

# REFERENCE LIST

## Electrical Heaters



## SPECIALISTS FOR ELECTRICAL HEATING SYSTEMS

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# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Bayer Material Sinces (Shanghai), PR CHINA**  
Engineering : Bayer  
Year of Construction : 2010

Power / Voltage : 50 /-500 kW / 690 V  
Explosion protection : Ex de ia IIC, T2  
Design Temperature : -10 / 400 (450) °C  
Design Pressure : -1 (FV) / 16,0 bar g  
Code : PED 97/23/CE & AD-2000 MB, SQL  
Operation Temperature : 35 up to 350 / 320 up to 400°C  
Operation Pressure : 0,7 up to 1,5 / 0,063 barg  
Fluid to be heated : N2 / TDA  
Material of construction : 16Mo3 / 1.4541

**Client / User** : **ESKOM (SOUTH AFRICA)**  
Engineering : Hitachi Power Europe  
Year of Construction : 2010

Power / Voltage : 850 /-2x775 kW / 690 V  
Explosion protection : Ex de IIC, T3  
Design Temperature : 0 / 150up to 180°C  
Design Pressure : 10,0 up to 14 bar g  
Code : PED 23/97/EC & EN 13445  
Operation Temperature : 20 up to 120°C  
Operation Pressure : 4,0 bar g  
Fluid to be heated : Fuil oil 150  
Material of construction : P265 GH

**Client / User** : **SAMSUNG SHI / HYUNDAI HHL / DAEWOO DSME**  
Engineering : ABB Singapore  
Year of Construction : 2010

Power / Voltage : 1200 up to 1320 kW / 1120 VDC  
Explosion protection : safe area  
Design Temperature : -10/ +60 °C  
Design Pressure : water column  
Code : PED 23/97/EC & ASME VIII Div.1  
Operation Temperature : +5 up to 35 / +60 °C  
Operation Pressure : water column  
Fluid to be heated : sea water  
Material of construction : SS316Ti (1.4571)

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**Client / User** : **NUON, Netherlands**  
Engineering : CB&I Lummus  
Year of Construction : 2009

Power / Voltage : 154 - 900 kW / 400 V  
Explosion protection : Ex de IIC, T3  
Design Temperature : -25 / 405 °C  
Design Pressure : 9,0 / 30,0 bar g  
Code : PED 97/23/CE & ASME VIII Div.1, Ed.2007 Add.2008  
Operation Temperature : 50 up to 380°C  
Operation Pressure : 4,0 up to 5,0 barg  
Fluid to be heated : SYNGAS  
Material of construction : SA 304L, SA 316L

**Client / User** : **NIZHNEKAMSK PETROCHEMICAL COMPLEX; Tartarstan**  
Engineering : UOP  
Year of Construction : 2009

Power / Voltage : 22 - 468 kW / 400 V  
Explosion protection : Ex d IIC, T3  
Design Temperature : -34 / 650°C  
Design Pressure : -1 (FV) / 5,5 - 16,4 bar g  
Code : ASME VIII Div.1, Ed.2007 Add.2008. U-Stamp & GOST-R  
Operation Temperature : 379 up to 581°C  
Operation Pressure : 2,41 up to 13,2 bar g  
Fluid to be heated : div. gases  
Material of construction : SA 321H

**Client / User** : **STATOIL; STAVANGER; Norway**  
Engineering : LINDE AG  
Year of Construction : 2009

Power / Voltage : 30 kW / 400 V  
Explosion protection : Ex de IIC, T3  
Design Temperature : -19/ 110 °C  
Design Pressure : +209 barg  
Code : PED 23/97/EC & AD-2000 MB  
Operation Temperature : 60 °C  
Operation Pressure : 179 barg  
Fluid to be heated : Hydrocarbon (HC)  
Material of construction : P355NH, CS

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**Client / User** : **GULF CONSOLIDATED CONTRACTORS, Saudi Arabia**  
Engineering : **GEA Westfalia**  
Year of Construction : 2009

Power / Voltage : 2750 kW / 480 V  
Explosion protection : -  
Design Temperature : 0 / 180 °C  
Design Pressure : 10,0 bar g  
Code : PED 23/97/EC & AD-2000 MB  
Operation Temperature : 110°C  
Operation Pressure : 4,0 up to 5,0 barg  
Fluid to be heated : Water  
Material of construction : C 22.8/ P 235 GH

**Client / User** : **MOTOR OIL HELLAS, CORINTH REFINERIES, Greece**  
Engineering : Technip Italy  
Year of Construction : 2009

Power / Voltage : 756 kW / 380 V  
Explosion protection : Ex de IIC, T3  
Design Temperature : -4 / 410°C  
Design Pressure : 5,0 Kg/cm<sup>2</sup> g  
Code : PED 97/23/CE & ASME VIII Div.1, Ed.2007 Add.2008  
Operation Temperature : 400°C  
Operation Pressure : 0,2 up to 0,27 Kg/cm<sup>2</sup> g  
Fluid to be heated : Nitrogen / Process gas  
Material of construction : 1.4404 (SS316L)

**Client / User** : **ZAO SIBUR HOLDING; PERM; Russia**  
Engineering : TOYO Engineering KOREA LTD.  
Year of Construction : 2009

Power / Voltage : 330 kW / 380 V  
Explosion protection : Ex de IIB, T2  
Design Temperature : -35/ 350 °C  
Design Pressure : +1,0 MPa  
Code : ASME VIII Div.1, Ed.2007  
Operation Temperature : 320 °C  
Operation Pressure : 0,565 bMPa  
Fluid to be heated : Nitrogen  
Material of construction : SA350 LF2/ SA 333 Gr6 / SA 516 Gr70

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The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **AO Sterlitamanski, Russia**

Engineering : --  
Year of Construction : 2008

Power / Voltage : 600 kW / 380 V  
Explosion protection : EEx de IIC, T3  
Design Temperature : -40 / 80 °C  
Design Pressure : 4,0 bar g  
Code : PED & ASME VIII Div.1, Ed.2007 & GOST  
Operation Temperature : 30°C  
Operation Pressure : 2,5 up to 3,8 barg  
Fluid to be heated : Heat Transfer Oil  
Material of construction : SA105 / SA 106 / SA 316L

**Client / User** : **GULF Consolidated Contractors, AL.QASSIM (SA)**

Engineering : GEA Westfalia Separator Systems GmbH  
Year of Construction : 2008

Power / Voltage : 5x 2750 kW / 400 V  
Explosion protection : --  
Design Temperature : 160 °C  
Design Pressure : 1000 kPa g  
Code : PED 23/97/EC & AD-2000 MB  
Operation Temperature : 80 up to 110 °C  
Operation Pressure : 500 kPa g  
Fluid to be heated : Water  
Material of construction : P265GH (SA516Gr.60) / 1.4541 (SS321)

**Client / User** : **ABU DHABI POLYMERS Comp. Ltd., Abu Dahbi**

Engineering : Tecnimont  
Year of Construction : 2008

Power / Voltage : 530, 1400 kW / 415 V  
Explosion protection : EEx d IIC, T3  
Design Temperature : +5 / 345°C  
Design Pressure : FV / 11,0 barg  
Code : ASME VIII Div.1, Ed.2004 Add.2006, U-Stamp  
Operation Temperature : 328°C  
Operation Pressure : 5 up to 8 barg  
Fluid to be heated : Nitrogen  
Material of construction : 1.4541 (SS321)

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The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **BRPL, India**  
Engineering : Engineers India  
Year of Construction : 2007, 2008

