



FIRST COMPRESSOR
MANUFACTURER IN THE
WORLD ACCREDITED

ISO 50001
ENERGY MANAGEMENT



WATER-OIL SEPARATOR

METALPLAN



METALPLAN IS NUMBER ONE IN ENERGY EFFICIENCY

As the absolute leader in screw compressors up to 25 hp in Brazil, Metalplan is the world's first* compressor manufacturer accredited in ISO 50001 - Energy Management, demonstrating its commitment to energy efficiency, the foundation for sustainability and competitiveness of companies.

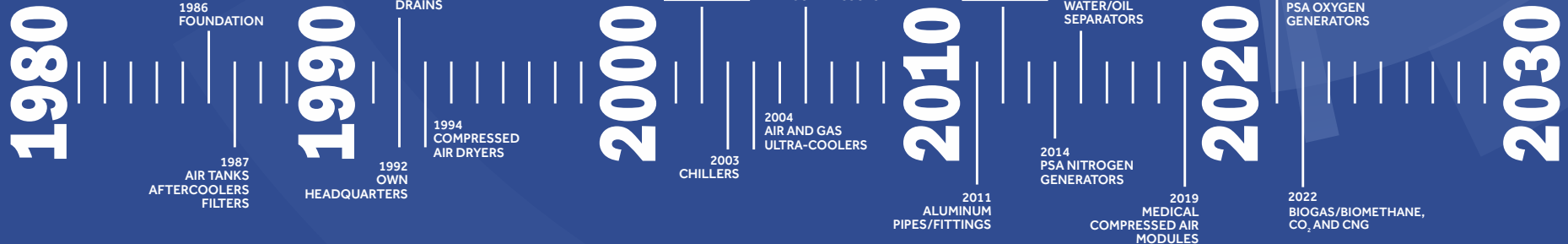
Founded in 1986, Metalplan has a production area of 6.000 m², developing innovative equipment with a high level of nationalization, exporting to over 20 countries.

Its network of authorized distributors and service centers includes over 300 highly specialized companies with extensive geographic coverage, capable of servicing over 100.000 operating equipment.

In recent years, Metalplan has been expanding its horizons to disruptive technologies in gases and renewable energies, such as on-site generation and compression of nitrogen, oxygen, biogas, biomethane, CO₂ and CNG.



*in the compressed air, gases and industrial refrigeration segment.





BR FOODS CHOSE METALPLAN

BRF FOODS has adopted the Aqua+ condensate treatment system at its facilities, ensuring proper environmental protection for the disposal of liquid waste from its air compressors.



AQUA+

WATER-OIL SEPARATOR

ISO
14001



preserves the
environment

compatible
with
synthetic
lubricants



CONDENSATE TREATMENT

COMPRESSED AIR IN HARMONY WITH NATURE

Metalplan's Aqua+ Separators are compatible with compressed air condensate generated by any type of lubricated compressor. Its innovative design eliminates the need for gravity pre-separation and level adjustment, required in conventional separators to prevent overflow.

Aqua+ strictly follows CETESB regulations (Art.18 and 19A) and meets the requirements of CONAMA 430 and **Brazilian Association of Technical Standards 14.605**. Due to its guaranteed tightness, there is no possibility of soil contamination by the separated oil, allowing your company's compressed air system to balance with the environment at a very low cost.

MAXIMUM PERFORMANCE

Contamination control by the Aqua+ water/oil separator is essential in **disposing of condensate with any hydrocarbon content**, whether in the compressor room or in the compressed air distribution network. Improper handling of this waste can lead to serious environmental problems. In addition, **fines and penalties** are imposed on **companies that fail to comply with environmental protection legislation**.

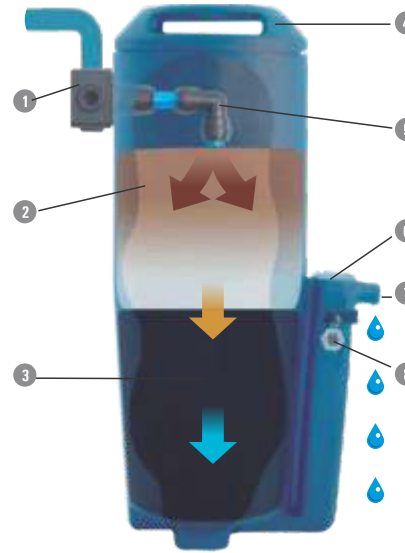
Simple and quick installation and maintenance



