SINGLE WALL SYSTEM CHIMNEY - METAL LINER - CONNECTING FLUE PIPE

Series SYG1304 & SYG1316

TECHNICAL SPECIFICATIONS:

Material Type:	Austenitic stainless steel AISI 304 (1.4301) or Austenitic stainless steel AISI 316L (1.4404)
Thickness:	0.4 mm or 0.5 mm
Weld type:	Automated autogenous inert gas TIG seam weld
Working temperature:	200°C max for wet conditions and forced draught 600°C max for dry conditions and natural draught
Working pressure:	Positive pressure (200Pa) with gasket - Negative pressure (40Pa) without gasket
Nominal diameter mm:	ø 80-100-130-150-180-200-230-250-300-350
Joint type:	Push-fit (male-female spigot-socket) with deadlock coupling up to Ø 200, push-fit for Ø 200-350 & locking band
Seal type:	Triple-lip o-ring silicon gasket red T160°C - black T200°C (working temperature)
Material origin:	UGINE & ALZ Industries / France
Certifications:	CE Istituto Giordano, TÜV-SÜD, IMQ

ADVANTAGES:

1. Automated manufacturing with continuous surveillance of Factory Production Control (F.P.C.) and Quality Management System ISO 9001: 2000.
2. Product marking production date, lot number, material type & thickness, diameter and part type.
3. Excellent welding quality (no oxidation, pressure tightness) .
4. Perfect circular cross section (easy assembly, minimal loss)
5. Secure joints with additional locking band
6. High mechanical resistance and thermal expansion absorption during operation during operation.
7. Silicon gasket seal guarantees perfect gas tightness (continuously monitored factory testing).
8. Material resistant to condensate corrosion (prolonged chimney life expectancy)
9. Product certification TÜV-SÜD - corrosion resistance class V2 (gas, oil, natural wood)
10. Soot fire resistant up to 1000°C.
11. Low thermal inertia (minimum material thickness for fast chimney heating to working temperature minimal losses - lower consumption).
12. Smooth inner surface (low coefficient of friction, optimal fume extraction with smaller diameter, minimum soot build up and less frequent cleaning)

13	Excellent aesthetical finish .
14	Uniform extruded fittings (Tee piece - inspection door element, etc).
15	Full range of fittings, inspection doors, terminals and accessories
16	Adjustable wall bands and wall console supports for quick and easy installation.
17	Fully compatible with single wall series.
18	Protective packaging
19	With CE marking in compliance with natural gas Greek national technical regulation.

APPLICATIONS:

Appliances burning natural gas, oil or natural wood.

Installed inside buildings as metal liner or connecting flue pipe, in shafts - enclosures for masonry chimneys with added insulation.

CE mark - production print

DOUBLE WALL SYSTEM CHIMNEY

Series SYG3741 & SYG3757

TECHNICAL CHARACTERISTICS:

Inner wall:	Austenitic stainless steel AISI 304 (1.4301) or Austenitic stainless steel AISI 316L (1.4404)
Outer wall:	Austenitic stainless steel AISI 304 (1.4301)
Thickness:	0.4 mm or 0.5 mm
Weld type:	Automated autogenous inert gas TIG seam weld
Insulation material:	High density mineral fibers pressure injected
Insulation thickness:	25 mm between inner – outer wall cavities
Insulation density:	180 – 200 kg/m3 average bulk density
Thermal resistance:	R = 0,31 m^2K/W at 200°C (laboratory test value)
Working temperature:	200°C max for wet conditions and forced draught 600°C max for dry conditions and natural draught
Working pressure:	Positive pressure (200Pa) with gasket Negative pressure (40Pa) without gasket
Nominal diameter mm:	ø 80-130, 100-150, 130-180, 150-200, 180-230, 200-250, 250-300, 300-350
Joint type:	Push-fit (male-female spigot-socket joint) with deadlock coupling up to Ø 200, push-fit for Ø 200-350 & locking band
Seal type:	Triple-lip o-ring silicon gasket red T160°C - black T200°C (working temperature)
Material origin:	Μεταλλουργία UGINE & ALZ Industries / Γαλλία
Certifications:	CE Istituto Giordano, TÜV-SÜD, IMQ

ADVANTAGES:

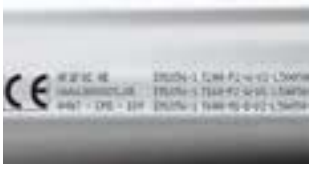
1. Automated manufacturing with continuous surveillance of Factory Production Control (F.P.C.) and Quality Management System ISO 9001 : 2000.
2. Product marking production date, lot number, material type & thickness, diameter and part type.
3. Excellent welding quality (no oxidation, pressure tightness)
4. Perfect circular cross section (easy assembly, minimal loss)
5. Specially designed spacer ring to eliminate thermal bridges between inner – outer wall
6. Secure joints with additional locking band.
7. High mechanical resistance and thermal expansion absorption during operation.
8. Silicon gasket seal guarantees perfect gas tightness (continuously monitored factory testing).
9. Product certification TÜV-SÜD - corrosion resistance class V2 (natural gas, oil, natural wood)
10. High performance insulation uniform minimizing thermal losses and condensate forming
11. Soot fire resistant up to 1000°C.