Power / Voltage : 30, 70, 100, 620 kW / 415 V  
Explosion protection : EEx di IIB, T3  
Design Temperature : +8/ 300, 343, 550 °C  
Design Pressure : +1,0, 14,7 barg  
Code : ASME VIII Div.1, Ed.2004 Add.2005, U-Stamp  
Operation Temperature : 299 up to 500 °C  
Operation Pressure : 0,48 up to 11,8 barg  
Fluid to be heated : Process gas, Nitrogen  
Material of construction : SA182 F347 / SA 106 / SA 316L

**Client / User** : **Forschungszentrum Karlsruhe**  
Engineering : --  
Year of Construction : 2007/2008

Power / Voltage : 750 kW / 400 V  
Explosion protection : --  
Design Temperature : 12 / 550 °C  
Design Pressure : FV/ 110 bar g  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 330°C  
Operation Pressure : 81 barg  
Fluid to be heated : Helium  
Material of construction : 1.4404 (SS316L)

**Client / User** : **Fortum, Finland**  
Engineering : Neste Oil Oyj  
Year of Construction : 2007/2008

Power / Voltage : 2x1200, 1x1000 kW / 690 V  
Explosion protection : EEx di IIC, T3  
Design Temperature : -40 / 400°C  
Design Pressure : 78,0 barg  
Code : PED & AD-2000 Merkblatt & GOST  
Operation Temperature : 370°C  
Operation Pressure : 59,1 barg  
Fluid to be heated : H2-Rich gas, HC, Sour gas  
Material of construction : 1.4541 (SS321)

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**Client / User** : **SHELL Deutschland Oil GmbH**  
Engineering : --  
Year of Construction : 2007

Power / Voltage : 177 kW / 400 V  
Explosion protection : EEx de IIC, T3  
Design Temperature : -10/+600 °C  
Design Pressure : 0,6 barg  
Code : PED & ASME VIII Div.1  
Operation Temperature : 520 °C  
Operation Pressure : 0,35 barg  
Fluid to be heated : Process Gas  
Material of construction : Inconel 600

**Client / User** : **Promholding, Russia**  
Engineering : --  
Year of Construction : 2007

Power / Voltage : 170 kW / 380 V  
Explosion protection : EEx de IIC, T3  
Design Temperature : -40 / 80 °C  
Design Pressure : 4,0 bar g  
Code : PED & AD-2000 Merkblatt & GOST  
Operation Temperature : 30°C  
Operation Pressure : 2,5 up to 3,8 barg  
Fluid to be heated : Natural Gas  
Material of construction : 1.4541 (SS321)

**Client / User** : **Giprogazoochistka, Russia**  
Engineering : --  
Year of Construction : 2007

Power / Voltage : 175 - 310 kW / 380 V  
Explosion protection : EEx de IIC, T3  
Design Temperature : -40 / 400°C  
Design Pressure : 6,0 barg  
Code : PED & AD-2000 Merkblatt & GOST  
Operation Temperature : 350°C  
Operation Pressure : 0,27 barg  
Fluid to be heated : Process Gas  
Material of construction : 1.4541 (SS321)

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The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **SABIC National Industrial Gases Co., YANBU III (SA)**  
Engineering : LINDE AG  
Year of Construction : 2006, 2007

Power / Voltage : 3 x 3520 kW / 660 V  
Explosion protection : --  
Design Temperature : 350 °C  
Design Pressure : 300 kPa g  
Code : ASME VIII Div.1, Ed.2004 Add.2005  
Operation Temperature : 245 °C  
Operation Pressure : 1,22 kPa g  
Fluid to be heated : Nitrogen  
Material of construction : SA516 Gr.60 / SA 105

**Client / User** : **SABIC National Industrial Gases Co., JUBAIL VII (SA)**  
Engineering : LINDE AG  
Year of Construction : 2006, 2007

Power / Voltage : 3 x 3520 kW / 660 V  
Explosion protection : --  
Design Temperature : 350 °C  
Design Pressure : 300 kPa g  
Code : ASME VIII Div.1, Ed.2004 Add.2005  
Operation Temperature : 245 °C  
Operation Pressure : 1,22 kPa g  
Fluid to be heated : Nitrogen  
Material of construction : SA516 Gr.60 / SA 105

**Client / User** : **GASCO ABU DHABI GAS INDUSTRIES Ltd.**  
Engineering : Snamprogetti S.p.A., Rom (IT)  
Year of Construction : 2007

Power / Voltage : 185, 305; 396; 148 kW / 415 V  
Explosion protection : EEx d IIC, T3  
Design Temperature : 343; 380; -60/85 °C  
Design Pressure : 3,5; 17.9 barg  
Code : ASME VIII Div.1, Ed.2004 Add.2005 with U-Stamp  
Operation Temperature : 240; 350; -45 °C  
Operation Pressure : 0.6; 0,85; 0.4 barg  
Fluid to be heated : gas mixture (lethal service); Refrigerant Propane  
Material of construction : SA 105 / SA 106/ SA 516 Gr.60 ; SS 321



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**Client / User** : **DOW CORNING Ltd. (ASIAN PILLAR PROJECT), PRC**  
Engineering : TOYO Engeneering KOREA  
Year of Construction : 2007

Power / Voltage : 2x 350 kW / 660 V  
Explosion protection : EEx di IIC, T4  
Design Temperature : -11.3/400 °C  
Design Pressure : 21,0 barg  
Code : ASME VIII Div.1, Ed.2004 Add.2005 with U-Stamp  
Operation Temperature : 340°C  
Operation Pressure : 8,0 barg  
Fluid to be heated : Syltherm 800  
Material of construction : SA 105 / SA 106/ SA 516 Gr.60

**Client / User** : **BAYER POLYURETHANES (SHANGHAI, PRC) Co., Ltd.**  
Engineering : Bayer Material Science  
Year of Construction : 2007

Power / Voltage : 900 kW / 690 V  
Explosion protection : EEx de IIC, T3  
Design Temperature : -10 - 350 °C  
Design Pressure : -0.1 / 7,0 MPa  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 310 °C  
Operation Pressure : 0,204 MPa  
Fluid to be heated : N<sub>2</sub>+H<sub>2</sub>+C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub>  
Material of construction : C22.8 / P265GH (A560 Gr.60)

**Client / User** : **Different Power Plants**  
Engineering : SIEMENS AG  
Year of Construction : 1998 - 2007

Power / Voltage : 160 - 260 kW / 380 / 400 / 415 V  
Explosion protection : --  
Design Temperature : -10 / 400 °C  
Design Pressure : 6,0 / 9,0 bar g  
Code : ASME VIII Div.1, PED & AD-2000 Merkblatt  
Operation Temperature : 270 °C  
Operation Pressure : 3,0 up to 4,5 bar g  
Fluid to be heated : Steam  
Material of construction : SA 105 / SA 106/ SA 516 Gr.60; ST 35.8I / C22.8 / P265GH

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Rig – Noble DAVE BREARD,-DANNY ADKINS;-JIM DAY**  
Engineering : CONVERTEAM (UK)  
Year of Construction : 2006, 2007

Power / Voltage : 12x 1200 kW / 1120 V/DC  
Explosion protection : --  
Design Temperature : -10 / 80°C  
Design Pressure : 6,0 barg  
Code : PED & AD-2000 Merkblatt + ABS  
Operation Temperature : 55°C  
Operation Pressure : 6,0 barg  
Fluid to be heated : Seawater  
Material of construction : 1.4571 (SS316Ti); Titanium

**Client / User** : **Different OFF SHORE Oil Companies**  
Engineering : ABB Norway, ABB Singapore  
Year of Construction : 2005, 2006, 2007

Power / Voltage : 14x 825; 8x 1200 kW / 1120 V/DC  
Explosion protection : --  
Design Temperature : -10 / 60 °C  
Design Pressure : static atmosphere  
Code : ASME VIII Div.1 + ABS  
Operation Temperature : 5 up to 60 °C  
Operation Pressure : - barg  
Fluid to be heated : Seawater  
Material of construction : 1.4571 (SS316Ti); Titanium

