



BURAN CSS

Oil Free reciprocating compressor

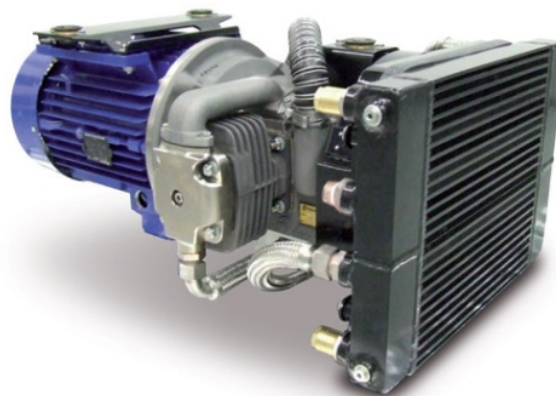
LOW WEIGHT, LOW NOISE, HIGH RESILIENCE TO EXTREME MAINTENANCE-FREE COMPRESSOR

The Buran product family features a full suite of references covering all passenger trains

Daily compressor oil checks, and oil and filter replacing/recycling have been the operator's burden for decades making oil-free technology a must. The Buran oil-free piston compressor is Wabtec's answer for a greener, cleaner air generation system for all transit trains.

The Buran compressor family is totally maintenance-free: 12,000 hours / 8 years MTBO, with no maintenance or intervention between two overhauls. This drastically cuts maintenance costs over the year, while adding world class reliability.

The latest generation of Buran technology (CSS) has reached a high level of maturity, benefiting from the foundation of thousands of compressors sold around the globe, and performing in various climate and operation conditions.



KEY CUSTOMER BENEFITS

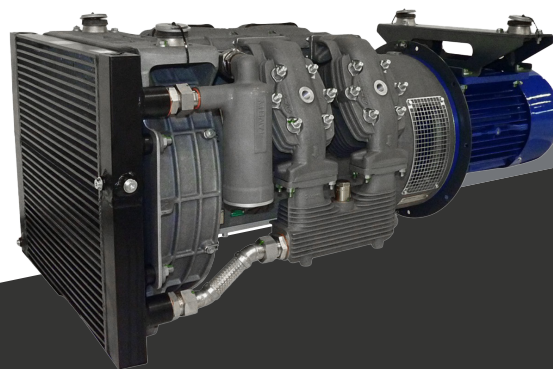
Capable of withstanding extreme conditions (temperature, low duty cycle), across worldwide applications.

Capable of operating at very low temperatures (-50°C).

Greatly reduced maintenance cost; no maintenance between overhauls, very simple design, easy maintenance.

Clean air, free from oil : No environmental pollution, no dryer desiccant contamination. No longer need to store & recycle condensates on board trains.

Multiple installation possible (underframe, roof, inside).



THE BURAN RANGE

	50Hz	60Hz
Buran 5 4 poles, 121 kg	560	670
Buran 8 4 poles, 123 kg	830	990
Buran 10 4 poles, 205 kg	1300	1600
Buran 20 4 poles, 240 kg	1580	1900
Buran 22 4 poles, 280 kg	2000	2400

2400 liters/minute

PRODUCT SPECIFICATIONS

Fully mature and capable technology to cope with harsh environmental and complex operational conditions

Recommended duty cycle: 5% - 70%*
(*higher DC up to 100% is allowed to address any air consumption peak)

MTBO: 12,000 pumping hours, no maintenance operation between two overhauls

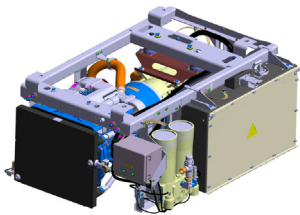
Air outlet temperature: Ambient +5°C

Operating temperature: -50°C / + 60°C

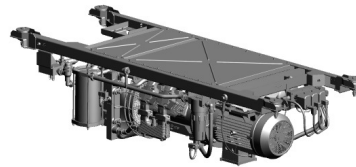
Relative humidity: 0%-99%

Shocks & Vibration: Category 1 Class B – EN 61373

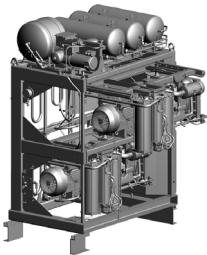
Design for low noise



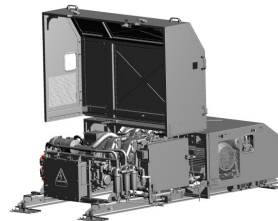
Buran 10
Under frame mounting
with inverter for metro