ADVANTAGES OF AQUA+

- Filtration purity with low carbon content
- 100% performance with synthetic lubricants
- High performance (<5 ppm)
- Filters with a lifespan of up to 4000 hours
- Does not overflow
- High reliability and resistance
- Simple installation
- Quick, clean, and low-frequency maintenance

OPERATION



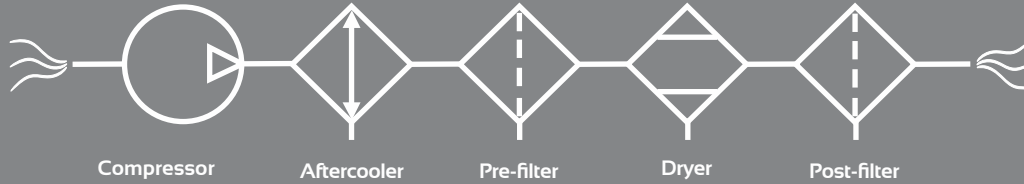
- 1 Condensate inlet:** flexible, allows up to 4 connections.
- 2 Pre-filter:** designed to withstand large amounts of oil, responsible for depressurizing the condensate through resilient permeable layers, retaining all solids before the post-filter.
- 3 Post-filter:** designed for maximum condensate purity, achieving an excellent level of quality before disposal (<5ppm).
- 4 Access cover:** large-sized, facilitates and speeds up maintenance.
- 5 Discharge piping:** super-resistant, conducts the condensate until it is completely depressurized.
- 6 Housing:** resistant, stable, corrosion-free, and leak-proof.
- 7 Condensate outlet:** allows easy connection to the sewer or rainwater system, according to current legislation.
- 8 Test sight glass:** checks condensate purity and any maintenance needs.

Separator Water/Oil	Flow rate		Connections		Dimensions (mm)			Weight
	pcm	m ³ /h	In	Out	length	height	width	kg
Aqua+ 120	120	204	4 x 1/2" BSP	20mm	257	500	345	2,7
Aqua+ 500	500	850	4 x 1/2" BSP	20mm	345	785	285	8,4
Aqua+ 900	900	1530	4 x 1/2" BSP	20mm	495	989	432	14,7

COMPRESSED AIR FUNDAMENTALS



ISO 8573 STANDARD INSTALLATION



Compressor

Aftercooler

Pre-filter

Dryer

Post-filter

CONTAMINANTS & QUALITY CLASSES

class	SOLID PARTICLES maximum number of particles per m ³ (d = particle size)			class	WATER moisture dew point (°C)	class	OIL - total concentration (liquid/aerosol/vapor) (mg/m ³)
	0,1µm < d ≤ 0,5µm	0,5µm < d ≤ 1µm	1µm < d ≤ 5µm				
0	CLASS ZERO - as specified by the user or equipment supplier and stricter than Class 1						
1	≤ 20.000	≤ 400	≤ 10	1	-70	1	≤ 0,01
2	≤ 400.000	≤ 6.000	≤ 100	2	-40	2	≤ 0,1
3	-	≤ 90.000	≤ 1.000	3	-20	3	≤ 1
4	-	-	≤ 10.000	4	+3	4	≤ 5
5	-	-	≤ 100.000	5	+7	5	-
	Mass concentration - C _p (mg/m ³)	6	+10	6	-		
		Liquid Water C _w g/m ³)					
6	0 < C _p ≤ 5	7	C _w ≤ 0,5	7	-		
7	5 < C _p ≤ 10	8	0,5 < C _w ≤ 5	8	-		
8	-	9	5 < C _w ≤ 10	9	-		
9	-	X	C _w > 10	X	> 5		
X	C _p > 10						

ISO 8573 COMPRESSED AIR FOR GENERAL USE

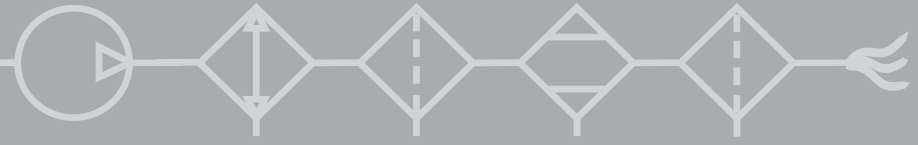
ISO 8573 is the international reference for compressed air systems, focusing on contamination levels.