**Client / User** : **TASNEE Petrochemicals, Saudi Arabia**  
Engineering : LINDE AG / SAMSUNG Korea  
Year of Construction : 2006

Power / Voltage : 420 kW / 400 V  
Explosion protection : EEx de IIC, T3  
Design Temperature : 520 °C  
Design Pressure : 7,5 bar g  
Code : ASME VIII Div.1, Ed.2004 Add.2005  
Operation Temperature : 470 °C  
Operation Pressure : 3,9 bar g  
Fluid to be heated : Regeneration Gas, Steam, Nitrogen  
Material of construction : A182 F321 / A213 TP321

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **BIPROZAT Tarnow, Poland**  
Engineering : Zaklady Azotowe (P)  
Year of Construction : 2006

Power / Voltage : 105, 300, 1200 kW / 415 V  
Explosion protection : --  
Design Temperature : +5 / 350°C  
Design Pressure : -1,0 / +8,0 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 5 up to 310°C  
Operation Pressure : -1,0 up to 6,0 barg  
Fluid to be heated : DOWTHERM  
Material of construction : ST 35.8I / C22.8 / P265GH (A516 Gr.60)

**Client / User** : **Different OFF SHORE Oil Companies**  
Engineering : ABB Norway, ABB Singapore  
Year of Construction : 2005, 2006, 2007

Power / Voltage : 4000 kW / 1120 V/DC  
Explosion protection : --  
Design Temperature : 350 °C  
Design Pressure : - barg  
Code : --  
Operation Temperature : 300 °C  
Operation Pressure : - barg  
Fluid to be heated : Air  
Material of construction : 1.4541 (SS321)

**Client / User** : **Shell Nederland Chemie B.V.**  
Engineering : --  
Year of Construction : 2006

Power / Voltage : 500 kW / 690 V  
Explosion protection : EEx nR acc. IEC 79-15  
Design Temperature : 650 °C  
Design Pressure : 4,5 barg  
Code : Stoomwezen  
Operation Temperature : 630 °C  
Operation Pressure : 4,0 barg  
Fluid to be heated : H2O + HCL  
Material of construction : 1.4876H (Incoloy 800)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Qatar Liquefied Gas Company**  
Engineering : Air Liquide Engeneering INDIA--  
Year of Construction : 2006, 2007

Power / Voltage : 9, 190 kW / 415 V  
Explosion protection : Safe area  
Design Temperature : -10/110, -10/400 °C  
Design Pressure : 2,0, 2,0 barg  
Code : : ASME VIII Div.1, Ed.2004 Add.2005 with U-Stamp  
Operation Temperature : 65, 290°C  
Operation Pressure : 1,0, 0,196 barg  
Fluid to be heated : Air, Nitrogen/Air  
Material of construction : SA 105 / SA 106/ SA 516 Gr.70

**Client / User** : **Neste Oil Oy**  
Engineering : Malux, FIN  
Year of Construction : 2006

Power / Voltage : 1000 kW, 600 kW / 690 V  
Explosion protection : EEx di IIB, T3  
Design Temperature : -40 - 400 °C  
Design Pressure : 78,0, 61,0 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 88 up to 370 °C  
Operation Pressure : 60,0, 36,7 barg  
Fluid to be heated : H2 - Rich Gas  
Material of construction : 1.4541 (SS321)

**Client / User** : **Turkiye Petrol Rafinerileri A.S. (TR)**  
Engineering : Technicas Reuinidas, (E)  
Year of Construction : 2006

Power / Voltage : 725/375/190/8/45 kW / 400 V  
Explosion protection : EEx d IIC, T3  
Design Temperature : 275 - 565 °C  
Design Pressure : 8,3 up to 10,0 kg/cm<sup>2</sup> g  
Code : ASME VIII Div.1, Ed.2004 Add.2005 with U-Stamp  
Operation Temperature : 175 up to 530 °C  
Operation Pressure : 4,0 up to 5,75 kg/cm<sup>2</sup> g  
Fluid to be heated : Process Gas  
Material of construction : A182 F321H / A213 TP321H / Incoloy 800 / SA105 / SA106

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The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Texaco**  
Engineering : --  
Year of Construction : 2006

Power / Voltage : 47/33/20 kW / 415 V  
Explosion protection : EEx de IIC, T3  
Design Temperature : 677 °C  
Design Pressure : 1,1 barg  
Code : : ASME VIII Div.1, Ed.2001 Add.2003  
Operation Temperature : 571°C  
Operation Pressure : 0,1 barg  
Fluid to be heated : Gas mixture  
Material of construction : A182 F321 / A213 TP321

**Client / User** : **National Iranian Oil Company**  
Engineering : ENI, Iran  
Year of Construction : 2006

Power / Voltage : 500 kW / 400 V  
Explosion protection : EEx de IIB, T3  
Design Temperature : 130 °C  
Design Pressure : 90,0 barg  
Code : ASME VIII Div.1, Ed.2001 Add.2003  
Operation Temperature : 69,1 °C  
Operation Pressure : 61,0 barg  
Fluid to be heated : Fuel Gas  
Material of construction : A182 F316L / A213 TP316L

**Client / User** : **Merck**  
Engineering : Outokumpu Technology GmbH, (DE)  
Year of Construction : 2005

Power / Voltage : 450 kW / 380 V  
Explosion protection : -  
Design Temperature : 330 °C  
Design Pressure : 1,0 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 320 °C  
Operation Pressure : 1,053 bara  
Fluid to be heated : Air  
Material of construction : ST 35.8I / C22.8 / P265GH (A516 Gr.60)

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The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **LIEBHERR AEROSPACE, (DE)**  
Engineering : --  
Year of Construction : 2005

Power / Voltage : 450 kW / 400 V  
Explosion protection : -  
Design Temperature : 450 °C  
Design Pressure : 25.0 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 400°C  
Operation Pressure : max. 25,0 barg  
Fluid to be heated : Air  
Material of construction : 1.4541 (SS321)

**Client / User** : **RWE, Systems**  
Engineering : --  
Year of Construction : 2005

Power / Voltage : 120 kW / 400 V  
Explosion protection : -  
Design Temperature : 150 °C  
Design Pressure : 10,0 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 95 °C  
Operation Pressure : 0,5 barg  
Fluid to be heated : Thermal Oil  
Material of construction : ST 35.8I / C22.8 / P265GH (A516 Gr.60)

**Client / User** : **WACKER CHEMIE GmbH; (DE)**  
Engineering : --  
Year of Construction : 2005

Power / Voltage : 2 x 1050 kW / 690 V  
Explosion protection : EEx de IIC T3  
Design Temperature : 350 °C  
Design Pressure : 12 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 350 °C  
Operation Pressure : 2 barg  
Fluid to be heated : Thermal Oil  
Material of construction : ST 35.8I / P265GH (A516 Gr.60)

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The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Midor Refinery, Egypt**  
Engineering : --  
Year of Construction : 2005

Power / Voltage : 255 kW / 400 V  
Explosion protection : EEx d IIC, T3  
Design Temperature : 380 °C  
Design Pressure : 5.0 barg  
Code : ASME VIII Div.1  
Operation Temperature : 340°C  
Operation Pressure : 0,1 up to 0,26 barg  
Fluid to be heated : Process Gas / Nitrogen  
Material of construction : A182 F316L / A213 TP316L

**Client / User** : **TOTAL, (FR)**  
Engineering : Lurgi AG, (DE)  
Year of Construction : 2005

Power / Voltage : 650 kW / 690 V  
Explosion protection : EEx nR IIC  
Design Temperature : -20 / 370 °C  
Design Pressure : 4,0 barg  
Code : PED & ASME VIII Div.1  
Operation Temperature : 350°C  
Operation Pressure : 0,25 barg  
Fluid to be heated : Regeneration Gas  
Material of construction : SA 105 / SA 516