Buran 8
Under frame
mounting for metro



Buran 20
Inside cabinet mounting
for locomotive



Buran 20
Roof mounting for
regional train

CONTACT

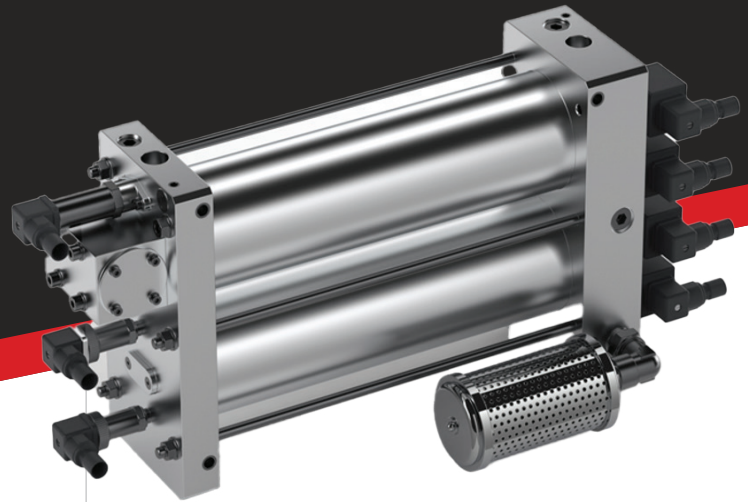
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WABTECCORP.COM



MISTRAL EVO

Lowest air dryer LCC on the market



Mistral Evo is Wabtec latest generation of air dryer for all market segments, and all type of applications.

Mistral Evo air dryer range features 3 different sizes S, M & L, upon air quality requested and air flow. It is made of two towers containing innovative desiccant material, two inlet and outlet plates, fitted with control valves, sensors & transducers, and a silencer. It also features an electronic controller & wiring harness to connect the dryer to AGTU or vehicle interface.

Mistral EVO features innovative desiccant material which requires replacement every 16 years (once in 30 years train life). The air dryer MTBO has been extended up to 16 years to align with Buran CSS reciprocating oil free compressor (one Mistral Evo overhaul every other compressor overhaul).

Mistral EVO can be offered either with simple electronic controller performing the drying tower operation control and basic health / diagnostic conditions, or with advanced controller with Ethernet communication capability. The latest coupled with CBM sensors can provide full conditions status (pressure drop, dew point, air temperature).

KEY CUSTOMER BENEFITS

16 years desiccant life (one replacement at train mid-life)

16 years air dryer MTBO

Full range coverage, up to 2600 l/min

Air quality up to x-2-x per ISO 8573-1 or x-2-x per ISO 4975

Flexible installation, vertical or horizontal
CBM ready

KEY FEATURES

Operating conditions: -40°C up to +50°C, optional +55°C

Altitude class EN 50125-1:
AX: X = 2000 m

IP 65

Boost mode available (regeneration flow temporarily inhibited)

Electronic controller as per EN 50155

Low voltage 24, 72 or 110V per EN 50155,

Shock & vibration as per EN61373 cat 1B

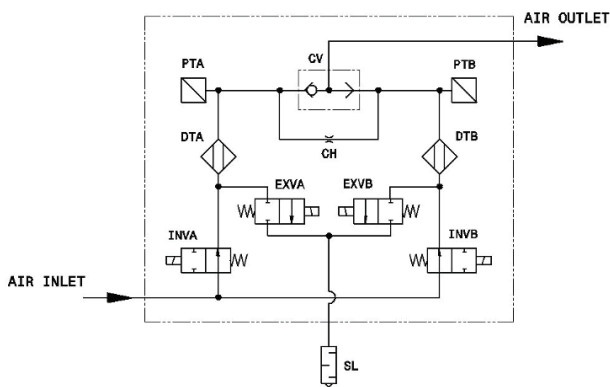
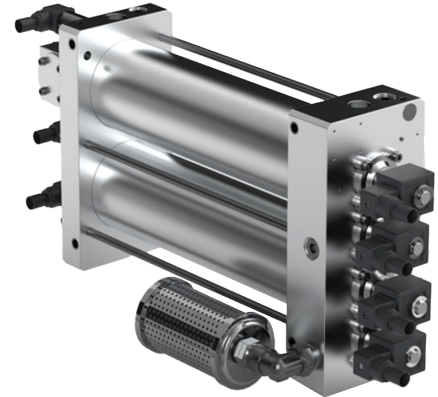
Fire & smoke compliant with EN45545 (level HL3)

Compliant with 2014/68/EU Directive regulation.

