



jeremias[®]
CHIMNEY SYSTEMS

INDUSTRIAL FREESTANDING CHIMNEYS

Design, Engineering and Production of freestanding chimneys and exhaust systems for the industrial sector

www.jeremias-group.com



More than 40 years Manufacturing and innovation

JEREMIAS, is an industrial group with its headquarters based in Germany with over **40 years of experience** in design, production and development of solutions for the exhaust of gases. Jeremias is the technology leading manufacturer of factory-made exhaust systems, industrial stacks and freestanding chimneys

From the very beginning the **industrial group Jeremias** has steadily grown being today a global player with its presence in more than **60 countries** and with **8 production plants** around the world (Europe and North America), with more than 1200 staff members.

The Jeremias Group offers technical support during all the different project stages; providing system design, back pressure calculations, fire rating, the required material specifications and installation drawings in various formats including BIM REVIT.



Sales Network in
60 countries



More than 100.000
references



8 production
plants



More than 1200
staff members

Our professional **Team**

is committed to help you in your daily work with a customer service department always at your service.



www.jeremias-group.com
industrial@jeremias-group.com

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Industrial Engineering

In addition to the wide range of factory-made stainless-steel modular chimney and exhaust systems, Jeremias presents "**Jeremias Industrial division**", an exclusive department focused on providing engineering solutions for the exhaust at industrial facilities.

Jeremias Industrial division offers sizing calculations, 3D and 2D design, manufacturing and installation of freestanding chimneys steel stacks and windshields for all types of industrial exhaust installations.

Jeremias Industrial division is the ideal engineering partner for the industry offering a comprehensive service by highly qualified professionals in the field of smoke and gas exhaust, having all the necessary software tools to provide the expected technical support in industrial projects.

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Steel Structures

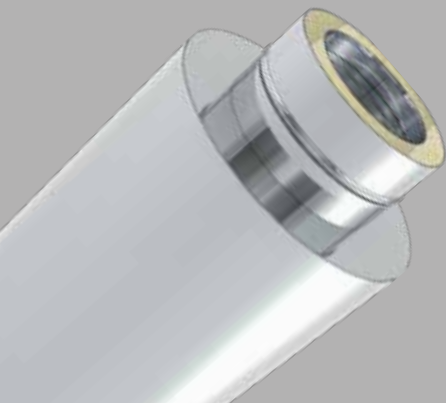


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**References
Certification, Quality and Standards**



INDUSTRIAL FREESTANDING CHIMNEYS



SERIE FSA

Double wall insulated inner pipe and load bearing external stack "Windshield"

Application

Combined cycles, cogeneration, boilers, Gen sets, chemical extractions, Biomass

Anchoring system:

Base flange or anchoring cage

Bearing element:

Outer tube

Exhaust pipe

AISI 304 / AISI 316

Insulation

A1 - Rock wool
A2- Mineral wool
30, 50, or 100 mm thickness

Internal back ventilation

along the complete system

External stack

S235 / S275 / S355 / AISI 304

Inner pipe number

1

Finishing

RAL painted
different cladding options
stainless steel bright
annealed / mat /
galvanised steel



SERIE FSA-X

X- Double wall insulated inner pipes and load bearing external stack "Windshield"

Application

Combined cycles, cogeneration, boilers, Gen sets, chemical extractions, Biomass ...

Anchoring system:

Base flange and/or anchoring cage

Bearing element:

Outer tube

Exhaust pipe

AISI 304 / AISI 316

Insulation

A1 - Rock wool
A2- Mineral wool
30, 50, or 100 mm thickness

Internal back ventilation

along the complete system

External stack

S235 / S275 / S355 / AISI 304

Inner pipe number

≥ 2

Finishing

RAL painted
different cladding options
stainless steel bright
annealed / mat /
galvanised steel

JEREMIAS INDUSTRIAL DIVISION



Service

Study of the specific requirements
 Site survey including access restrictions
 Calculation of diameters, thicknesses, materials.
 Feasibility study & cost estimation. Continuous communication with the client.
 Quote follow up



Calculations

Static calculation.
 Report of loads at critical points.
 Resonance frequency calculation.
 Seismic calculations.



Design 2D/3D

Transport drawings / design
 Anchor cage drawing
 list of materials required
 Production drawings.



Production

Longitudinal welding - Laser cut, - plasma.
 Bending machines, large diameters, special pieces.



Logistic

Transport organization.
 Crane and installation
 project coordination



Installation

Site surveys.
 Qualified installation teams,
 Supervision. and commissioning,
 Tracking deadlines



SERIE FSB

Double wall insulated chimney stack with internal load bearing pipe "Freestanding Chimney"

Applications
 Big boilers, chemical extract, industrial ovens...

Anchoring system:
 Base flange or anchoring cage

bearing element
 inner pipe

Exhaust pipe
 AISI 304 / AISI 316
 S235 / S355 / S275

Insulation
 A1 - Rock wool
 A2- Mineral wool
 30, 50, or 100 mm thickness

External pipe
 Cladding AISI 304 or AISI 316, aluminium galvanised steel

inner liner number
 1

Finishing
 RAL painted
 different cladding
 options stainless steel
 bright annealed /
 mat / galvanised steel