**Client / User** : **Auramarine, Finland**  
Engineering : Malux, FI  
Year of Construction : 2005

Power / Voltage : 200 kW / 400 V  
Explosion protection : EEx d IIC, T3  
Design Temperature : 180 °C  
Design Pressure : 13,0 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 135 up to 145 °C  
Operation Pressure : 10,0 barg  
Fluid to be heated : Cruide Oil  
Material of construction : ST 35.8I / C 22.8

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The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Baosteel, People Republic of China**  
Engineering : Baosteel, Hamburg (DE)  
Year of Construction : 2004

Power / Voltage : 6 kW / 380 V  
Explosion protection : -  
Design Temperature : 100 °C  
Design Pressure : 2,0 barg  
Code : AD-2000 Merblätter  
Operation Temperature : 80 °C  
Operation Pressure : 2,0 barg  
Fluid to be heated : Oil  
Material of construction : ST 35.8I / C 22.8

**Client / User** : **National Petrochemical Company, Iran**  
Engineering : Lurgi AG, (DE)  
Year of Construction : 2005

Power / Voltage : 310 kW / 400 V  
Explosion protection : EEx d IIC, T2  
Design Temperature : 0 / 500 °C  
Design Pressure : 54,0 barg  
Code : ASME VIII Div.1, Ed.2001 Add.2002 with U-Stamp  
Operation Temperature : 485°C  
Operation Pressure : 4,0 up to 10,0 barg  
Fluid to be heated : Nitrogen / Hydrogen  
Material of construction : SA182 F321 / SA312 TP321

**Client / User** : **NRL, India**  
Engineering : Toyo-India  
Year of Construction : 2005

Power / Voltage : 760 kW / 415 V  
Explosion protection : EEx d IIC T3  
Design Temperature : +5 / 350 °C  
Design Pressure : 22,6 barg  
Code : ASME VIII Div.1, Ed.2001  
Operation Temperature : 310°C  
Operation Pressure : 10,1 barg  
Fluid to be heated : HC & H<sub>2</sub> Rich Gas  
Material of construction : SA 105 / SA106 / SA 516



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The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **NATIONAL PETROCHEMICAL COMPANY, (IR)**  
Engineering : Uhde GmbH, (DE)  
Year of Construction : 2004

Power / Voltage : 180 kW / 400 V  
Explosion protection : EEx di IIC T3  
Design Temperature : 300 °C  
Design Pressure : 6.0 barg  
Code : ASME VIII Div.1  
Operation Temperature : 240°C  
Operation Pressure : 5.0 barg  
Fluid to be heated : Nitrogen  
Material of construction : SA 105 / SA 106

**Client / User** : **BP Gelsenkirchen, (DE)**  
Engineering : Fluor Daniel, (NL)  
Year of Construction : 2004

Power / Voltage : 261 kW / 400 V  
Explosion protection : EEx d IIC T4  
Design Temperature : 120 °C  
Design Pressure : 25 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : -1 up to 10 °C  
Operation Pressure : 12 barg  
Fluid to be heated : Biodiesel  
Material of construction : ST 35.8I / P265GH (A516 Gr.60)

**Client / User** : **HKW DELITZSCH, (DE)**  
Engineering : Alstom Power Boiler GmbH, (DE)  
Year of Construction : 2004

Power / Voltage : 66 kW / 400 V  
Explosion protection : EEx nR IIC  
Design Temperature : -20 / 100 °C  
Design Pressure : 20.0 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : -5 / 10°C  
Operation Pressure : 16 barg  
Fluid to be heated : Natural Gas  
Material of construction : 1.4541 (SS321)/ 1.4571 (SS316Ti)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **MOL HUNGARIAN OIL AND GAS PLC, (HU)**  
Engineering : OTF-IGN Petrotech Kft., (HU)  
Year of Construction : 2004

Power / Voltage : 530 kW / 400 V  
Explosion protection : EEx de IIC T3  
Design Temperature : 250 °C  
Design Pressure : 30 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 200°C  
Operation Pressure : 20 barg  
Fluid to be heated : Hydrocarbon & Hydrogen  
Material of construction : ST 35.8I / P265GH (A516Gr.60)

**Client / User** : **MINERALÖL RAFFENERIE OBERRHEIN; (DE)**  
Engineering : --  
Year of Construction : 2004

Power / Voltage : 23 kW / 500 V  
Explosion protection : EEx de IIC T3  
Design Temperature : 677 °C  
Design Pressure : 1.0 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : -26 up to 340 °C  
Operation Pressure : 0.15 barg  
Fluid to be heated : Air  
Material of construction : Incoloy 800 (1.4876)

**Client / User** : **STATOIL AS, (NO)**  
Engineering : Linde AG, (DE)  
Year of Construction : 2004

Power / Voltage : 140 kW / 690 V  
Explosion protection : EEx de IIC T3  
Design Temperature : -196 / 60 °C  
Design Pressure : 135 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : -35 / 50°C  
Operation Pressure : 110 barg  
Fluid to be heated : Nitrogen  
Material of construction : 1.4541 (SS321)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **COMP. PORTUGUESA DE ELECTRICIPADE SA, (PT)**  
Engineering : Koch Transporttechnik GmbH, (DE)  
Year of Construction : 2004

Power / Voltage : 160 kW / 400 V  
Explosion protection : --  
Design Temperature : 360 °C  
Design Pressure : 10 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 310°C  
Operation Pressure : 6 barg  
Fluid to be heated : Steam  
Material of construction : ST 35.8I / P265GH (A516 Gr.60)

**Client / User** : **WACKER CHEMIE GmbH; (DE)**  
Engineering : --  
Year of Construction : 2004

Power / Voltage : 2 x 1050 kW / 690 V  
Explosion protection : EEx de IIC T3  
Design Temperature : 350 °C  
Design Pressure : 12 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 350 °C  
Operation Pressure : 2 barg  
Fluid to be heated : Thermal Oil  
Material of construction : ST 35.8I / P265GH (A516 Gr.60)

**Client / User** : **BOREALIS POLYETHYLENE OY, (AT)**  
Engineering : Technimont SA, (IT)  
Year of Construction : 2004

Power / Voltage : 286 kW / 690 V  
Explosion protection : EEx de IIC T3  
Design Temperature : -10 / 343 °C  
Design Pressure : 15 barg  
Code : PED & AD-2000 Merkblatt  
Operation Temperature : 328 °C  
Operation Pressure : 2.5 barg  
Fluid to be heated : Nitrogen  
Material of construction : 1.4541 (SS321 / 1.4571 (SS316Ti))

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **JOHNSON MATTHEY CHEMICALS, (DE)**  
 Engineering : ---  
 Year of Construction : 2004

Power / Voltage : 220 kW / 400 V  
 Explosion protection : EEx d IIC T2  
 Design Temperature : 600 °C  
 Design Pressure : 3.0 barg  
 Code : PED & AD-2000 Merkblatt  
 Operation Temperature : 500°C  
 Operation Pressure : 1.5 barg  
 Fluid to be heated : Hydrogen  
 Material of construction : Incoloy 800 (1.4876)

**Client / User** : **ATOFINA DEUTSCHLAND GMBH; (DE)**  
 Engineering : --  
 Year of Construction : 2004

Power / Voltage : 48 kW / 690 V  
 Explosion protection : EEx de IIC T3  
 Design Temperature : 700 °C  
 Design Pressure : Atmosphere  
 Code : Mfr.'s Standard  
 Operation Temperature : 700 °C  
 Operation Pressure : Atmosphere  
 Fluid to be heated : Process Gas  
 Material of construction : 1.4541 (SS321)/ 1.4571 (SS316Ti)

