



## CSN® FLANGE HEATERS

### TYPE SERIES 96 FG/...

CSN® Flanged immersion heaters are used in process engineering, cleaning technology, chemical industry, plastics industry, as well as in mechanical engineering and shipbuilding.

#### Application:

CSN® flange heaters are particularly suitable for flowing and resting air, gases or vapors.

#### Technical data:

Nominal output: up to 1000 kW

Nominal width: DN 50 to DN 1000

Number of circuits: to be agreed upon

Nominal pressure: PN 6 to PN 100

Operating temperature:

Installation length: up to max. 3500 mm

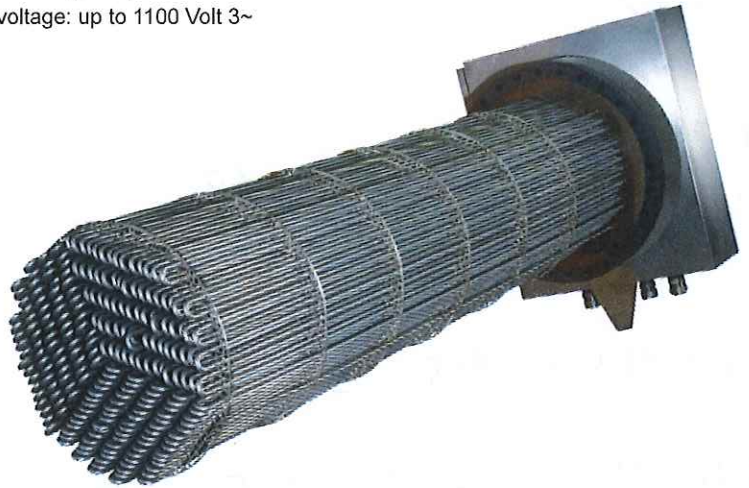
Gaseous media: up to 650 °C

Rated voltage: up to 1100 Volt 3~

#### Construction

CSN® flanged immersion heaters basically consist of:

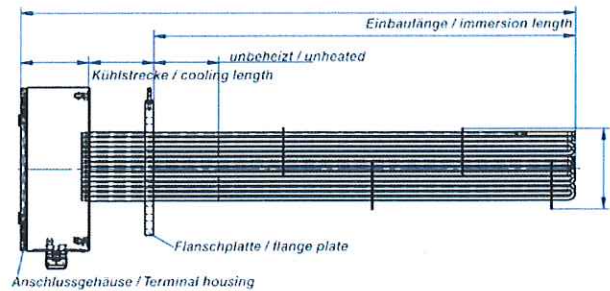
Highly compacted CSN® tubular heating elements in diameters 8,5; 11,5 and 16 mm, blind flange, spacer plates or baffles, terminal enclosure, thermo-stats, temperature probes, terminal clamps and cable glands.



#### CSN® tubular heating elements:

The highly compacted CSN® tubular heating elements are produced according to DIN 44874, 44875 or in conformity to it. The CSN® Giso sealing ensures a permanent high insulation resistance of the tubular elements.

material	tubular Heating element	Ø 8,5	Ø 11,5	Ø 16
Copper		X		
CuNi10Fe				X
AISI 304			X	
AISI 316L		X		
AISI 321		X		
<b>AISI 316Ti</b>		<b>X X</b>	X	X
AISI 309		X	X	X
Incoloy 800		X	X	
Incoloy 825		X		



Equipment for installation in hazardous areas we produce in protection class „Ex d“, „Ex de“, „Ex e“.

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PACCO RESISTENZE CATOX (OSSIDATORE CATALITICO)  
IMP. TAF. FERRARA.