Air quality & FAD as per table below:

AIR QUALITY & FREE AIR DELIVERY

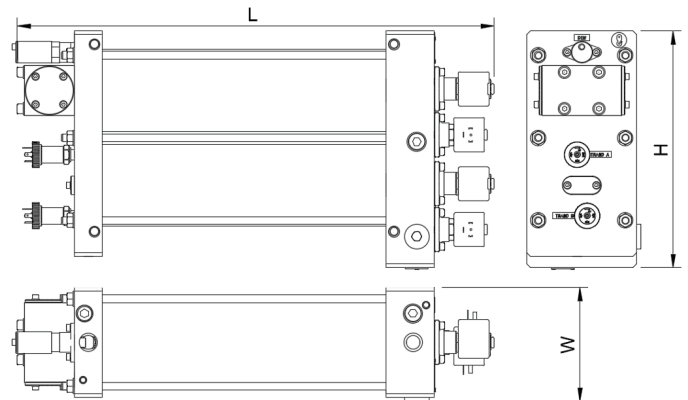
SIZE	AIR QUALITY CLASS [ACCORDING WITH ISO8573-1]	SUGGESTED AIR FLOW TREATED [L/MIN]
S	2	250-900
S	3	250-1125
M	2	850-2025
M	3	850-2300
L	2	2000-2600
L	3	2000-2600



FT	LEGEND
INVA	INLET VALVE TOWER "A"
INVB	INLET VALVE TOWER "B"
EXVA	EXHAUST VALVE TOWER "A"
EXVB	EXHAUST VALVE TOWER "B"
SL	EXHAUST SILENCER
DTA	DRYER TOWER "A"
DTB	DRYER TOWER "B"
PTA	PRESSURE TRANSDUCER TOWER "A"
PTB	PRESSURE TRANSDUCER TOWER "B"
CO	CALIBRATED ORIFICE
CV	CHECK VALVE

DIMENSIONS & WEIGHT

SIZE	L [mm]	W [mm]	H [mm]	H [kg]
S	627	150	310	23
M	827	150	310	27
L	863	150	310	34



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AGTU INVERTER

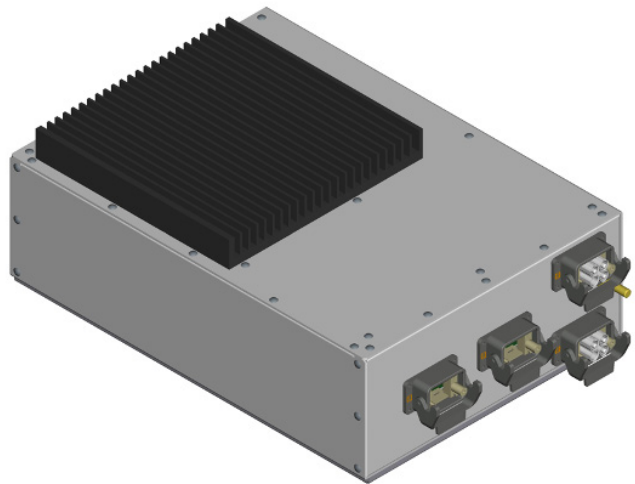
Optimize compressor operation, simplify systems

Dedicated inverter for Air generation & treatment to optimize compressor operation, provide advance monitoring, and simplify system.

The Wabtec inverter for compressor is driving the compressor, from train 400 VAC line. Optionally a DC regulated high voltage can be used, from 600 up to 850 VDC.

Several operating mode are determined: Initial filling, nominal & silent modes. The inverter adjusts its output frequency for each of the operating modes. It also features the capability to use 110 VDC battery voltage to fill-up pantograph pneumatic circuit, enabling pantograph lift.

The inverter can ensure air dryer control, reducing system complexity. The inverter also provide CBM capability, with compressor monitoring. The inverter communicates with TCMS through Ethernet, it features latest cybersecurity standards.



KEY CUSTOMER BENEFITS

Optimal compressor operation, including reduced noise

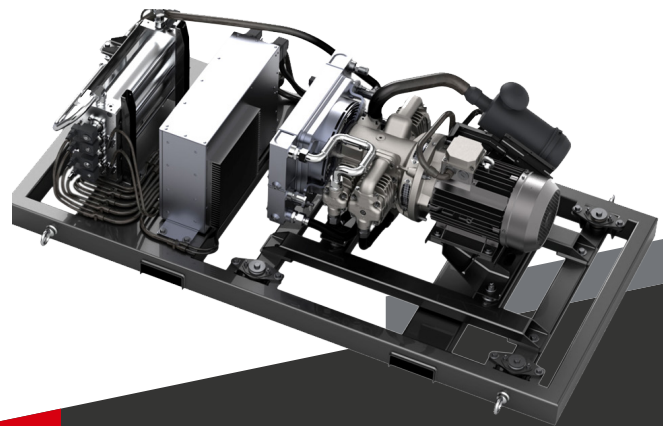
System simplification (pantograph compressor elimination, air dryer control)