SERIE FSC

Stainless steel single wall ventilation tower

Applications
 Air exhaust / intake
 Ventilation and air conditioning

Anchoring system:
 Base flange

load bearing element Single wall duct

Exhaust pipe
 AISI 304 / AISI 316

Finishing
 RAL painted
 stainless steel bright annealed / mat /

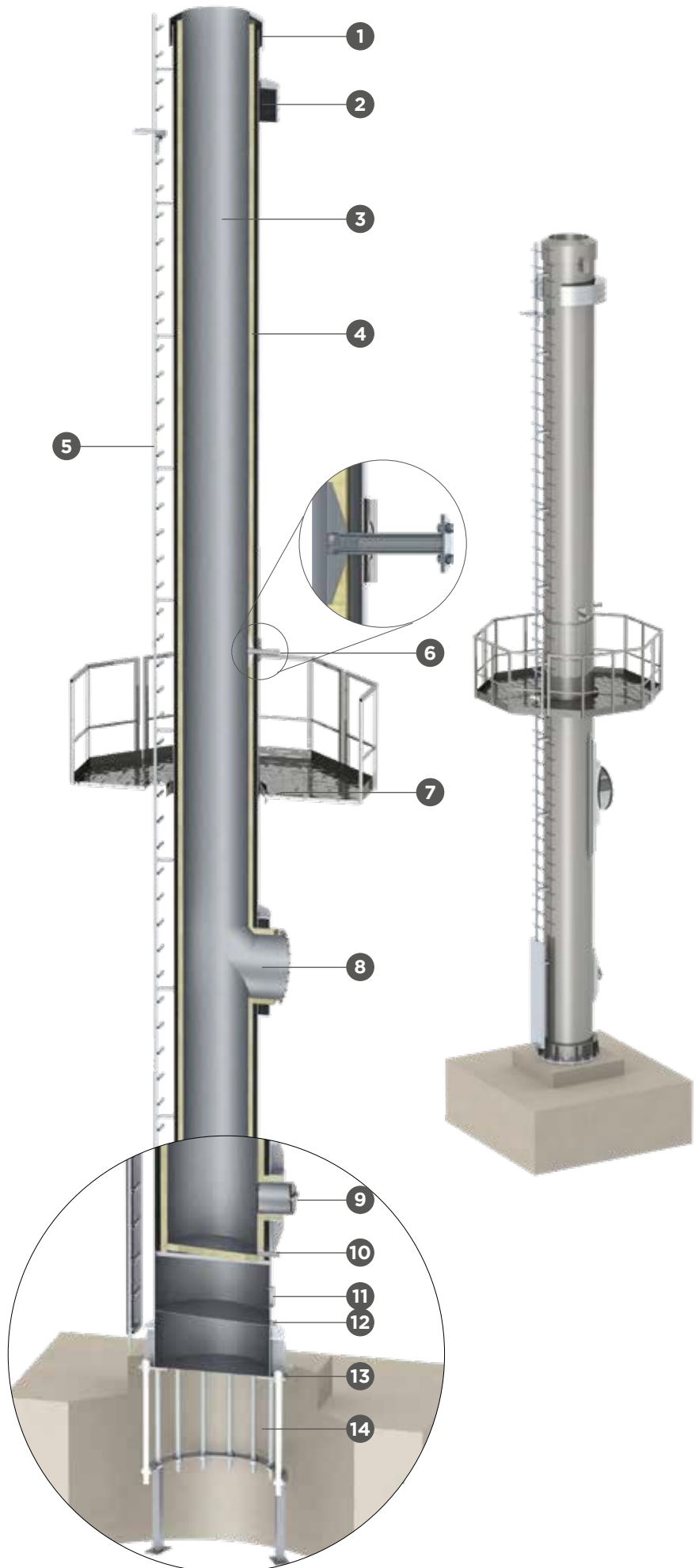


SERIE FSA

Freestanding Industrial chimney with double wall insulated inner liner and load bearing external stack "Windshield"

The inner gap between the insulated inner pipe and the outer stack guarantees a constant back ventilation along the system, avoiding the outer pipe reach the structural temperature limits

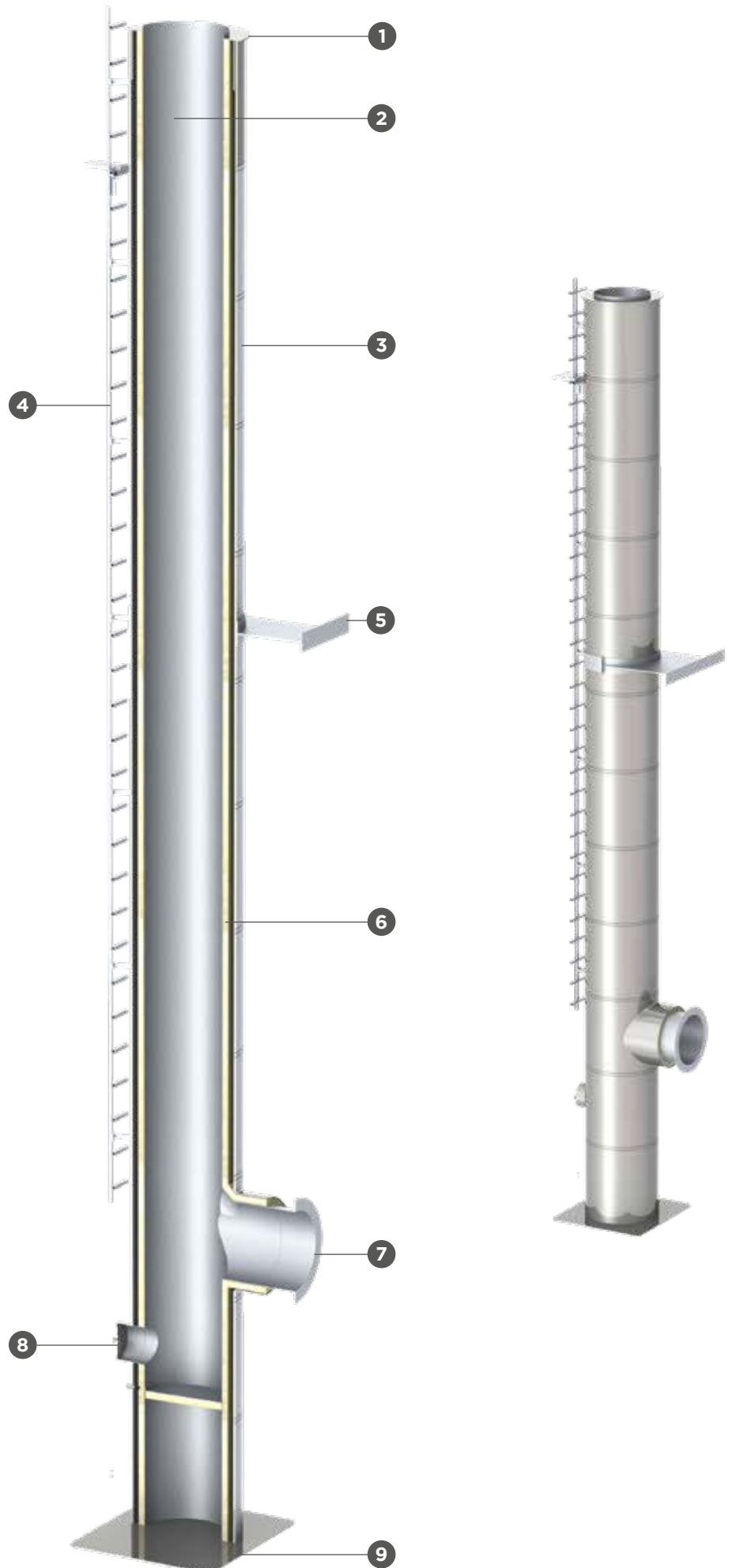
- 1 Terminal**
Allows back ventilation along the complete system
- 2 Vibration damper**
Reduces the impact of oscillations, guaranteeing the stability of the chimney.
- 3 Exhaust inner liner**
Material: AISI 316, AISI 304.
Thickness: 1.5 - 2 - 3 mm.
- 4 Insulation**
High density rockwool with galvanized wire.
Thickness: 30 to 100 mm, depending on the temperature.
- 5 Ladder**
Single rail ladder / safety cage ladder with intermediate platforms.
- 6 Sampling points**
Allows the connection of measuring equipment for maintenance requirements
- 7 Platform**
In angle from 135° to 360°. width from 800 to 2500 mm. Manufactured in steel S235JR galvanised, other material options available
- 8 T-Branch**
Flanged connection or connection to Jeremias modular systems
- 9 Clean out opening**
access for inspection and maintenance. Ø250, Ø600 mm, different door options
- 10 Inner pipe drain**
Sloped base plate to allow removal of inside condensates
- 11 Back ventilation**
Ventilation grill to allow a continuous inside air flow from base till top.
- 12 Outer pipe drain**
- 13 Base flange**
with reinforcements
- 14 Anchor cage**