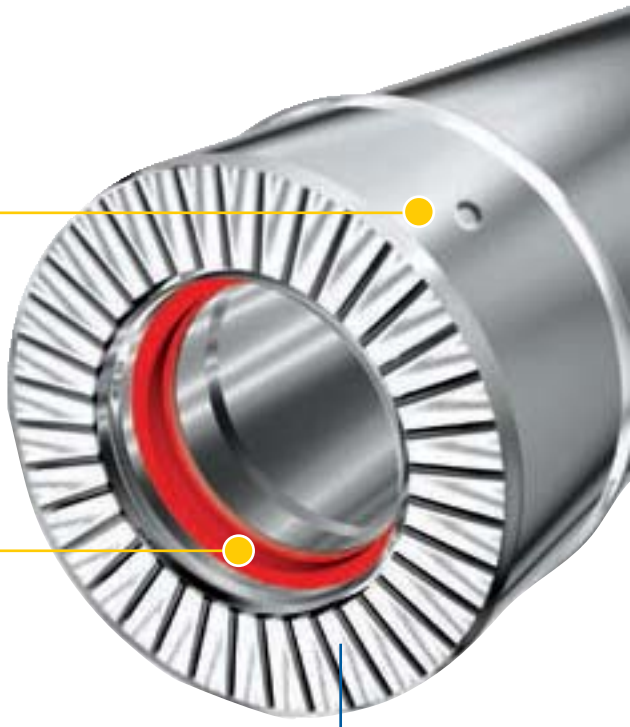
12	Low thermal inertia (minimum material thickness for fast chimney heating to working temperature minimal losses - lower consumption)
13	Smooth inner surface (low coefficient of friction, optimal fume extraction with smaller diameter, minimum soot build up and less frequent cleaning)
14	Excellent aesthetical finish
15	Uniform extruded fittings (Tee piece - inspection door element, etc).
16	Full range of fittings, inspection doors, terminals and accessories
17	Adjustable wall bands and wall console supports for quick and easy installation.
18	Fully compatible with single wall series.
19	Protective packaging
20	With CE marking in compliance with natural gas Greek national technical regulation.

APPLICATIONS:

Appliances burning natural gas, oil or natural wood.

CE Mark - production print





"click" joint system
Push-fit with deadlock (up to Ø 200)

Triple-lip o-ring silicon seal
up to 160°C red - 200°C black

MALE

FEMALE

Outer wall
fully welded stainless steel AISI 304 or AISI 316L grade thickness 0.4 mm or 0.5 mm

Insulation
high density mineral wool insulation 180-200 kgr/m^3

Inner wall
fully welded stainless steel AISI 304 or AISI 316L grade thickness 0,4mm & 0,5mm

