



Mastering Quality and Yield, from Pellet to Preform

ZenQ Gene-3 Auxiliary Systems

KRONCE
科朗斯

ZenQ: The Integrated Auxiliary Solution for Flawless Preform Manufacturing



TOTAL OPTIMIZATION

From systems for **material loading, drying, color masterbatch dosing, and mold dehumidification** to **preform handling**, every stage is **meticulously optimized** to meet the **stringent requirements** of PET preform production. This unique synergy allows us to guarantee:



Low energy costs



High yields



Optimum end-product quality

bringing your facility online and to profitability, **on time and on budget.**

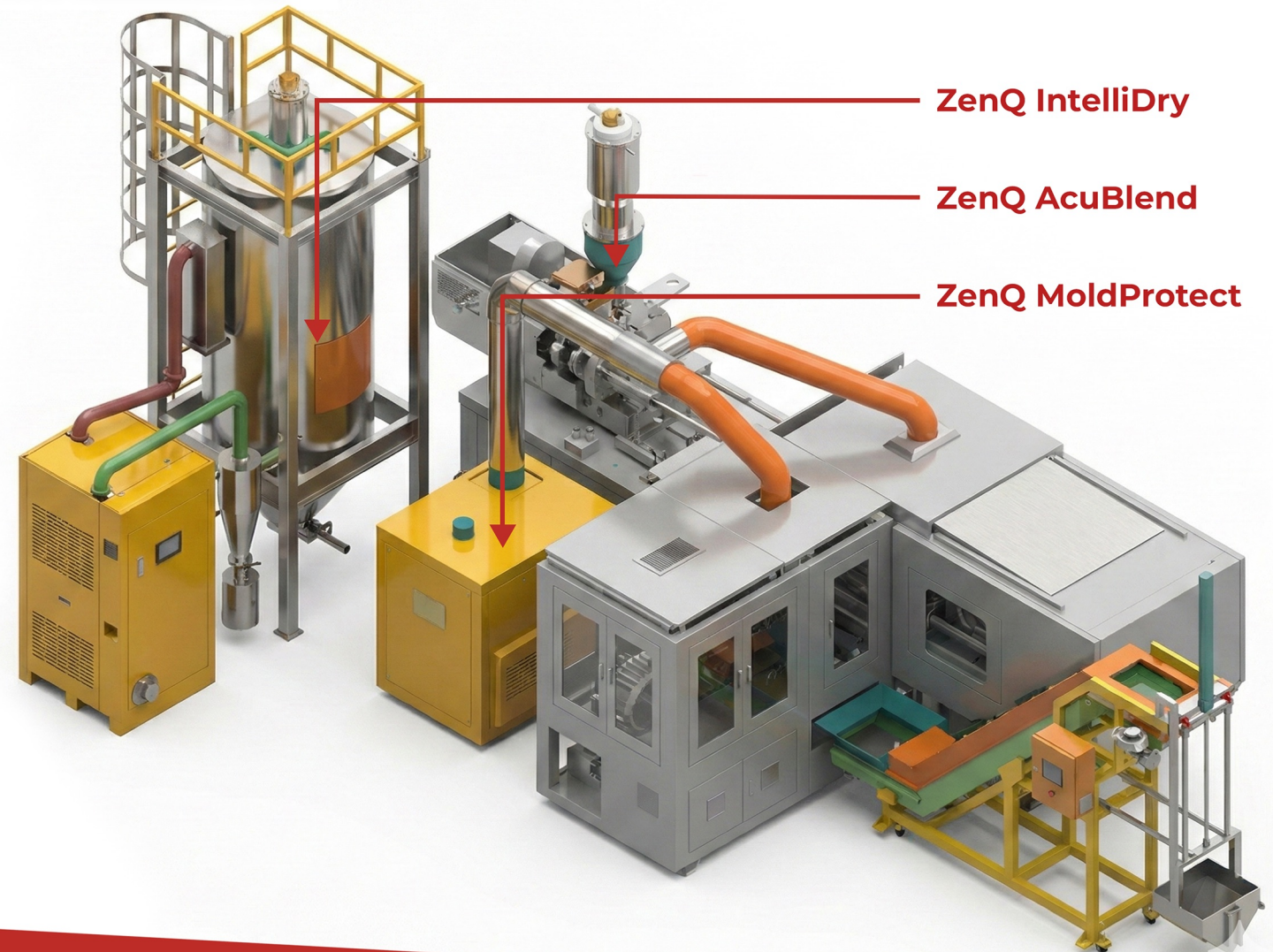
IN THE PET PREFORMS ARENA, KRONCE STANDS ALONE.