SERIE FSB

Double wall insulated chimney stack
with internal load bearing pipe
"Freestanding Chimney"

- 1 Open Terminal**
- 2 Exhaust inner liner**
Material: AISI 316, AISI 304, S235, S275, S355
- 3 External cladding**
Material: AISI 316, AISI 304, Aluminium, other options
Thickness: 0.8 - 1.5 - 2 mm.
- 4 Ladder**
Single rail ladder / safety cage ladder with intermediate platforms.
- 5 Wall support/bracket (optional)**
Helps reducing the total loads and the thickness of the structural tube and foundation.
- 6 Insulation**
High density rockwool with galvanized wire.
Thickness: 30 to 100 mm, depending on the temperature.
- 7 T-Branch**
Flanged connection or connection to Jeremias modular systems
- 8 Clean - out opening**
Access for inspection and maintenance. Ø250, Ø600 mm,
- 9 Base flange**

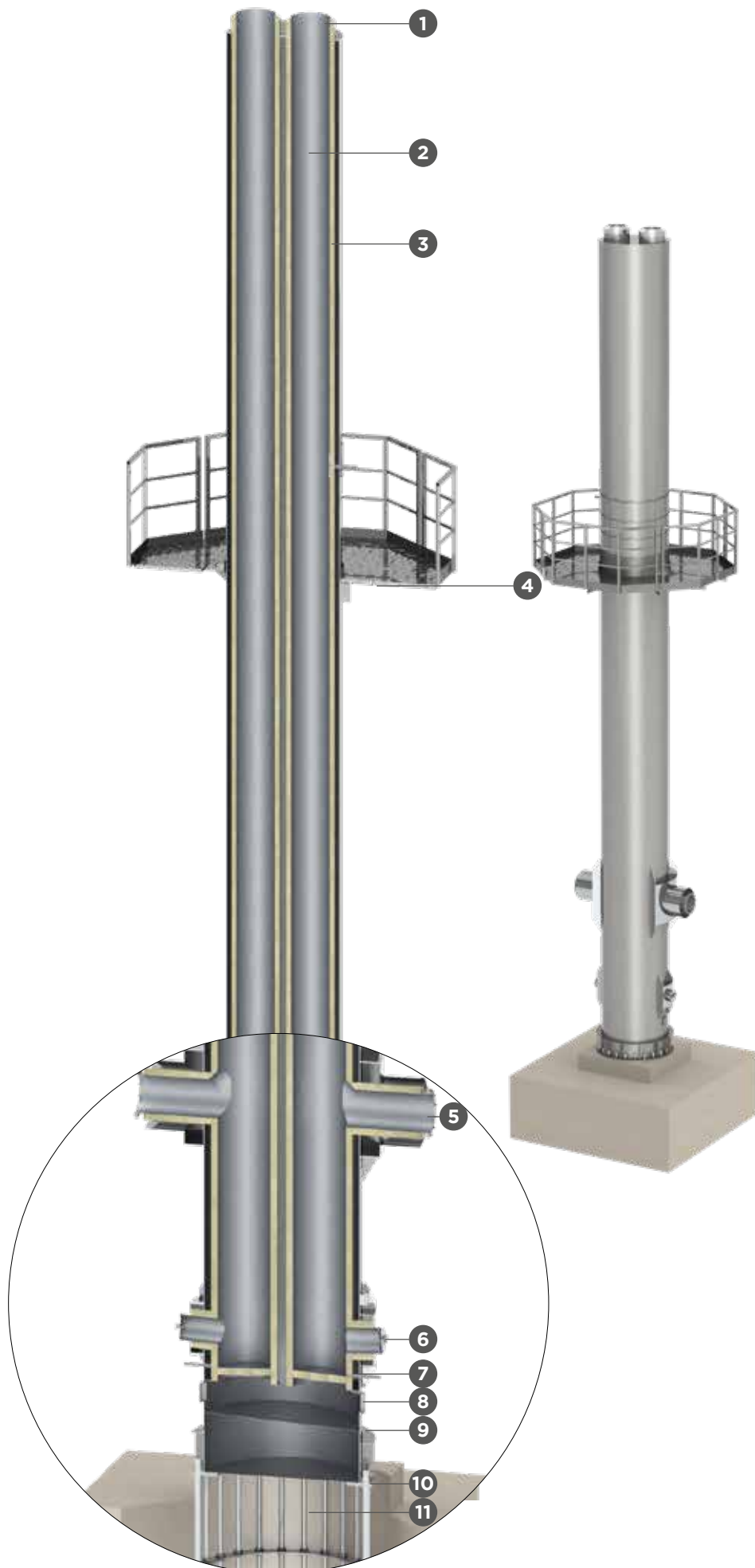


SERIE FSA-X

Freestanding Industrial chimney with multiple double wall insulated inner liners and load bearing external stack "Windshield"