**Client / User** : **TURKMENBASHI GAS, (TM)**  
 Engineering : Technip KTI, (IT)  
 Year of Construction : 2003

Power / Voltage	: 160 kW / 400 V	90 kW / 400 V	50 kW / 400V
Explosion protection	:	EEx de IIC T3	
Design Temperature	: -17 / 350 °C	-17 / 350 °C	-17 / 420 °C
Design Pressure	:	5.0 barg	
Code	:	ASME VIII Div.1	
Operation Temperature	: 159 up to 240 °C	163 up to 238 °C	258 up to 320 °C
Operation Pressure	:	0.001 up to 0.28 barg	
Fluid to be heated	:	Process Gas	
Material of construction	: A105	A105	A105 316L

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Sakhalin Energy Investment Company SEIC, (RU)**  
Engineering : ABB, (NO)  
Year of Construction : 2003

Power / Voltage : 4x 450 kW / 1120 V  
Explosion protection : EEx e IIC T2  
Design Temperature : -40 / +80°C  
Design Pressure : Atmosphere  
Code : Mfr.'s Standard  
Operation Temperature : 60°C  
Operation Pressure : Water column  
Fluid to be heated : Sea water  
Material of construction : 1.4571 (SS316Ti)

**Client / User** : **FINA REFINERY ANTWERP, (BE)**  
Engineering : --  
Year of Construction : 2003

Power / Voltage : 650 kW / 660 V  
Explosion protection : EEx d IIC T3  
Design Temperature : 593 °C  
Design Pressure : 4.3 barg  
Code : PED & ASME VIII Div.1  
Operation Temperature : 536 °C  
Operation Pressure : 3.2 barg  
Fluid to be heated : Gas mixture  
Material of construction : Incoloy 800 (1.4876)

**Client / User** : **SASOL IND. (PTY) LTD, SECUNDA (ZA)**  
Engineering : Linde Eng., (DE)  
Year of Construction : 2003, 2007

Power / Voltage : 743 kW / 525 V  
Explosion protection : EExd IIC  
Design Temperature : 380 °C  
Design Pressure : 7.0 barg  
Code : ASME VIII Div. 1 & SASOL Standard  
Operation Temperature : 350 °C  
Operation Pressure : 1.3 barg  
Fluid to be heated : Regeneration Gas  
Material of construction : A266, A105, A106

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

<b>Client / User</b>	<b>: JSC Metafrax 1 - 4, (RU)</b>	
Engineering	: Perstorp Formox AB, (SE)	
Year of Construction	: 2003, 2006	
Power / Voltage	: 400 kW / 380V	100 kW / 380 V
Explosion protection	: EEx dei IIB T2	EEx dei IIB T2
Design Temperature	: -47 / 350 °C	-47 / 500 °C
Design Pressure	: 3,5barg	0.5 barg
Code	: ASME VIII Div.1	ASME VIII Div.1
Operation Temperature	: 20 up to 240 °C	0 up to 250 °C
Operation Pressure	: 0.08 up to 0.6 barg	0.1 barg
Fluid to be heated	: Process gas	Process Gas
Material of construction	: SA350 LF2 / SA333	A182 F321 / A312 TP321

<b>Client / User</b>	<b>: BP Gelsenkirchen, (DE)</b>	
Engineering	: Flour Daniel, (NL)	
Year of Construction	: 2003	
Power / Voltage	: 261 kW / 400 V	
Explosion protection	: EEx d IIC T4	
Design Temperature	: 120 °C	
Design Pressure	: 25 barg	
Code	: PED & AD-2000 Merkblatt	
Operation Temperature	: -1 up to 10 °C	
Operation Pressure	: 12 barg	
Fluid to be heated	: Biodiesel	
Material of construction	: ST 35.8I / P265GH (A516Gr.60)	

<b>Client / User</b>	<b>: Agip (IT)</b>	
Engineering	: Cella, (IT)	
Year of Construction	: 2003	
Power / Voltage	: 210 kW / 400 V	
Explosion protection	: EEx de IIC T2	
Design Temperature	: -10/+80°C	
Design Pressure	: 40 bar	
Code	: PED 97/23/EG + AD-2000 Merkblätter	
Operation Temperature	: +60°C	
Operation Pressure	: 22.5 bar	
Fluid to be heated	: Crude Oil	
Material of construction	: St 35.8I	

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Statoil A.S.A. (NO)**  
Engineering : Linde AG, (DE)  
Year of Construction : 2003

Power / Voltage : 35-725 kW / 400 V  
Explosion protection : EEx de IIC T3  
Design Temperature : -196 / +350°C  
Design Pressure : 18-90 bar  
Code : PED 97/23/EG + AD-2000 Merkblätter  
Operation Temperature : -176 up to 260°C  
Operation Pressure : 1.0 up to 85 bar  
Fluid to be heated : Alkane  
Material of construction : 1.4571 (SS321Ti)

**Client / User** : **Wintershall, (DE)**  
Engineering : Tractebel, (DE)  
Year of Construction : 2003

Power / Voltage : 300 kW / 400 V  
Explosion protection : EEx d IIC T3  
Design Temperature : 250°C  
Design Pressure : 8 bar  
Code : PED 97/23/EG + AD-2000 Merkblätter  
Operation Temperature : 204 °C  
Operation Pressure : 1 bar  
Fluid to be heated : Triethylneglycol  
Material of construction : 1.4571 (SS316Ti)

**Client / User** : **Bergakademie Freiberg, (DE)**  
Engineering : Lurgi Oel Gas Chemie, (DE)  
Year of Construction : 2003

Power / Voltage : 720/100/343 kW / 400 V  
Explosion protection : -  
Design Temperature : 275/345/420/670°C  
Design Pressure : 131 bar  
Code : PED 97/23/EG + AD-2000 Merkblätter  
Operation Temperature : 320/400/650°C  
Operation Pressure : 115 bar  
Fluid to be heated : steam, natural gas  
Material of construction : 13 CrMo 44 (F11/F12), 1.4541 (SS321), Nicrofer 625

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **National Petrochemical Company, (IR)**  
Engineering : Lurgi Oel Gas Chemie, (DE)  
Year of Construction : 2003

Power / Voltage : 200 kW / 400 V  
Explosion protection : EEx d IIC T3  
Design Temperature : 500°C  
Design Pressure : 54 bar  
Code : ASME VIII, Div. 1, U-stamp  
Operation Temperature : 400°C  
Operation Pressure : 10 bar  
Fluid to be heated : N2 + H2  
Material of construction : SA 321

**Client / User** : **Merk, Sharp & Dohme, (UK)**  
Engineering : Jacobs Eng., (IE)  
Year of Construction : 2003

Power / Voltage : 60 - 105 kW / 400 V  
Explosion protection : EEx d IIC T3  
Design Temperature : -100/+200°C  
Design Pressure : 10 bar  
Code : PED 97/23/EG + ASME VIII, Div. 1  
Operation Temperature : -100 up to 150 °C  
Operation Pressure : 6 bar  
Fluid to be heated : XLS Syltherm  
Material of construction : 1.4541 (SS321)

**Client / User** : **Bayer AG, (DE)**  
Engineering : Bayer AG, (DE)  
Year of Construction : 2002

Power / Voltage : 25 kW / 400 V  
Explosion protection : EEx d IIC T3  
Design Temperature : -35/+100 °C  
Design Pressure : 6 bar  
Code : PED 97/23/EG + AD-2000 Merkblätter  
Operation Temperature : -35 up to 10 °C  
Operation Pressure : 1,2 bar  
Fluid to be heated : Cl-Gas  
Material of construction : 1.4571 (SS316Ti)



# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Universität Dortmund, (DE)**  
Engineering : --  
Year of Construction : 2002

Power / Voltage : 6 kW / 400 V  
Explosion protection : EEx d IIC T3  
Design Temperature : +650°C  
Design Pressure : 26 bar  
Code : PED 97/23/EG + AD-2000 Merkblätter  
Operation Temperature : 600°C  
Operation Pressure : 25 bar  
Fluid to be heated : Process gas  
Material of construction : Alloy 800 H

**Client / User** : **PCK Raffinerie, Schwedt, (DE)**  
Engineering : Technip, (NL)  
Year of Construction : 2002

Power / Voltage : 500 kW / 690 V  
Explosion protection : EEx d IIC T3  
Design Temperature : 520°C  
Design Pressure : 37,5 bar  
Code : PED 97/23/EG + AD-2000 Merkblätter  
Operation Temperature : +500°C  
Operation Pressure : 14,9 bar  
Fluid to be heated : Nitrogen  
Material of construction : 1.4541, (SS321)

**Client / User** : **Borzouyeh Petrochemical Corp., (IR)**  
Engineering : Toyo Eng. - SAZEH - LG E&C, (JP)  
Year of Construction : 2002

Power / Voltage : 204 - 1539 kW / 400 V  
Explosion protection : EExd II C  
Design Temperature : 480°C up to 565°C  
Design Pressure : 8.8 bar up to 11.5 bar  
Code : ASME VIII Div. 1  
Operation Temperature : 230°C up to 520°C  
Operation Pressure : 3.6 bar up to 9.6 bar  
Fluid to be heated : Process gas  
Material of construction : A 182 321 / A 355 Gr.11

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **RWE - DEA, (DE)**  
Engineering : RWE - DEA, (DE)  
Year of Construction : 2002

Power / Voltage : 190 kW / 400 V  
Explosion protection : EExd II C  
Design Temperature : -50°C / +50°C  
Design Pressure : 98.0 bar  
Operation Temperature : -44°C up to 5°C  
Operation Pressure : 87.0 bar  
Fluid to be heated : fuel gas  
Material of construction : 1.4541, (SS321)

**Client / User** : **Jilin Chemical Group, (CN)**  
Engineering : Linde Impianti Italia S.p.A., (IT)  
Year of Construction : 2001

Power / Voltage : 1.425 kW / 690 V  
Explosion protection : EEx d IIC T3  
Design Temperature : -40/230°C  
Design Pressure : 173 bar g  
Code : ASME VIII Div. 1  
Operation Temperature : 500°C  
Operation Pressure : 80 bar  
Fluid to be heated : Syntesis gas  
Material of construction : SA479 316Ti

**Client / User** : **Statoil A.S.A., (NO)**  
Engineering : Kvaerner Oil & Gas, (NL)  
Year of Construction : 2001

Power / Voltage : 250 kW / 690 V  
Explosion protection : EEx d IIC T3  
Design Temperature : -10/150°C  
Design Pressure : 229 bar g  
Code : BS 5500  
Operation Temperature : 35°C  
Operation Pressure : 209 bar g  
Fluid to be heated : Fuel gas  
Material of construction : SA 182 F51

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **BASF Hua Yuan Nylon Co. Ltd., (CN)**  
Engineering : Rieter Automatik GmbH, (DE)  
Year of Construction : 2001

Power / Voltage : 2 x 45 kW / 380 V  
Design Temperature : 350°C  
Design Pressure : 6 bar g  
Code : AD-Merkblätter / China Stamp  
Operation Temperature : 320°C  
Operation Pressure : 2.57 bar g  
Fluid to be heated : Diphyl  
Material of construction : P265GH, (A516 Gr.60)

**Client / User** : **PO Salawatnefleorgsnthes / Baschkortostan, (RU)**  
Engineering : Lurgi Life Science, (DE)  
Year of Construction : 2001

Power / Voltage : 160 kW / 400V  
Explosion protection : EEx d IIC T3  
Design Temperature : 570°C  
Design Pressure : 8 bar g  
Code : AD-Merkblatt  
Operation Temperature : 550°C  
Operation Pressure : 2,5 bar g  
Fluid to be heated : Nitrogen  
Material of construction : 1.4571 (SS316Ti) / 1.4541 (SS321)

**Client / User** : **AgipPetroli, (IT)**  
Engineering : AgipPetroli, (IT)  
Year of Construction : 2001

Power / Voltage : 325 kW / 380 V  
Explosion protection : IP 54  
Design Temperature : 450°C  
Design Pressure : 1.5 bar g  
Code : AD-Merkblätter  
Operation Temperature : 430°C  
Operation Pressure : 1.3 bar g  
Fluid to be heated : Air  
Material of construction : 1.4541, (SS321)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Auramarine Ltd., (FI)**  
Engineering : Malux Oy, (FI)  
Year of Construction : 2001

Power / Voltage : 4 x 100 kW, 12 x 150 kW / 480 V  
Explosion protection : EEx d IIC T3  
Design Temperature : 185°C  
Design Pressure : 13.0 bar  
Code : AD-Merkblätter  
Operation Temperature : 135°C  
Operation Pressure : 4.0 bar g  
Fluid to be heated : Crude oil  
Material of construction : St 35.8/I

**Client / User** : **Fortum, (FI)**  
Engineering : Neste Eng., (FI)  
Year of Construction : 2001

Power / Voltage : 2 x 1400 kW / 690 V  
Explosion protection : EEx d IIC T3  
Design Temperature : 400°C  
Design Pressure : 25.5 bar g  
Code : SFS  
Operation Temperature : 250°C  
Operation Pressure : 12.5 bar g  
Fluid to be heated : Hot oil  
Material of construction : St 35.8/I

**Client / User** : **Amoco Zhuhai Chemicals Corp. (CN)**  
Engineering : Technip KTI, (IT)  
Year of Construction : 2001

Power / Voltage : 600 kW / 380 V  
Explosion protection : EExd II C  
Design Temperature : -42°C / +75°C  
Design Pressure : 10.0 bar  
Code : ASME VIII Div. 1 - TEMA "B"  
Operation Temperature : 32.5°C  
Operation Pressure : Atmosphere  
Fluid to be heated : Propane / butane  
Material of construction : A 182 321

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **Nederlandse Kraanbouw Mattschappij (NL)**  
Engineering : Nederlandse Kraanbouw Mattschappij, (NL)  
Year of Construction : 2001

Power / Voltage : 125 kW / 415 V  
Explosion protection : IP 65  
Design Temperature : 850°C  
Design Pressure : 1.0 bar  
Operation Temperature : 800°C  
Operation Pressure : 0.1 bar  
Fluid to be heated : air  
Material of construction : Incoloy 800

**Client / User** : **Jilin Chemical Group (CN)**  
Engineering : Linde Impianti Italia S.p.A., (IT)  
Year of Construction : 2000

Power / Voltage : 1.490 kW / 690 V  
Explosion protection : EEx d IIC T3  
Design Temperature : 425°C  
Design Pressure : 8 bar g  
Code : ASME VIII Div. 1  
Operation Temperature : 400°C  
Operation Pressure : 5.2 bar  
Fluid to be heated : N2-gas  
Material of construction : ASTM A 515 Gr.70

**Client / User** : **SHELL AG, MOERDIJK (NL)**  
Engineering : Kvaerner, Zoetermeer (NL)  
Year of Construction : 2000

Power / Voltage : 100 kW / 690 V  
Explosion protection : EExnR IIB  
Design Temperature : 250 °C  
Design Pressure : 4.5 barg  
Code : Stoomwezen  
Operation Temperature : 150 °C (max.)  
Operation Pressure : 2.0 barg  
Fluid to be heated : TTC  
Material of construction : ASTM A105, A106-Gr.B