- MARCA : SCHNIEWINDT

- TYPE : 96/FG

- VOLTAGE : 400 V 3N~

- POWER : 50 KW

- ORDER N° : A10-747917.1.1

- PROTECTION : IP54

- STEPS : 2

- YEAR : 4/2010

- DATI INCISI SU FLANGIA :

- MATERIALE : AISI 316 Ti

- EN 1092-1 05 DIN 2527 DN 200

PN 16 14571 - F316 Ti 09 CT 3935 U1 UH2288



1000  
mm

1000  
mm



450  
mm

# 1.4571

Normativa di riferimento EN 10088  
Reference Standard EN 10088



## Corrispondenze Comparable standards

EN	W.N.	AISI
X6CrNiMoTi17-12-2	1.4571	316Ti

## Composizione Chemical analysis

C	Mn	Si	Cr	Ni	Mo	Ti	Altri/Others
≤.080	≤2.00	≤1.00	16.50+18.50	10.50+13.50	2.00+2.50	5xC+.70	S≤.030 / P≤.045

## Temperature per la lavorazione a caldo ed il trattamento termico Hot work and heat treatment temperatures

Fucatura °C (*) Forging °C	Tempra di solubilizzazione °C AT Solution-Annealing °C AT	Sensibilizzazione °C Sensitization °C
1200±900 aria / air	1020±1120 acqua (aria) / water (air)	700 x 15' aria / air

## Caratteristiche meccaniche a temperature elevate / Mechanical properties at room temperature

Stato Condition	Ø mm.	Rp0,2 min. N/mm <sup>2</sup>	Rp1,0 min. N/mm <sup>2</sup>	Rm N/mm <sup>2</sup>	A min. % Long. Tras.	KV min. J Long. Tras.	Durezza HB max HB hardness max	Res. alla corr. intergranulare Resistance to intercrystalline corrosion allo stato di fornitura in as-supply condition	Res. alla corr. intergranulare Resistance to intercrystalline corrosion allo stato sensibilizz. in sens. condition
AT Solubilizzato Solution annealed	≤ 160 160<Ø≤250	200	235	500±700	40 30	100 60	215	Si	Si

## Caratteristiche meccaniche a temperature elevate / High temperatures mechanical properties

AT Solubilizzato Solution annealed	Temperatura °C / Temperature °C	100	150	200	250	300	350	400	450	500	550	
		Rp0,2 min. N/mm <sup>2</sup>	185	175	165	155	145	140	135	131	129	127
		Rp1,0 min. N/mm <sup>2</sup>	215	205	192	183	175	169	164	160	158	157

## Caratteristiche Fisiche / Physical properties

Massa volumica Density kg/dm <sup>3</sup>	Modulo di elasticità a Modulus of elasticity kN/mm <sup>2</sup>						Coeff. medio di dilatazione termica tra 20 °C e Thermal expansion between 20 °C and 10 <sup>-6</sup> x K <sup>-1</sup>					Cond. termica a Cal. spec. Thermal cond. at Specific heat W / m x k		Resistività elettrica Resistivity Ωxmm <sup>2</sup> / m	
	20°C	100°C	200°C	300°C	400°C	500°C	100°C	200°C	300°C	400°C	500°C	20°C	a 20°C	a 20°C	a 20°C
	200	194	186	179	172	165	16,5	17,5	18,0	18,5	19,0	15	500	0,75	
8,0	200	194	186	179	172	165	16,5	17,5	18,0	18,5	19,0	15	500	0,75	

## Generalità / General properties and applications

Acciaio austenitico stabilizzato con Ti: grazie al quale resiste bene alla corrosione intercrystallina anche per particolari saldati. Resistenza alla corrosione decisamente buona in presenza di cloruri, acidi riducenti. Variamente impiegato nell'industria marittima, petrolchimica, farmaceutica, alimentare, della carta e del tessile. Impiegato anche per scambiatori di calore.

Austenitic steel stabilized with Ti which endows it with good resistance to intercrystalline corrosion, even in the case of welded parts. Very good resistance to corrosion, even in the presence of chlorides, and reducing acids. Is used in various applications in the marine, oil, pharmaceutical, food, paper and textile industries. Also used for heat exchangers.