 51 3333 0128
andritz-fb.br@andritz.com

CHILE

ANDRITZ Feed & Biofuel Chile Ltd.
 Phone: +56 2214 5711
andritz-fb.cl@andritz.com

CHINA

ANDRITZ Feed & Biofuel China
 Phone: +86 21 64670285
andritz-fb.cn@andritz.com

FRANCE

ANDRITZ Feed & Biofuel France
Division of ANDRITZ S.A.S.
 Phone: +33 24 75 06 364
andritz-fb.fr@andritz.com

GERMANY

ANDRITZ Feed & Biofuel Germany
Division of ANDRITZ GmbH
 Phone: +49 2104 9197 0
andritz-fb.de@andritz.com

INDIA

ANDRITZ Feed & Biofuel India
Rep. Office of ANDRITZ Feed & Biofuel A/S
 Phone: + 91 87544 15287
andritz-fb.india@andritz.com

MEXICO

ANDRITZ Feed & Biofuel Mexico
Division of ANDRITZ HYDRO S.A. de C.V.
 Phone: +52 229 178 3669
andritz-fb.mx@andritz.com

NETHERLANDS

ANDRITZ Feed & Biofuel B.V.
 Phone: +31 40 2627777
andritz-fb.nl@andritz.com

UK

ANDRITZ Feed & Biofuel Ltd.
 Phone: +44 1482 825119
andritz-fb.uk@andritz.com

USA

ANDRITZ Feed & Biofuel USA
Division of ANDRITZ Inc.
 Phone: +1 570 546 1253
andritz-fb.us@andritz.com

VENEZUELA

ANDRITZ Feed & Biofuel Venezuela
Rep. office of ANDRITZ Feed & Biofuel A/S
 Phone: +58 241 8422515
andritz-fb.ve@andritz.com

VIETNAM

ANDRITZ Feed & Biofuel Vietnam
Rep. office of ANDRITZ Feed & Biofuel A/S
 Phone: +84 8 6253 9434
andritz-fb.vi@andritz.com

ANDRITZ Feed & Biofuel A/S
 Glentevej 5–7
 6705 Esbjerg, Denmark
 Phone: +45 72 160 300
andritz-fb.dk@andritz.com
www.andritz.com/ft