The business of producing PET preforms is intensely competitive, driven by the imperatives of quality and productivity. Success demands more than just advanced machinery; it requires a holistic plan for plant functionality and precise, on-time execution.

As a preform molder, you need the highest degree of command over every facet of your process, from material conditioning and energy usage to the final preform quality.

In this challenging arena, **kronce stands alone.**

We are the partner that integrates broad-spectrum equipment know-how, deep organizational capacity, and sophisticated process expertise into a single, proven, systematic approach. Our dedicated international PET team takes **full ownership of your project**, ensuring a successful outcome **from inception to completion.**





ZenQ IntelliDry - Intelligent Dehumidifying Dryer System

THE ORIGIN OF CONSISTENCY | Engineering Dryness into Quality

In **high-speed PET preform production**, the **ultimate dryness** of the raw material is the first and most critical gateway to flawless molding. The **ZenQ IntelliDry system** is engineered specifically for the demanding PET drying process. By delivering stable, low dew point air, it ensures every PET pellet reaches its optimal condition before entering the injection unit, **eliminating moisture-related defects at the source**.

■ Consistent, Low Dew Point Performance

Utilizes a **high-efficiency molecular sieve honeycomb rotor** to supply process air with a **stable dew point below -40°C**. This constant and reliable drying environment ensures PET resin is thoroughly dried, **eliminating hydrolysis risk** and fundamentally **preventing defects** such as **streaking and bubbles** in the final preform.

■ PID Temperature Control & Energy-Saving Design

Adopts a **PID microprocessor temperature control system** to achieve precise temperature control **within ±1°C**, **preventing over-drying or under-drying** caused by temperature fluctuations. The optimized regeneration process and double-layer insulated hopper design effectively reduce heat loss, achieving **superior energy efficiency** while guaranteeing drying performance.

■ Total Material Protection

The drying hopper and all internal contact parts are made of **stainless steel, ensuring material purity**. A unique **"down-blowing" air-duct design** combined with a **cyclone dust collector** effectively **filters out fines**, ensuring the **cleanliness and uniform dryness** of the material fed to the injection machine.

■ Intelligent Control & Operation

Equipped with a **microprocessor control panel** for **intuitive display** and setting of operating and regeneration temperatures. Features a **timer for pre-scheduled startup** and **intelligent fault diagnostics**, providing **comprehensive alarms** (e.g., **material shortage, over-temperature**) to **simplify operation and enhance production management** convenience.

A FLEXIBLE AND VERSATILE SYSTEM

Model	Drying Air Volume (m³/hr)	Drying Dew Point (°C)	Static Pressure (mbar)	Process Temp (°C)	Total Power (kW)	Consump. @30°C (kW)	Hopper (L)	Drying Blower (kW)	Regeneration Blower (kW)	Drying Heater (kW)	Regeneration Heater (kW)
ID300	300	-40	220	60-190	22	6	800	3	0.25	12	6.5
ID400	400	-45	220	60-190	23	7	1200	4	0.25	12	6.5
ID500	500	-50	220	60-190	28	8.5	1500	5.5	0.25	18	6.5
ID600	600	-55	220	60-190	37	12	2000	7.5	0.25	27	6.5
ID800	800	-55	220	60-190	58	14	2500	8.5	0.75	36	12
ID1000	1000	-60	220	60-190	66	17	3000	8.5	0.75	36	12
ID1200	1200	-60	220	60-190	78	20	3500	12.5	2.2	45	18
ID1500	1500	-60	220	60-190	80	22	4000	15	2.2	45	18