The inner gap between the insulated inner pipe and the outer stack guarantees a constant back ventilation along the system, avoiding the outer pipe reach the structural temperature limits

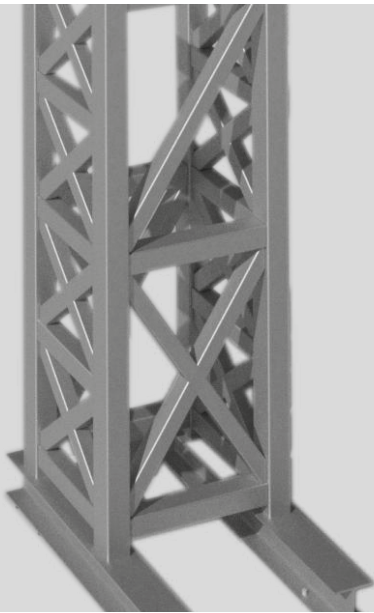
- 1 Terminal**
Allows back ventilation along the complete system
- 2 Exhaust inner liners**
Material: AISI 316, AISI 304, S235, S355
Thickness: 1.5, 2.3 mm.
- 3 Insulation**
High density rockwool with galvanized wire.
Thickness: 30 to 100 mm, depending on the temperature.
- 4 Platform**
in angle from 135° to 360°.
width from 800 to 2500 mm.
Manufactured in steel S235JR galvanised, other options available
- 5 T-Branch (two or more)**
Flanged connection or connection to Jeremias modular systems
- 6 Clean out opening**
access for inspection and maintenance.
Ø250, Ø600 mm, different door options
- 7 Inner pipe drain**
- 8 Back ventilation**
Ventilation grill to allow a continuous inside air flow from base till top.
- 9 outer pipe drain**
- 10 Base flange**
with reinforcements
- 11 Anchor cage**



STEEL & LATTICE STRUCTURES

Steel structures and lattice masts to support Jeremias modular exhaust systems (DW-ECO, DW-KL ...). These mast-supported solutions are sometimes the ideal solution in projects where ground anchoring or access is restricted. The time and place flexibility for the installation is the biggest advantage of these solutions.

The structures can be design in a modular way for better transportation and logistics inside the construction site.



Project features

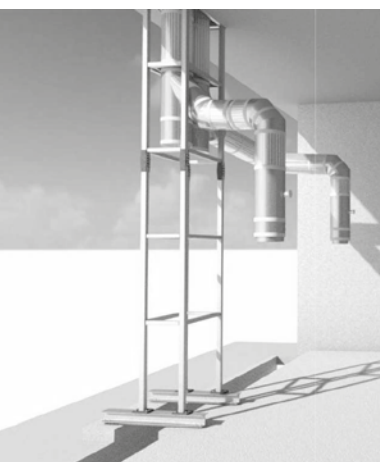
Static calculation of the structure according to building regulations. Project study in phases depending on the area, construction site. specific needs...

Construction details:

Anchoring with concrete foundation and/or base plate

Steel profiles: IP, HEB, circular / square, in L...

Materials: S235JR, S275JR, galvanised steel, AISI 304, AISI 316...



Lifting lugs

Pre-assembled structure in factory or on site.

Modular exhaust systems can be installed on the mast at the factory or on site depending the needs of the client

Additional Options

Platform for sample points

Cage or rail ladder.

Lightning rod

Beacon lights.

RAL painted finishing, glossy, matte ...

Special treatments depending on the area (C3, C4, C5)

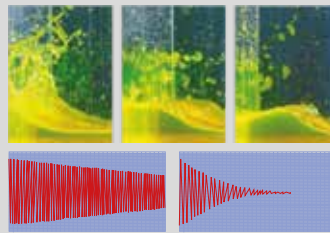


CONSTRUCTION DETAILS



Open terminal: It allows the expansion of the inner tube and the internal back ventilation of the chimney.

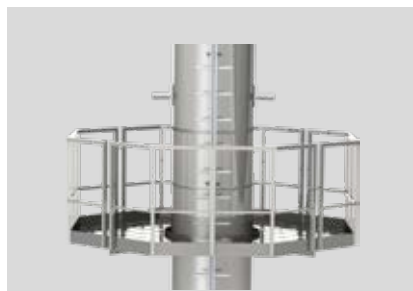
Vibration damper: Due to the effect of the wind, it is recommended to use a vibration damper. The oscillations are damped by the internal movement of the liquids placed in chambers



Oscilations without vibration damper Oscilations with vibration damper



Sampling points and nozzles nozzles for connection of sampling and inspection equipment normally installed at 1.5 m high with respect to the platform and at 5 x Ø int. of the horizontal smoke connection.



Platform for access to the sampling nozzles Made of galvanized S235JR steel with tramex floor. Railing, dimensions and angles according the specific needs

Ladder Single rail ladder / safety cage ladder with Ø700 mm. different options



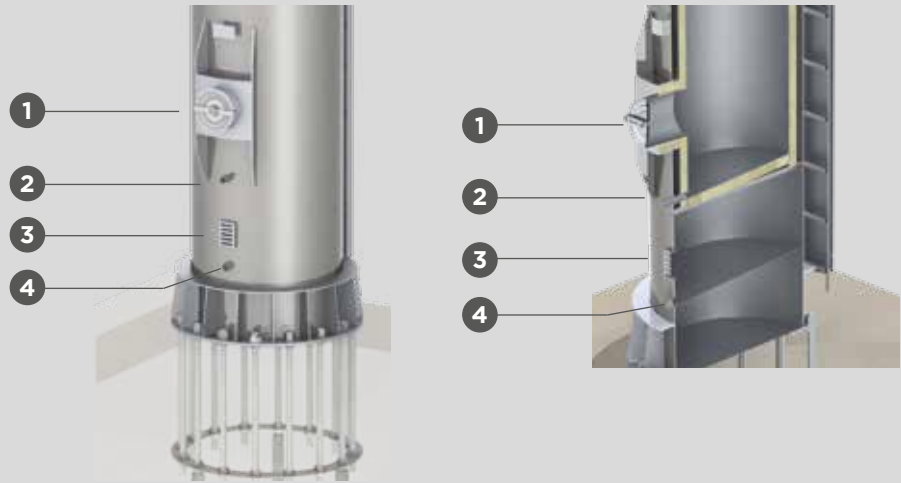
Chimney in several sections When the chimney is manufactured in several sections due to the length or special requirements, each section is joined by bolts flanged both the inner and outer pipe