The standard has various quality classes that serve multiple applications in industry and services, excluding human breathing and medicinal use.

Published in 1991, it was translated by Metalplan in 1992, positioning Brazil at the forefront of its utilization.

Its 3rd edition is from 2010, when Class Zero was introduced, with purity levels stricter than those found in Class One.

COMPRESSED AIR FUNDAMENTALS



ISO 8573 TYPICAL SYSTEMS	quality class	APPLICATIONS
	[1:6:1] ²	Dry air, with dew point between 5°C and 15°C. Ideal for low flows and protection of valves, cylinders, pneumatic tools, automation, blasting, painting, etc.
	[1:6:1] ² [1:6:0] ²	Activated carbon filter eliminates odors, with residual oil of 0.003 mg/m ³ , suitable for dental clinics and similar applications, except for human breathing.
	[1:4:1]	This is the most used treatment system in the industry. Its level of protection meets various sectors such as automotive, plastic, textile, paper, mechanical, metallurgical, etc.
	[1:4:0]	Quality similar to the previous system, with odor elimination and lower residual oil (0.003 mg/m ³), important in N ₂ and O ₂ generation and in the food, chemical, pharmaceutical industries, etc.
	[1:4:0]	Quality similar to the two previous systems, in terms of "water" and "solid particles". Meets Class Zero for the "oil" contaminant with total safety.
	[1:2:1] [1:1:1]	Prevents vapor absorption when air comes into direct contact with hygroscopic materials (cement, resins, powdered or freeze-dried foods and pharmaceuticals). Prevents freezing when air is subjected to negative temperatures. Applied in the generation of gases of very high purity.
	[1:2:1] [1:1:1]	Low dew point and maximum particle retention are essential in the manufacture of optical fibers, chips, critical instrumentation, steelmaking, nuclear reactors, etc.
	[1:2:0] [1:1:0]	Quality similar to the two previous systems, in terms of "water" and "solid particles". Meets Class Zero for the "oil" contaminant with total safety.

1 Energy Plus and Titan Plus dryers have integrated pre and post-filters
2 only if the compressed air inlet temperature is < 25°C

Install an AQUA + condensate treatment system.

MARKS OF OUR HISTORY





AFTER-SALE SERVICES



96% OF CUSTOMERS FULLY SATISFIED

In an Annual ISO 9001 Audited Survey, we achieved a 96% customer satisfaction rate for Technical Assistance. This percentage corresponds to the evaluations above 7 (seven), on a scale of 0 (zero) to 10 (ten).

This success is due to over 70 authorized workshops and 200 accredited technicians throughout American continent, supported by an exclusive partnership with National Service for Industrial Training for mechanic training, making our After-Sales Service the most acclaimed in the market.



Typical facade

COMPREHENSIVE INVENTORY OF ORIGINAL PARTS



MAXIMUM EFFICIENCY IN AFTER-SALES SERVICE



70 WORKSHOPS CERTIFIED

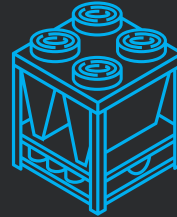
200 SPECIALIZED TECHNICIANS

OUR SOLUTIONS



COMPRESSED AIR

- COMPRESSORS
- DRYERS AND FILTERS
- RESERVATÓRIOS
- PIPES & FITTINGS
- 100% ALUMINUM
- NITROGEN GENERATORS AND OXYGEN



INDUSTRIAL REFRIGERATION

- WATER CHILLERS
- ULTRA AIR AND GAS COOLERS (-35°C)
- THERMOCHILLERS
- DRY COOLERS
- PUMPING



BIOGAS & CNG

- COMPRESSORS FOR BIOGAS, BIOMETHANE AND CNG
- BOOSTERS
- CHILLERS
- DISPENSERS

e-line

ROTARY SCREW COMPRESSORS



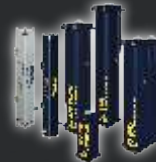
4 to 25 hp

REFRIGERATION DRYERS



20 to 250 pcm

ABSORPTION DRYERS



6 to 32 pcm

COALESCING FILTERS



25 to 300 pcm

AUTOMATIC DRAIN VALVES



electronic & magnetic

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