MTBF > 100,000 hours

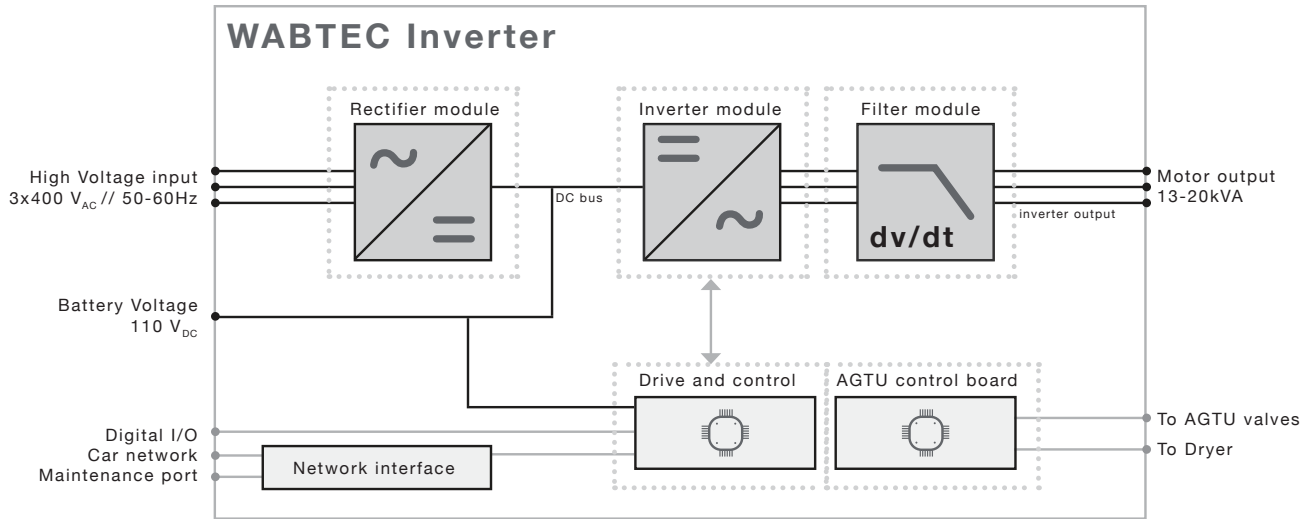
MTBO \geq 16 years (capacitors replacement)

Reduced space envelop

CBM ready



WABTEC Inverter



KEY FEATURES

Electric:

High voltage input range:

Base: 3*400VAC / 50 Hz or 60 Hz

Optional: From 600 up to 850 VDC

Low voltage input range: 110 VDC, as per EN 50155

Nominal output voltage: 3-phases up to 480V;
15,7 Hz / 27,5 Hz / 50 Hz / 60 Hz, upon operation mode

Rated power: from 13 to 20 kVA

Efficiency: > 95%

Electric:

Initial filling: 120%

Nominal: 100%

Silent: 50%

Panto: 31%

Mechanics & environment

Operating temperature: from -25°C to 60°C

Cooling: Free air

Weight: ~50 kg, upon options & rated power

Enclosure: Stainless steel, IP 65

General

MTBF > 100 000 hours

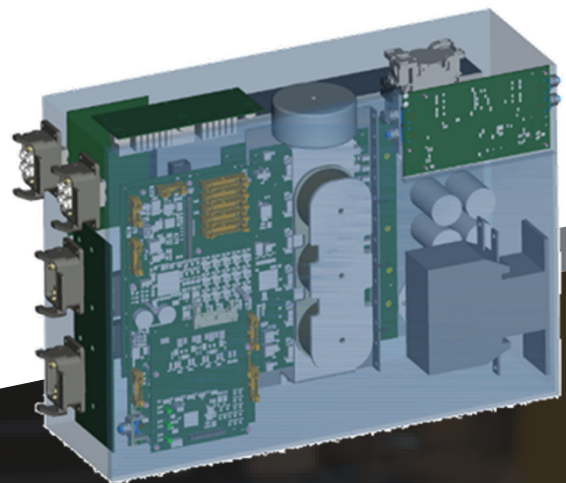
Applicable standards: EN / IEC

Cybersecurity standard: IEC 62443 / EN 50159

EMC EN 50121-3-2

Communication network: Ethernet (TRDP / CIP)

Maintenance / diagnostic through webserver



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