this way the tightness and structural union is granted



Chimney base details

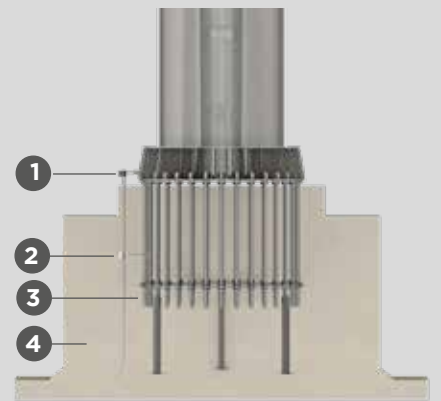
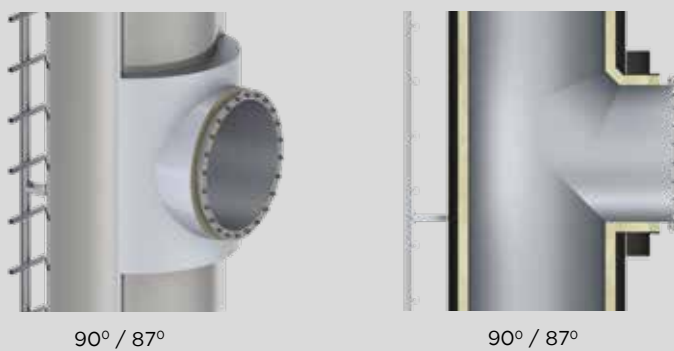
- 1** Clean out opening.
- 2** inner drain.
- 3** back ventilation.
- 4** External pipe drain.



T-Branches



Different connection angles depending on the needs of the installation. Flanged connection or to modular Jeremias exhaust systems etc. External protection jacket to cover welds and close the connection.



Anchoring cage

Double centering ring with anchor bolts. It is supplied prior to the chimney, to install into the concrete foundation

- 1** Earthing plug
- 2** connection to the Earthing plug
- 3** Anchoring cage
- 4** Concrete foundation

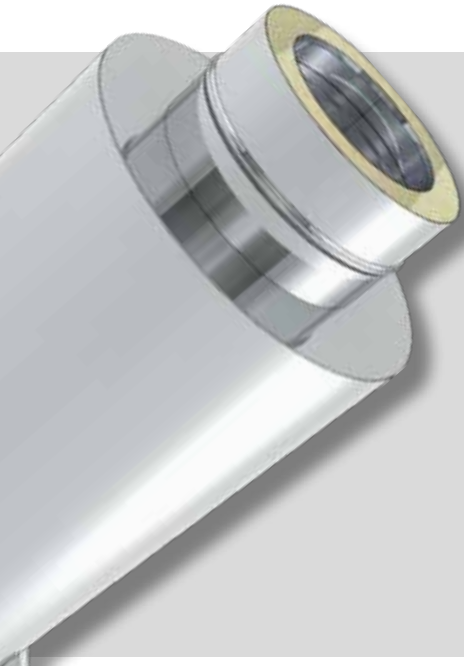
Insulation fixing

Insulation fixing with steel plate and pins welded to the inner tube. Through this system, a correct fixing of the insulation is ensured as well as the continuous insulation along the entire vertical.



SURFACE TREATMENTS FOR THE OUTER STACK

C3	Moderate	Low pollution areas, and less aggressive environments. Production areas with average humidity levels, and residential areas.
C4	High	Pollution zones and medium aggressive environments. Chemical environments and pools.
C5	very high	Coastal areas with high humidity levels, aggressive industrial environments, continuous condensation, and areas with high pollution.



SILENCERS

Jeremias Industrial Division Noise Control Solutions

Many facilities using biomass, diesel or gas, situated close to residential areas can generate annoying noise during operation. The noises that are generated in their different frequency ranges require a specific treatment for their attenuation avoiding possible discomfort and meet the local noise requirements

Jeremias Industrial Division develops the most appropriate solutions for noise attenuation and control, Our R&D engineering team ensures the most suitable solution for each installation using our in-house testing bench

JEREMIAS INDUSTRIAL FEATURES

- Big product range of standard solutions
- Special fabrication:
 - On site noise measurements
 - complete study including the exhaust system design
 - Personalized advice depending on the type of application
 - specific design
 - complete installation of the demanded solution

MATERIALS AISI

304, AISI 316,
polypropylene, PPS

FINISHING

shiny, matt, RAL painted

ATTENUATION MATERIAL

Combination of high density mineral wools

AVAILABLE DIAMETERS

Standard from Ø130 to Ø 600
bigger diameters under request

FEATURES

TIG/LASER welding
horizontal / vertical installation

JEREMIAS STANDARD SILENCERS

Absorption Silencers

These passive silencers use porous material such as mineral wool to achieve attenuation, mainly in the medium and high frequency range. Any acoustic energy is absorbed by friction effects on the wool and transformed into heat



Modular absorption silencer

ASE - ECO

Base attenuation 15 o 25 dB
T max: 200°C
P max: 200 Pa
wet conditions



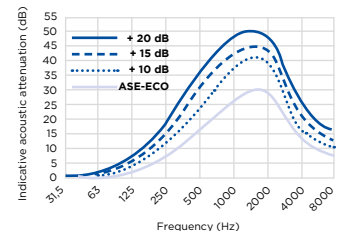
+

EXTENSIBLE

Possibility of increasing the attenuation by adding one of these 3 modules.