Spacer ring
designed to eliminate thermal bridges

SINGLE WALL SYSTEM CHIMNEYS METAL LINERS - CONNECTING FLUE PIPES

PRODUCTS DESCRIPTION	PRODUCT DESIGNATION (Annex to Certificate N.0407-CPD-139)							TRADE NAME	TYPE
System Chimney product	EN 1856-1	T 160	P1	W	Vm	L20040	O 30	"**SYG1304**" **Single wall stainless steel 1.4301 (AISI 304) thickness 0,4 mm & 0,5 mm**	With gasket T160 red
System Chimney product	EN 1856-1	T 160	P1	W	Vm	L20050	O 30		
Connecting flue pipe	EN 1856-2	T 160	P1	W	Vm	L20040	O 30		
Connecting flue pipe	EN 1856-2	T 160	P1	W	Vm	L20050	O 30		
Flue liner	EN 1856-2	T 160	P1	W	Vm	L20040	O		
Flue liner	EN 1856-2	T 160	P1	W	Vm	L20050	O		
System Chimney product	EN 1856-1	T 200	P1	W	Vm	L20040	O 30		With gasket T200 black
System Chimney product	EN 1856-1	T 200	P1	W	Vm	L20050	O 30		
Connecting flue pipe	EN 1856-2	T 200	P1	W	Vm	L20040	O 30		
Connecting flue pipe	EN 1856-2	T 200	P1	W	Vm	L20050	O 30		
Flue liner	EN 1856-2	T 200	P1	W	Vm	L20040	O		
Flue liner	EN 1856-2	T 200	P1	W	Vm	L20050	O		
System Chimney product	EN 1856-1	T 200	N1	W	Vm	L20040	O 30		Without gasket
System Chimney product	EN 1856-1	T 200	N1	W	Vm	L20050	O 30		
Connecting flue pipe	EN 1856-2	T 600	N1	W	Vm	L20040	O 600		
Connecting flue pipe	EN 1856-2	T 600	N1	W	Vm	L20050	O 600		
Flue liner	EN 1856-2	T 600	N1	W	Vm	L20040	O		
Flue liner	EN 1856-2	T 600	N1	W	Vm	L20050	O		
System Chimney product	EN 1856-1	T 160	P1	W	V2	L50050	O 30	"**SYG1316**" **Single wall stainless steel 1.4404 (AISI 316L) thickness 0,5 mm**	With gasket T160 red
Connecting flue pipe	EN 1856-2	T 160	P1	W	V2	L50050	O 30		
Flue liner	EN 1856-2	T 160	P1	W	V2	L50050	O		
System Chimney product	EN 1856-1	T 200	P1	W	V2	L50050	O 30		With gasket T200 black
Connecting flue pipe	EN 1856-2	T 200	P1	W	V2	L50050	O 30		
Flue liner	EN 1856-2	T 200	P1	W	V2	L50050	O		
System Chimney product	EN 1856-1	T 200	N1	W	V2	L50050	O 30		Without gasket
Connecting flue pipe	EN 1856-2	T 600	N1	W	V2	L50050	O 30		
Flue liner	EN 1856-2	T 600	N1	W	V2	L50050	O		

DOUBLE WALL SYSTEM CHIMNEYS

PRODUCTS DESCRIPTION	PRODUCT DESIGNATION (Annex to Certificate N.0407-CPD-139)							TRADE NAME	TYPE
System Chimney product	EN 1856-1	T 160	P2	W	Vm	L20040	O 30	**"SYG3741" Double wall stainless steel 1.4301 (AISI 304) inner and outer wall thickness 0,4 mm**	With gasket T160 red
System Chimney product	EN 1856-1	T 200	P2	W	Vm	L20040	O 30		With gasket T200 black
System Chimney product	EN 1856-1	T 600	N1	D	Vm	L20040	G 60		Without gasket
System Chimney product	EN 1856-1	T 160	P2	W	V2	L50050	O 30	**"SYG3757" Double wall stainless steel 1.4404 (AISI 316L) inner wall thickness 0,5 mm 1.4301 (AISI 304) outer wall thickness 0,5 mm**	With gasket T160 red
System Chimney product	EN 1856-1	T 200	P2	W	V2	L50050	O 30		With gasket T200 black
System Chimney product	EN 1856-1	T 600	N1	D	V2	L50050	G 60		Without gasket

THE CE DESIGNATION SCHEME

FOR METAL CHIMNEYS - EXPLANATION

Together with the CE mark on metal chimneys it is obligatory for the manufacturer to specify on the product its technical performance characteristics laid out according to a designation scheme defined in the relevant standards.

Example of CE Designation marking on metal chimneys:

PRODUCT DESCRIPTION	PRODUCT DESIGNATION						
System chimney product	**EN 1856-1**	**T200**	**P1**	**W**	**V2**	**L50050**	**O30**
Connecting flue pipe	**EN 1856-2**	**T200**	**P1**	**W**	**V2**	**L50050**	**O30**
Flue liner	**EN 1856-2**	**T200**	**P1**	**W**	**V2**	**L50050**	**O**

Standard Number
Temperature level °C
Pressure level : N P, H
Condensate resistance : W, D
Corrosion resistance, V1, V2, V3, Vm
Flue liner material specification
Sootfire resistance: O, G & minimum distance to combustibles in mm

Product Description- Standard Number:

EN 1856-1 : The standard for System chimneys - requirements
System chimney: A series of elements and fittings (kit) comprising the chimney to be independently assembled and installed, obtained or specified from a single manufacturing source with product responsibility for the whole chimney (factory made chimney).
EN 1856-2 : The standard for metal flue liners and connecting flue pipes used in custom built chimneys or for relining existing chimneys.
Connecting flue pipe: A pipe that connects a combustion appliance to a flue in a chimney
Flue liner: Wall of a chimney consisting of components the surface of which is in contact with products of combustion

Temperature level:

Maximum continuous operating temperature (range 100-700°C). Example:
T160 (°C): suitable for gas,
T200 (°C): suitable for gas and oil,
T450 (°C):suitable for solid fuel (multifuel).

