

## Sistemas térmicos a gas

### Aplicaciones industriales

Curso IG3 - 2014  
Alejandro Berger

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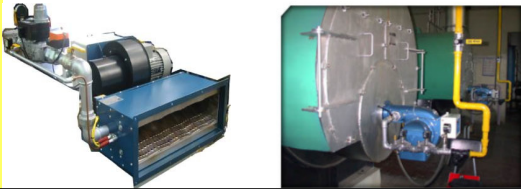
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## Artefactos industriales

Las características de los artefactos están definidas en la Norma NAG 201 capítulo 7

Mayormente cuentan con quemadores de aire soplado que mezclan el gas con el aire primario a presión



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## Artefactos industriales

Quemadores de aire soplado: Se reconoce la llama eficiente mediante el análisis de gases de combustión



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## Aplicaciones industriales

### Agua caliente

Pequeños usos abastecidos por equipos domésticos



Calentadores instantáneos  
Potencia aprox: 25.000 Kcal/h



Termotanques convencionales:  
Potencia: 8.000 Kcal/h  
Acumulación: 150 litros

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## Aplicaciones industriales

### Agua caliente



Instantáneo industrial:  
750.000 Kcal/h

Acumulación. Potencias superiores a las 30.000 Kcal/h

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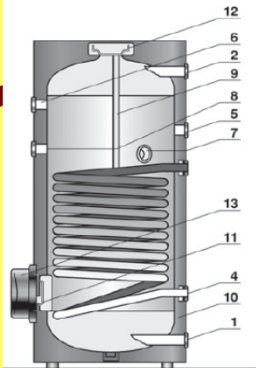
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#### LEGENDA:

- 1: Entrada agua fría
- 2: Salida agua calda
- 3: Entrada circuito riscaldamento
- 4: Salida circuito riscaldamento
- 5: Attacco ricircolo
- 6: Attacco sonda termometro
- 7: Attacco sonda termostato
- 8: Attacco per eventuale installazione resistenza elettrica
- 9: Anodo di magnesio
- 10: Isolamento in poliuretano esente da CFC E HCFC
- 11: Flangia d'ispezione laterale
- 12: Flangia d'ispezione superiore
- 13: Calottina copriflangia

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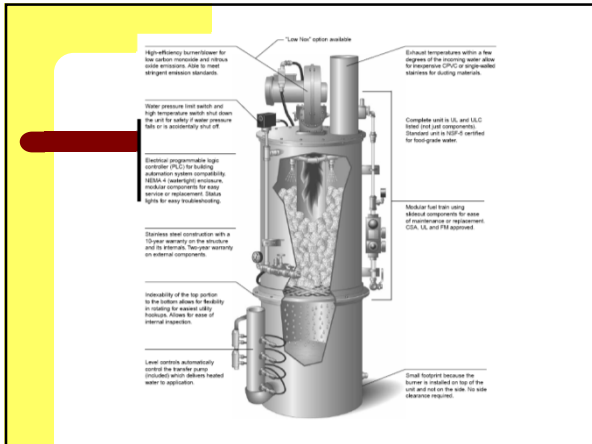
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## Aplicaciones industriales

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### Agua caliente




Calentamiento directo por radiación de gases incandescentes

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## Aplicaciones industriales

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### Cocción




Sistemas de calentamiento directo o indirecto – Variación de la eficiencia

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## Aplicaciones industriales

### Flameado



Terminación de superficies, envases termocontraíbles, etc.

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## Aplicaciones industriales

### Metales



Fundición de oro, cobre, laminación, lingotes

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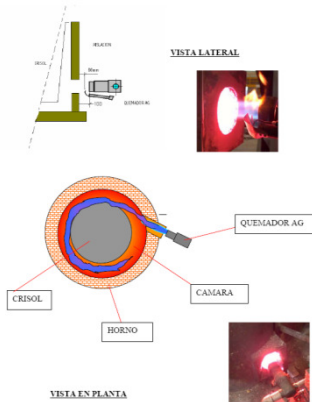
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ESQUEMA DE INSTALACION DE QUEMADOR EN CRISOL



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**Aplicaciones industriales**

**Metales**



Fundición de oro, cobre, laminación, lingotes

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**Aplicaciones industriales**

**Incineración**



Hornos pirolíticos, evitan emisión de productos contaminantes

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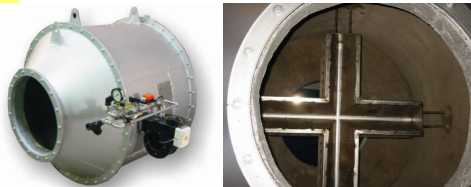
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**Aplicaciones industriales**

**Incineración**



Quemado de humos

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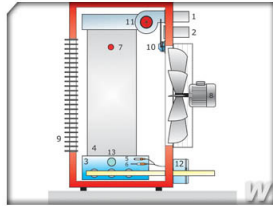
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**Aplicaciones industriales**

Calefacción



Sistemas indirectos

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**Aplicaciones industriales**

Calefacción



Sistemas indirectos

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**Aplicaciones industriales**