- 10 dB
- 15 dB
- 20 dB

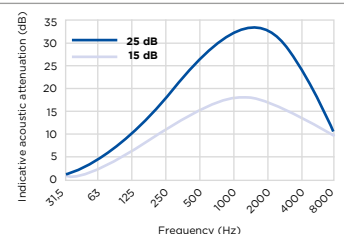


Absorption Silencers DW

ASD-B DW: P: 200 Pa, wet

ASD-DW: P: 40 Pa, dry

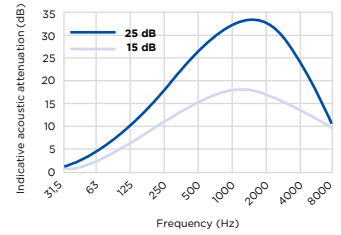
15 o 25 dB attenuation
connection DW-ECO Jeremias
T max: 200°C



Absorption silencer EW

ASD-B EW: P: 200 Pa, wet
ASD-EW: P: 40 Pa, dry

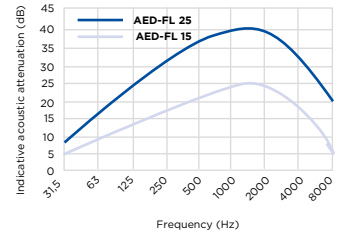
15 o 25 dB attenuation
 standard connection EW-ECO Jeremias
 T max: 200°C



Flanged absorption silencer AED-AEL

Aligned flanges **AED**
 L - Flanges **AEL**

20 o 30 dB attenuation
 T max: 600°C
 P max: 5000 Pa
 Suitable for wet conditions
 conical KL connection as an option



Combined silencers

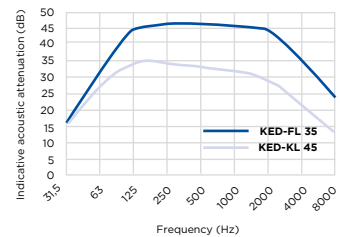
This type combines absorption silencers with several resonance chambers for the additional attenuation of lower frequencies. Each of the chambers are responsible for filtering out a specific frequency range, which leads to broadband attenuation of the noise.



Combined Silencer with flanges

Aligned flanges **KED**
 L - Flanges **KEL**

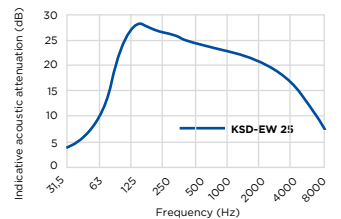
20 o 45 dB attenuation
 T max: 600°C
 P max: 5000 Pa
 Suitable for wet conditions
 conical KL connection as an option



Combined silencer

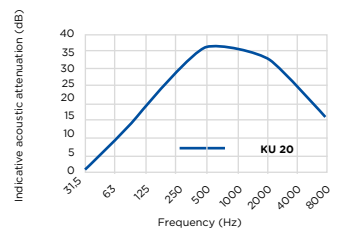
KSD-B: P max: 200 Pa, wet
KSD-EW: P max: 40 Pa, dry

25 dB Attenuation



Combined Silencer KU

35 dB attenuation
 T max: 600°C
 P max: 5000 Pa



Noise Insulating Cores

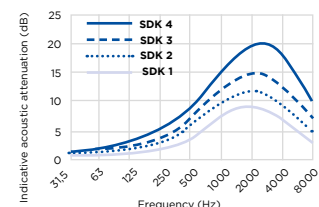
Noise insulating cores are predominantly designed for retrofitting in chimneys and contribute to effectively reducing noise peaks according to the principles of absorption. They are suspended from above and therefore very easy to install.

Noise insulating core SDK

5, 8, 10, 15 dB Attenuation

Installation in existing chimney / duct

Length in accordance with the level of attenuation L: 1000, 1500, 2000, 3000 mm



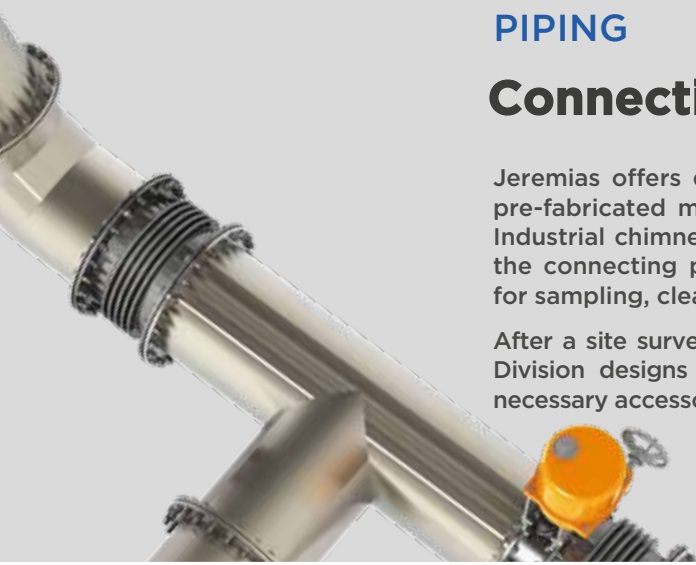
PIPING

Connecting pipes

Jeremias offers different connecting pipes, welded or flanged on-site or pre-fabricated modular systems to connect the equipment outlet to the Industrial chimney. Due to specific requirements of the industrial process, the connecting pipe may contain numerous changes of direction, points for sampling, clean-out openings, drains, compensators, valves etc.

After a site survey or according to the project drawings Jeremias Industrial Division designs the ideal solution for each specific project including all necessary accessories.

The whole process; calculation, design, manufacturing and assembly are controlled by a single company, avoiding possible coordination error



MODULAR CONNECTING PIPE

DW-ECO

DW-KL

DW-FS

MATERIAL

AISI 304 / AISI 316 / GALVA

FINISHING

Bright annealed, mat, powder coated RAL

INSULATION

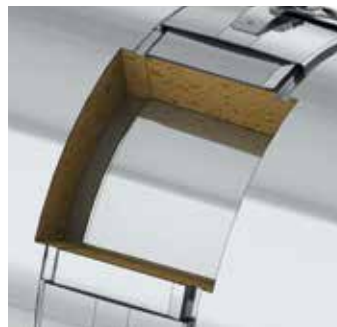
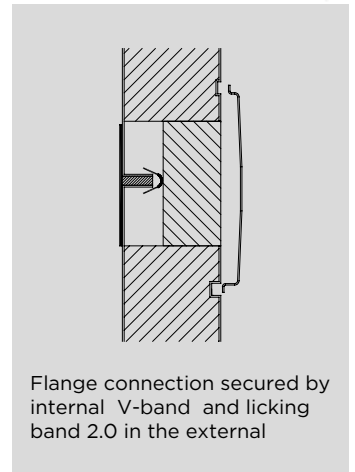
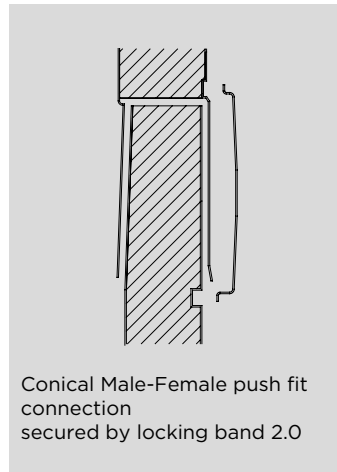
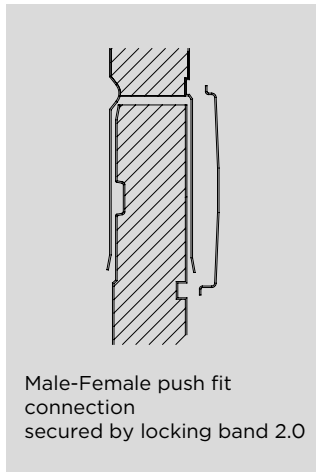
High density rigid mineral wool (120kg/m³) thickness from 25 to 100mm