ZenQ MoldProtect - Mold Environment Protection System

CYCLE-TIME GUARDIAN I Protecting the Mold, Securing the Speed

Shorter cooling times mean higher productivity. The ZenQ MoldProtect system enables you to confidently use **lower-temperature chilled water** by creating an independent **"micro-climate"** of clean, **low dew-point air** around the mold. This not only eliminates the impact of **"mold sweat"** on product quality but also effectively **protects your expensive precision molds**, helping you unlock the **full potential** of your production cycle.

■ Efficient Dehumidification, Stable Operation

Features a **built-in high-performance honeycomb rotor** that reliably processes incoming air, delivering a **high volume of dry airflow** to the molding area. It **ensures a dry mold environment** even during **high-humidity seasons**, providing the foundation for using **low-temperature cooling water** and **shortening cycle times**.

■ Precise Temperature Control, Preventing Over-cooling

Utilizes a **PID temperature control system** to accurately manage the supply air temperature, ensuring the delivered dry air **does not over-cool the mold**. This detail is **crucial for maintaining mold temperature uniformity** and ensuring the **stable production** of high-quality preforms.

■ Protects Core Assets

By **completely preventing condensation**, the system not only ensures a **pristine preform surface** but also **prevents corrosion** on **precision mold cavities**, hot runners, and machine platens. This **significantly extends the service life** of your **core assets** and **reduces long-term maintenance costs**.

■ User-Friendly Design, Easy Maintenance

The equipment features a **compact design** for **flexible installation** beside the machine, **saving valuable floor space**. It comes standard with an **air filter** that is **easily accessible for replacement**, ensuring **clean air supply**. The entire unit **operates reliably** with **low maintenance requirements**, meeting the demands of modern production lines for **high efficiency** and **minimal labor intervention**.

ENGINEERED FOR OPTIMUM DRYING PERFORMANCE

Model	MP1000	MP1300	MP1800	MP2400	MP3000
Hot Air Flow (m³/h)	1000	1300	1800	2400	3000
Dew Point (°C)	-10	-10	-10	-10	-10
Dry Air Output Temp (°C)	25	25	25	25	25
Pipe Dia. (Main Body) (mm)	150	250	250	250	300
Static Pressure (pa)	260	270	270	270	350
Water Flow (l/h)	1905/3690	2855/5620	4110/8150	5450/10810	7690/15170
Inlet Cooling Water Temp (°C)	7-10	7-10	7-10	7-10	7-10
Cooling Capacity (KW)	19,3/29,3	26/42,1	35,7/59,2	45/76,3	65,9/109,5
Pipe Dia. (Cooling Water) (")	1"F	1 1/4"F	1 1/4"F	1 1/4"F	2"F
Exhaust Air (l/h)	13,8/28,1	18,2/40,7	29,7/62,3	37,4/80,4	55,5/115,5
Fan Power (KW)	0,55	0,75	1,10	1,50	2,20
Compressor Power (KW)	5,9	2,55+4,3	3,57+6,7	3,68+7,6	6,4+8,5
Total Power (KW)	6,68	7,83	11,73	13,17	17,55
Compressor Power (KW)	6,2	2,6+4,4	3,55+6,7	3,81+8,1	6,45+8,4
Total Power (KW)	6,98	7,98	11,71	13,80	17,50
Inlet Air Condition (°C/%U.R.)	32°C-50% ~ 35°C-85%				
Voltage (V/Hz)	400/50 ~ 460/60				
Weight (kg)	310	330	400	420	520



ZenQ AcuBlend - High-Precision Gravimetric Blending System

THE ESSENCE OF PRECISION | Turning Every Milligram into Value

In PET preform production, where **perfect color consistency** and **strict cost control** are paramount, **precise material proportioning** is the cornerstone of quality and profitability. The **ZenQ AcuBlend High-Precision Gravimetric Blending System** is the dosing and mixing hub engineered to meet this exacting demand. Through **advanced load-cell technology** and **sophisticated control algorithms**, it ensures that PET virgin material, regrind, masterbatch, and additives are blended with **unparalleled accuracy**, guaranteeing **flawless product uniformity** from the very start while **eliminating any waste** of expensive colorants.