Calefacción



Sistemas directos

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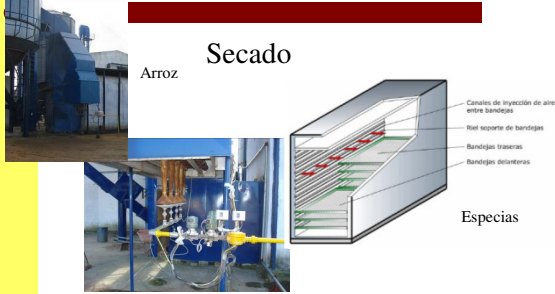
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## Aplicaciones industriales



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## Aplicaciones industriales



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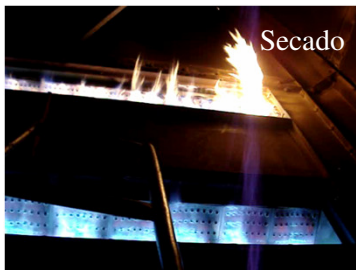
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## Aplicaciones industriales



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## Aplicaciones industriales

Secado de lana



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## Aplicaciones industriales

Secado de fruta



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## Hornos



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### Horno de pintura



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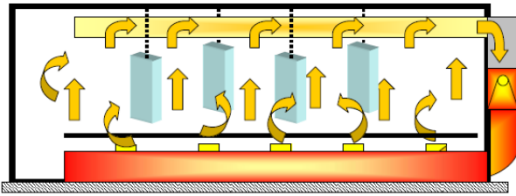
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### Horno de pintura

Diagrama esquemático



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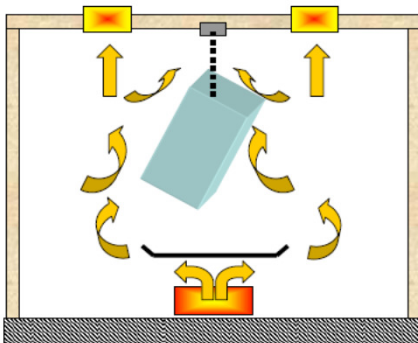
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### Horno de pintura



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### Horno de pintura



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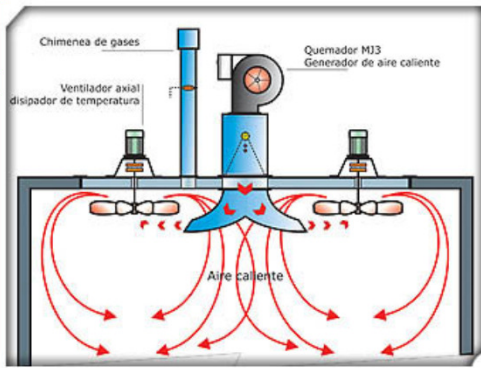
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### Horno de secado de madera y HT



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### Horno de vidrio



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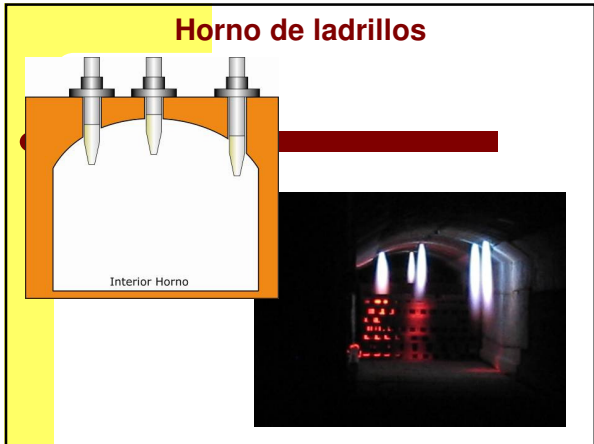
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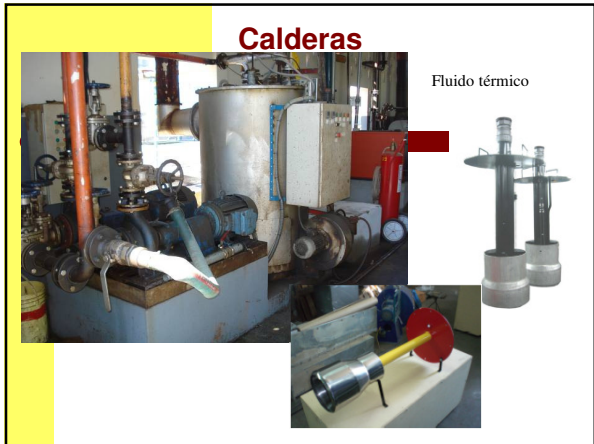
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## Agroindustria



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## Secado de arena



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## Secado de arena



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**Secado de arena**



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**Impresiones y cartón**



Cartón corrugado

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**Impresiones y cartón**



Impresoras flexográficas

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## Impresiones y cartón



Impresoras de periódicos y revistas

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## Transporte



Prohibición: decreto 532/974 del Poder Ejecutivo del año 1974

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## Transporte



Salida en fase gaseosa

Salida en fase líquida



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## Generación y co-generación



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## Aire acondicionado



- Absorción  
Amoníaco/Agua  
Bromuro de litio/Agua
- Motores a gas

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