S. STEEL THICKNESS

from 0.4 mm to 1.5 mm

AVAILABLE DIAMTERS

Ø80 a Ø 1000 mm



WELDED CONNECTING PIPES

MATERIAL

AISI 304 / AISI 316 / GALVA

FINISHING

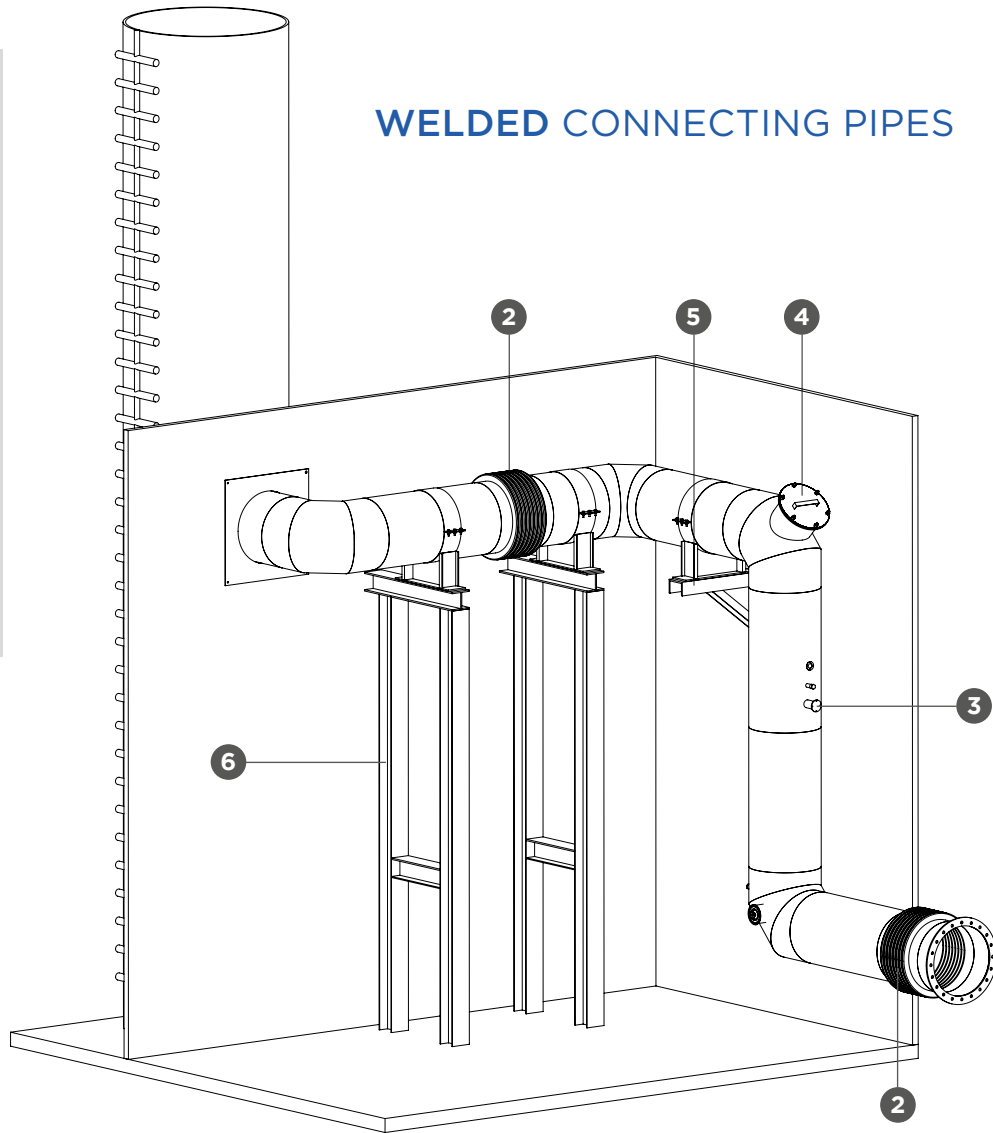
BA, mat, powder coated RAL,

STEEL THICKNESS

From 0.5 to 6 mm

AVAILABLE DIAMETERS

80 to 2000 mm



Dampers/ Valves



Manual damper with safety lock



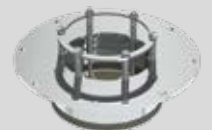
motorised damper



Motorised damper with security return system in case of power failure



Explosion relief valve



implosion relief valve

2 Expansion bellows



3 Sampling points



4 Clean out openings



5 Wall supports



6 Custom made metal structures



VENTILATION TOWERS FSC

Ventilation Towers manufactured in single wall stainless steel, for both expulsion and air discharge.