Pressure level:

N: Negative pressure - natural draft
(fireplaces-stoves, atmospheric boilers - type B gas appliances)
P: Positive pressure – forced draft
(fan flued boilers, type C gas appliances)
H: High pressure – industrial installations
(Diesel generators)

Working pressure inside the flue

Pressure Type	Max Leakage rate (l/sec.m²)	Test pressure (Pa)
N1	2.0	40
N2	3.0	20
P1	0.006	200
P2	0.12	200
H1	0.006	5000
H2	0.12	5000

Condensate resistance :

W: Chimney is capable to contain condensate within the (e.g. high efficiency condensing boilers).

D: is capable to operate under dry conditions only, usually meaning a flue gas temperature high enough to avoid condensate formation (e.g. wood burning fireplaces, stoves and boilers).

Corrosion resistance:

Durability of the flue liner against corrosion. This is fuel dependent having the following classes based on three available types of testing.

V1: Tested and approved as resistant to attack from gas combustion products

V2: Tested and approved as resistant to attack from light oil (sulphur content <0,2%) and natural wood combustion products

V3: Tested and approved as resistant to attack from heavy oil (sulphur content >0,2%) solid fuels and peat combustion products

Vm: Not tested but rating declared by the manufacturer

Flue Liner material specification:

Two features are specified.
Firstly a code for the minimum material grade with Stainless steel as the most common type of material used.
Secondly material thickness Material thickness is expressed in mm e.g. 040 = 40 mm, 050 = 50 mm, 060 = 60 mm, (typical values).

Example:

L20040 = Stainless steel AISI 304 thickness 0,4 millimeters

Flue liner material specification (acc. to EN10088-1 & EN573-3)		
L11	AL 99%	Aluminium
L20	AISI 304	Stainless steel
L30	AISI 304L	Stainless steel
L40	AISI 316	Stainless steel
L50	AISI 316L	Stainless steel

Soot fire resistance:

G: Yes. The product has been tested at 1000°C for 30 minutes and has remained intact while the temperature of combustible material at the designated distance does not exceed 100°C at an ambient temperature 20°C.

O: No. Products with O classification mean the product is not rated as soot fire resistant. Normally this will occur with low temperature applications such as condensing gas boilers, where seals are used, which would not withstand a soot fire.

Distance to combustible material:

Defined in soot fire resistance above. Distance between the outside surfaces of the chimney and adjacent combustible material, expressed in millimeters (mm).

Example:

O30 = not soot fire resistant with minimum installation distance 30mm from adjacent combustible material.

PRODUCT MARKING ACCORDING TO EN 1856-1:2003

PRODUCT LABEL

Placed on every section or fitting

Example of sticker label on SYG 3741 double wall series:

CE conformity mark and Identification Number of Notified Body

Product series

FPC Certificate number

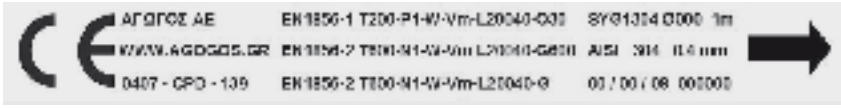
Manufacturer Name & Trademark

Flue gas direction

Product Designations

Additional permanent print of production date, diameter, part type, material and lot number:

Example of permanent print on 1m section elements SYG 3741:



FACTORY PRODUCTION CONTROL CERTIFICATE & MANUFACTURER'S DECLARATION OF CONFORMITY

In the accompanying documents

CHIMNEY IDENTIFICATION PLATE

Placed in proximity to the chimney

To be installed with the following information:

- Chimney designation according to EN 1443 as installed
- Nominal diameter of the flue in mm
- Minimum distance to combustibles of the outside surface of the chimney in mm
- Installation address
- Installer Name & address

For system chimneys (e.g double wall with fittings and accessories supplied by the manufacturer) the product designation remains. In case of custom built chimneys (e.g single wall metal liner in masonry with added insulation) designation parameters are subject to calculation.

Designation example for a metal chimney:

System Chimney	**EN 1856-1**	**T160**	**P2**	**W**	**Vm**	**L20040**	**O30**
Chimney	**EN 1443**	**T160**	**P2**	**W**	**Vm**	**O30**	

Standard Number

Temperature class °C

Pressure class : N P, H

Resistance to condensate class : W, D

Corrosion resistance class: 1, 2, 3

Sootfire resistance class: O, G & distance to combustible materials