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **GASCO ABU DHABI GAS IND. LTD., ABU DHABI (AE)**  
Engineering : KTI SpA., Rom (IT)  
Year of Construction : 2000

Power / Voltage : 90; 380 kW / 415 V  
Explosion protection : EExd IIC  
Design Temperature : 350; 85 °C  
Design Pressure : 5.0; 20.6 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 240; 53.1 °C (max.)  
Operation Pressure : 1.58; 7.8 barg  
Fluid to be heated : process gas; cooling water  
Material of construction : ASTM A105, A106-Gr.B; ASTM A240-304L, A182-304L

**Client / User** : **ZIMMER AG, FRANKFURT (DE)**  
Engineering : Zimmer AG, Frankfurt (DE)  
Year of Construction : 2000

Power / Voltage : 81 kW / 380 V  
Design Temperature : 350 °C  
Design Pressure : 6.0 barg  
Code : AD-Merkblätter  
Operation Temperature : 320 °C  
Operation Pressure : 1.5 barg  
Fluid to be heated : HTM / diphyle  
Material of construction : 1.0305, (St 35.8), 1.0425, (P265GH)

**Client / User** : **SHELL AG, MOERDIJK (NL)**  
Engineering : Kvaerner, Zoetermeer (NL)  
Year of Construction : 2000

Power / Voltage : 500 kW, 690 V  
Explosion protection : EExnR IIB  
Design Temperature : 650 °C  
Design Pressure : 4.5 barg  
Code : Stoomwezen  
Operation Temperature : 630 °C (max.)  
Operation Pressure : 5.0 barg  
Fluid to be heated : nitrogen  
Material of construction : ASTM A240-304H

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **BOREALIS GMBH, SCHWECHAT (DE)**  
Engineering : TECON Engineering, Schwechat (DE)  
Year of Construction : 2000

Power / Voltage : 180 kW / 400 V  
Design Temperature : -20 / 350 °C  
Design Pressure : 2,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 300 °C  
Operation Pressure : 1,1 barg  
Fluid to be heated : nitrogen  
Material of construction : 1.0305, (St 35.8), 1.0425, (P265GH)

**Client / User** : **ABU DHABI POLYMERS COMP. LTD., ABU DHABI (AE)**  
Engineering : Tecnimont SpA., Mailand (IT)  
Year of Construction : 2000

Power / Voltage : 400; 700 kW / 415 V  
Explosion protection : EExd IIC  
Design Temperature : 380 °C  
Design Pressure : 11 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 328 °C  
Operation Pressure : 5 barg (max.)  
Fluid to be heated : Nitrogen  
Material of construction : ASTM A106-Gr.B, A105

**Client / User** : **BASF / Sonatrach, (ES)**  
Engineering : LURGI Öl Gas Chemie, (DE).  
Year of Construction : 2000

Power / Voltage : 30 - 500 kW / 690 V  
Explosion protection : EExd IIC  
Design Temperature : 649°C  
Design Pressure : 18 bar g  
Code : ASME VIII DIV. 1  
UOP-Specification  
Operation Temperature : 540°C  
Operation Pressure : 2.3 bar g  
Fluid to be heated : Hydrogen  
Material of construction : Inconel 600

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **BASF / Sonatrach , (ES)**  
Engineering : Technip, (IT)  
Year of Construction : 2000

Power / Voltage : 16 - 410 kW / 690 V  
Explosion protection : EExd IIC  
Design Temperature : 649°C  
Design Pressure : 1,03 bar g  
Code : ASME VIII DIV. 1  
UOP-Specification  
Operation Temperature : 571°C  
Operation Pressure : 0,085 bar g  
Fluid to be heated : gas mixture, dry air  
Material of construction : Inconel 600

**Client / User** : **MOL HUNGARIAN OIL AND GAS, BUDAPEST (HU)**  
Engineering : Invest Petro Chemical, Budapest (HU)  
Year of Construction : 2000

Power / Voltage : 115 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 300 °C  
Design Pressure : 30,0 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 260 °C  
Operation Pressure : 19.2 barg  
Fluid to be heated : C3/C3  
Material of construction : 1.0305, (St 35.8), 1.0425, (P265GH)

**Client / User** : **LIEBHERR-AEROSPACE GMBH, LINDENBERG (DE)**  
Year of Construction : 2000

Power / Voltage : 450 kW / 400 V  
Design Temperature : 450°C  
Design Pressure : 25 barg  
Code : AD-Merkblätter  
Operation Temperature : 400°C  
Operation Pressure : 25 barg (max.)  
Fluid to be heated : air  
Material of construction : 1.4541, (SS321)



# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **BAYER AG, BRUNSBÜTTEL (DE)**  
Engineering : Bayer AG, Brunsbüttel (DE)  
Year of Construction : 2000

Power / Voltage : 450 kW / 690 V  
Explosion protection : EExde IIC  
Design Temperature : 350°C  
Design Pressure : 4.0 barg  
Code : AD-Merkblätter  
Operation Temperature : 330 °C  
Operation Pressure : 4.0 barg  
Fluid to be heated : Marlotherm  
Material of construction : 1.4541, (SS321)

**Client / User** : **BUDAPEST POWER PLANT LTD., BUDAPEST (HU)**  
Engineering : Fortum Eng. Ltd., Vantaa (FI)  
Year of Construction : 2000

Power / Voltage : 250 kW / 400 V  
Design Temperature : 80 °C  
Design Pressure : 8,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 30 °C (max.)  
Operation Pressure : 4 barg  
Fluid to be heated : Distillite oil  
Material of construction : 1.0305, (St 35.8), 1.0425, (P265GH)

**Client / User** : **MODINE EUROPE GMBH, FILDERSTADT (DE)**  
Year of Construction : 2000

Power / Voltage : 110 kW / 400 V  
Design Temperature : 770°C  
Design Pressure : 3,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 755°C  
Operation Pressure : 3,0 barg  
Fluid to be heated : air  
Material of construction : 1.4876 (Incoloy 800HT)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **DUBAL SERVICES LTD., (UK)**  
Year of Construction : 1999

Power / Voltage : 80 kW / 380 V  
Design Temperature : 800°C  
Design Pressure : 1,0 barg  
Code : Manufacturer Standard  
Operation Temperature : 750°C  
Operation Pressure : 0,1 barg  
Fluid to be heated : Air  
Material of construction : Incoloy 800

**Client / User** : **KATA LEUNA GMBH, LEUNA (DE)**  
Engineering : Lockwood Green Petersen, Wiesbaden (DE)  
Year of Construction : 1999

Power / Voltage : 250; 300 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 650; 700 °C  
Design Pressure : 6,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 630; 680 °C (max.)  
Operation Pressure : 4,7 barg  
Fluid to be heated : process gas  
Material of construction : 1.4876 (Incoloy 800HT))

**Client / User** : **ÖMV AG, WIEN (AT)**  
Engineering : Lurgi Oel-Gas-Chemie GmbH, (DE)  
Year of Construction : 1999

Power / Voltage : 186 kW / 500 V  
Explosion protection : EExde IIC  
Design Temperature : 482 °C  
Design Pressure : 29.0 barg  
Code : AD-Merkblätter  
Operation Temperature : 232 °C  
Operation Pressure : 20.2 barg  
Fluid to be heated : Hydrocarbon  
Material of construction : 1.7335, 1.4876 (Incoloy 800HT)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **FLOWCOMP STYSTEMTECHNIK, DORTMUND (DE)**  
**Year of Construction** : 1999

Power / Voltage : 570 kW / 480 V  
Design Temperature : 400 °C  
Design Pressure : 3 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 350 °C  
Operation Pressure : 2 barg  
Fluid to be heated : air  
Material of construction : ASTM A182-F321, A312-TP321