TERMINAL with LOUVRES

- 1** Top cap
- 2** opening from 180° to 360°
- 3** Bright annealed or polished stainless-steel ducting
- 4** Base plate

TERMINAL WITH LOUVRES



TYPES OF TERMINALS



0°



With slope 3-45°



Conical 3-30°

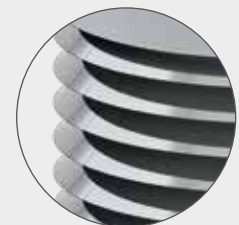
OPEN TERMINAL

- 1** Mesh
- 2** Bright annealed or polished stainless steel ducting
- 3** Water collector
- 4** Drain
- 5** Base plate

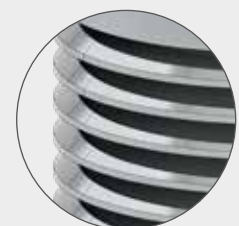
OPEN TERMINAL



LOUVRES



45° at edge



45° folded edge

Through CE certificates and factory quality control, Jeremias grants the proper chimney operation and durability on each specific project

”

Jeremias products are subject to strict quality controls to ensure proper operation and durability



Certifications

- Certificates according to current regulations
 - CE standard for industrial chimneys EN 13084-7.
 - CE standard EN 1090-1 for steel structures
- Statics in accordance with the Eurocode
- Seismic and wind calculations according to the specific region

Quality

- Raw materials control
- Quality monitoring through along production
 - Welding control with penetrating liquids
 - Controls and dimensional tolerances
 - Qualified welders using certified welding processes
- Finishing Control
 - Paint layers
 - Polished, shot blasting, pickling.

Our experience speaks for itself

The wide variety of our product range, has allowed us to be present for and collaborate in important commercial and industrial projects, together with leading mechanical & electrical companies and in very diverse sectors in continuous coordination with large engineering companies, architecture studios and big developers.



FSA, Ø 1500 mm, 50m height

Desulfurization
treatment
plant

Burgos



FSC, Ø 2.760 mm, 18 m height



Ventilation

Cambrils

Combined
Heat and
Power



2 FSA-2, Ø700 y 1000 mm, 20 m height

Varese





2 FSA, Ø 350 y 550 mm, 18m height

Hot water
Boiler
and gen-set

San Sebastián



3 FSA, Ø 500 y 650 mm, 15 m height



Energy
centre

Andorra

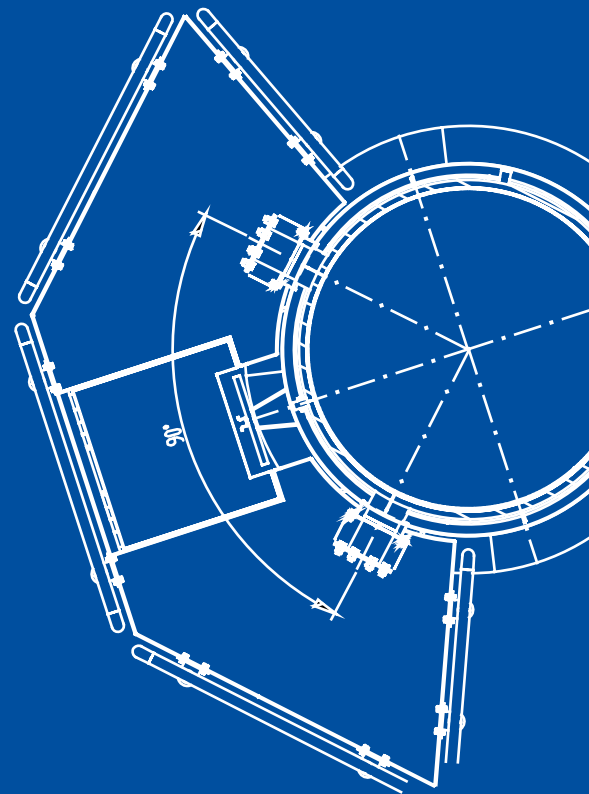
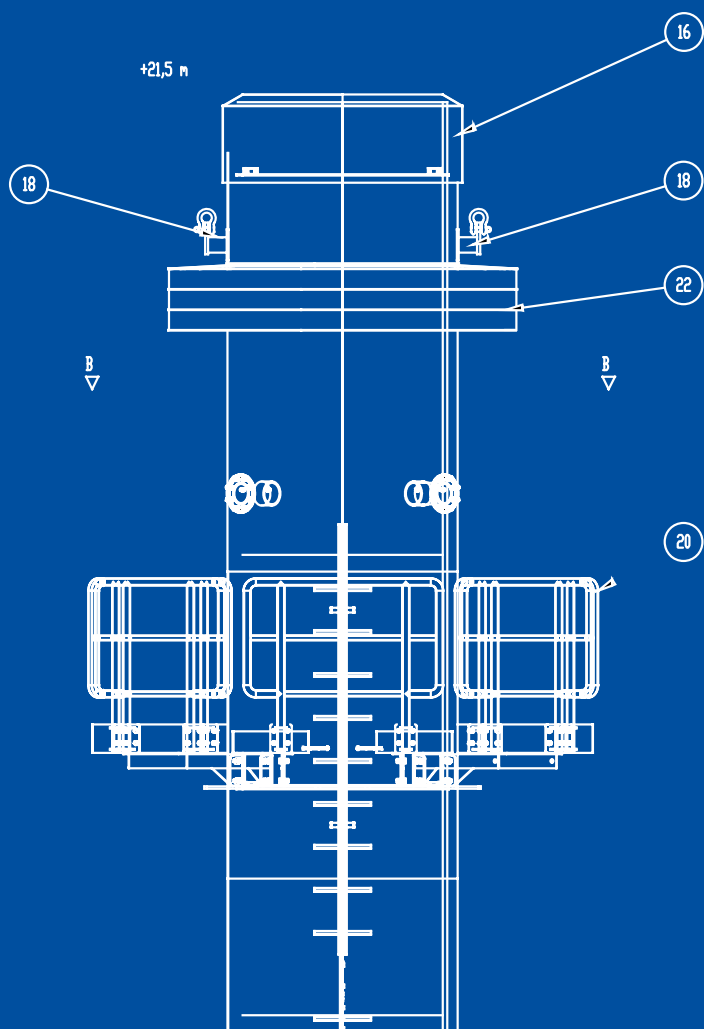
Biomass
energy
centre



FSA, Ø800, 25 m height



Burgos



Argentina | Austria | Belarus | Belgium | Bulgaria | Brazil | China | Colombia | Croatia | Czech Republic | Denmark | Estonia | Finland | France | Germany | Greece | Hungary | Ireland | Italy | Japan | Kazakhstan | Latvia | Lebanon | Lithuania | Luxembourg | Malta | Mexico | Netherlands | Norway | Poland | Portugal | Qatar | Romania | Russia | Saudi Arabia | Serbia | Slovenia | South Africa | Spain | Sweden | Switzerland | Tunisia | Turkey | UK | Ukraine | UAE | USA

jeremias[®]
CHIMNEY SYSTEMS

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