■ Unrivaled Dosing Accuracy

Utilizes **high-precision, vibration-proof load cells** combined with **advanced auto-calibration** and rapid material sampling algorithms to achieve a **dynamic dosing accuracy of +0.1%** for all material components. This **extreme precision** translates to **stricter cost control** and **absolutely stable product color quality**, completely **eliminating defects** caused by ratio fluctuations.

■ Superior Mixing Homogeneity

A **vertically-oriented mixing chamber**, optimized through **fluid dynamics**, works in concert with a **specially designed mixing paddle** to create a **uniform vortex** in a short time. This ensures all material particles are **thoroughly and homogeneously blended** without dead spots before entering the machine throat, serving as the **key guarantee** for **perfect preform color consistency** free of **streaks or variations**.

■ Designed for Rapid Color Change & Cleaning

Built on a **fully modular design concept**, all components in contact with the material—such as hoppers, dosing valves, and the mixing chamber—can be **disassembled quickly and without tools**. The **smooth, stainless-steel interior walls** minimize material residue, allowing **color changeover and cleaning** to be completed in minutes, dramatically enhancing **production line flexibility** and **operational efficiency**.

■ Intelligent Recipe & Data Management

Equipped with a **10-inch full-color touchscreen** and an **intuitive user interface**, the system supports the **storage and one-touch recall** of up to several hundred recipes. It **continuously monitors and records** material consumption for each batch, generating **detailed production reports**. This provides robust data support for **cost accounting, inventory management, and quality traceability**, seamlessly integrating with the **smart manufacturing framework** of a modern factory.



An Adaptable and Multi-purpose System

Model	AB-12	AB-16	AB-20	AB-30
Mixer Power (kW)	0.09	0.09	0.09	0.09
Screw Ext. Diameter (mm)	12	16	20	30
Output (g/min)	5-166	10-300	50-600	150-1500
Min. Plasticizing Time (s)	1	1	1	1
Masterbatch Output @ 1s (g)	1.0-2	1.5-5	2.0-10	2.5-15
Masterbatch Output @ 2s (g)	1.0-5	1.5-10	2.0-20	2.5-50
Masterbatch Output @ 4s (g)	1.0-10	3.0-20	4.0-40	5.0-100
Masterbatch Output @ 8s (g)	1.3-20	6.0-40	8.0-80	10.0-200
Masterbatch Output @ 16s (g)	1.3-40	12.0-80	16.0-160	20.0-400



ZenQ CryoGuard - Intelligent Air-Cooled Industrial Chiller System

THE SOURCE OF STABILITY | Injecting the Power of Cool into Ultimate Efficiency

In the demanding field of PET preform injection molding, where **every second counts, a stable and powerful cooling capacity** is the lifeline that dictates **cycle time**, product quality, and energy efficiency. The **ZenQ CryoGuard Intelligent Air-Cooled Industrial Chiller System** serves as the reliable **"cooling heart"** of your production line. We refuse to compromise, delivering consistently stable chilled water through standards that **exceed the industry**

Global Adaptability by Design

Every **CryoGuard system** can be **deeply customized** to perfectly adapt to your facility's **specific local climate**, including extreme temperatures, humidity, altitude variations, and different industrial power supply conditions. We **guarantee optimal performance** in any environment.

Engineered Reliability Beyond Standards

We pledge a **design margin of at least 10%**. Whether in heat exchange surface area, structural volume, or overall weight, the **CryoGuard significantly surpasses industry conventions**. We never cut corners, ensuring our cooling capacity **meets or exceeds 100% of the stated value**, providing you with the most **robust and dependable performance guarantee**. Its **high-strength steel frame** is optimized for long-distance sea and land transport, ensuring durability.

Premium Core Components

For the heart of the system—the **compressor**—we exclusively use world-leading brands: **BITZER** for screw models and **DANFOSS** for scroll models. All critical refrigeration and electrical components are also sourced from **premier brands** like **DANFOSS and Schneider**, guaranteeing **unparalleled energy efficiency** and an **exceptionally long service life** from the ground up.

Smart, Connected Control

Equipped as standard with a **Siemens S7-200 SMART PLC** core and a **10-inch high-definition touchscreen**, the interface is **intuitive and user-friendly**. The built-in **Wi-Fi module** not only facilitates on-site management but also enables **cross-border remote commissioning and diagnostic services**, bringing our expert support to you with **zero distance**.

Optimized Hydraulic Module

The integrated water tank features a **special custom design**. Through **CFD (Computational Fluid Dynamics)** analysis, we have optimized the **internal flow paths** and distribution of cold/hot water, effectively **preventing thermal "short-circuiting."** This ensures a **more uniform and stable outlet water temperature**, providing the **most ideal working conditions for your mold**.



Technical Specifications of Air-Cooled Chiller

Parameter	LS-30F	LS-40F	LS-50F	LS-60F	LS-70F	LS-80F	LS-90F	LS-100F
Nominal Specification	30HP	40HP	50HP	60HP	70HP	80HP	90HP	100HP
Model	LS-30F	LS-40F	LS-50F	LS-60F	LS-70F	LS-80F	LS-90F	LS-100F
Compressor Nominal Power (KW)	30	40	50	60	70	80	90	100
Compressor Input Power (KW)	24.64	33.63	41.12	52.5	59.3	68.2	78.8	91.2
Cooling Capacity (KW)	78.86	105.62	132.4	158.4	179.3	208	243	276
Refrigerant Charge (kg)	30	40	50	60	70	80	90	100
Evaporator Water Inlet/Outlet	DN50	DN50	DN50	DN65	DN65	DN65	DN80	DN80
Evaporator Water Flow (T/h)	13.6	18.2	22.8	27.2	30.8	35.8	41.8	47.5
Fan Power (KW)	3	4.5	5.6	6	7.2	8	9	11.2
Chiller Approx. Weight (T)	1.4	1.55	1.8	2.1	2.4	2.75	3	3.4
Chiller Operating Weight (T)	1.5	1.7	1.95	2.3	2.6	3	3.25	3.65
Water Tank Volume (m³)	1.5	2	2	2	2.5	2.5	3	3
Quantity of Water Pumps (pcs)	3	3	3	3	3	3	3	3

General Technical Specifications

Parameter	Description
Refrigerant	Eco-friendly; R407C, R410A, or R134A are selected based on region and climate.
Evaporator Material	Stainless Steel Plate-fin Type
Air-cooled Condenser Material	Tube-fin type, copper tubes with aluminum fins
Equipment Noise dB(A)	<70
Equipment Control	PLC + Touch Screen + WiFi; supports international remote debugging and diagnosis; automatically adjusts to maintain a relatively constant outlet water temperature.
Protection Functions	Reverse protection, phase loss protection, overcurrent protection, high/low pressure protection, low temperature protection, water flow protection.
Delivery Form	Single integrated skid or two separate skids: one for the chiller, and one for the water pump and tank.

Basic Operating Conditions

Parameter	Requirement
Cooling Method	Ambient Air Cooling
Location	Outdoor
Voltage	3/380V/50HZ
Altitude	≤1000m
Ambient Temperature	≤35°C
Inlet/Outlet Water Temp.	15°C / 10°C





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