**Client / User** : **DEA MINERALÖL AG, HAMBURG (DE)**  
**Engineering** : Lurgi Oel-Gas-Chemie GmbH, Frankfurt (DE)  
**Year of Construction** : 1999

Power / Voltage : 352 kW / 500 V  
Design Temperature : 482 °C / 400 °C  
Design Pressure : 19.5 barg / 27.0 barg  
Code : AD-Merkblätter  
UOP-Specification  
Operation Temperature : 316 °C / 260 °C  
Operation Pressure : 8.2 barg / 24.6 barg  
Fluid to be heated : HCB / H<sub>2</sub>  
Material of construction : 1.7335, 1.4876 (Incoloy 800HT)

**Client / User** : **AROMATICS MALAYSIA SDN. TERENGGANU (MY)**  
**Engineering** : Toyo Eng. Corp., Tokyo (JP)  
**Year of Construction** : 1999

Power / Voltage : 170 kW / 415 V  
Explosion protection : EExd IIC  
Design Temperature : 649 °C  
Design Pressure : 4.2 barg  
Code : ASME VIII Div. 1  
UOP-Specification  
Operation Temperature : 577°C  
Operation Pressure : 2.5 barg  
Fluid to be heated : dry air  
Material of construction : ASTM A240-304H, A182-F304

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **AROMATICS MALAYSIA SDN. TERENGGANU (MY)**  
Engineering : Toyo Eng. Corp., Tokyo (JP)

Year of Construction : 1999  
Power / Voltage : 500 kW / 415 V  
Explosion protection : EExd IIC  
Design Temperature : 325 °C  
Design Pressure : 7.3 barg  
Code : ASME VIII Div.1  
Operation Temperature : 300 ° / 250 °C  
Operation Pressure : 4.6 barg / 5.5 barg  
Fluid to be heated : N<sub>2</sub>+H<sub>2</sub> / steam  
Material of construction : ASTM A105, A106-Gr.B

Power / Voltage : 285 kW / 415 V  
Explosion protection : EExd IIC  
Design Temperature : 649 °C  
Design Pressure : 14.1 barg  
Code : ASME VIII Div.1  
UOP-Specification  
Operation Temperature : 390 °C  
Operation Pressure : 11.85 barg  
Fluid to be heated : H<sub>2</sub>+HCBN  
Material of construction : ASTM A240-304H, A182-F304

Power / Voltage : 175 kW / 415 V  
Explosion protection : EExd IIC  
Design Temperature : 649 °C  
Design Pressure : 14.1 barg  
Code : ASME VIII Div.1  
UOP-Specification  
Operation Temperature : 566 °C  
Operation Pressure : 8.1 barg  
Fluid to be heated : H<sub>2</sub>+HCBN  
Material of construction : ASTM A240-304H, A182-F304

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **ELWERATH ERDGAS & ERDÖL GMBH, (DE)**  
**Engineering** : **IVU Bad Dürrenberg, (DE)**  
**Year of Construction** : **1999**

**Power / Voltage** : **64 kW / 400 V**  
**Explosion protection** : **EExd IIC**  
**Design Temperature** : **165 °C**  
**Design Pressure** : **6.0 barg**  
**Code** : **AD-Merkblätter**  
**Operation Temperature** : **120 °C**  
**Operation Pressure** : **1.0 barg**  
**Fluid to be heated** : **Water**  
**Material of construction** : **1.4462, 1.4529**

**Client / User** : **SAUDI EUROPEAN PETROCHEMICAL CO., (SA)**  
**Engineering** : **Parsons Int., Pasadena (USA)**  
**Year of Construction** : **1999**

**Power / Voltage** : **564 kW / 380 V**  
**Explosion protection** : **EExd IIB**  
**Design Temperature** : **400 °C**  
**Design Pressure** : **9.3 barg**  
**Code** : **ASME VIII Div. 1**  
**Operation Temperature** : **340 °C**  
**Operation Pressure** : **6.5 barg**  
**Fluid to be heated** : **nitrogen**  
**Material of construction** : **ASTM A312-TP304L, A182-F304L**

**Client / User** : **HAMBURGISCHE ELEKTRIZITÄTS WERK AG, (DE)**  
**Year of Construction** : **1999**

**Power / Voltage** : **2 x 800 kW / 690 V**  
**Design Temperature** : **380 °C**  
**Design Pressure** : **18.0 barg**  
**Code** : **AD-Merkblätter**  
**Operation Temperature** : **325 °C**  
**Operation Pressure** : **11 barg**  
**Fluid to be heated** : **steam**  
**Material of construction** : **1.0305, (St 35.8), 1.0425, (P265GH)**

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **PETROCHEMIA PLOCK S.A., PLOCK (PL)**  
**Engineering** : Technip Italy S.p.A., Rom (IT)  
**Year of Construction** : 1999

**Power / Voltage** : 1044 kW / 380 V  
**Explosion protection** : EExd IIC  
**Design Temperature** : -29/400 °C / -29/400 °C  
**Design Pressure** : 24.10 barg / 36.55 barg  
**Code** : ASME VIII Div. 1  
UOP-Specification  
**Operation Temperature** : 316 °C / 260 °C  
**Operation Pressure** : 4.20 barg / 31.4 barg  
**Fluid to be heated** : Hydrocarbon / H<sub>2</sub> rich gas  
**Material of construction** : ASTM A355-P12, A409 (Incoloy 800HT)

**Client / User** : **AROMATICS MALAYSIA SDN., TERENGGANU (MY)**  
**Engineering** : Toyo Eng. Corp., Tokyo (JP)  
**Year of Construction** : 1999

**Power / Voltage** : 570 kW / 380 V  
**Explosion protection** : EExd IIC  
**Design Temperature** : 649 °C  
**Design Pressure** : 4.2 barg  
**Code** : ASME VIII Div.1  
UOP-Specification  
**Operation Temperature** : 481 °C  
**Operation Pressure** : 2.5 barg  
**Fluid to be heated** : gas mixture  
**Material of construction** : ASTM A409 (Incoloy 800HT)

**Client / User** : **ABB INDUSTRI AS, BERGEN (NO)**  
**Year of Construction** : 1999

**Power / Voltage** : 450 kW / 1120 V  
**Explosion protection** : EExme  
**Design Temperature** : -20/+80 °C  
**Design Pressure** : 2 barg  
**Code** : Manufacturer's standard  
**Operation Temperature** : 60 °C (max.)  
**Operation Pressure** : water column  
**Fluid to be heated** : Sea water  
**Material of construction** : 1.4571, (SS316 Ti), Titanium Gr. 2

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **THAI ORGANIC CHEMICALS CO. LTD., (TH)**  
Engineering : Thai Organic Chemicals, Samutprakran (TH)  
Year of Construction : 1999

Power / Voltage : 200 kW / 380 V  
Explosion protection : EExd IIC  
Design Temperature : 380 °C  
Design Pressure : 7.0 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 250 °C  
Operation Pressure : 2.9 barg  
Fluid to be heated : propene (vapour phase)  
Material of construction : ASTM A106-Gr.B, A105

**Client / User** : **DOW DEUTSCHLAND INC., STADE (DE)**  
Engineering : Electromach, Hengelo (NL)  
Year of Construction : 1998

Power / Voltage : 200 kW / 690 V  
Explosion protection : restricted breathing enclosure  
Design Temperature : 200 °C  
Design Pressure : 15.0 barg  
Code : AD-Merkblätter  
Operation Temperature : 80 °C  
Operation Pressure : 2.5 barg  
Fluid to be heated : demin. water  
Material of construction : ASTM A105 (heating insert only)

**Client / User** : **SIEMENS AG, OFFENBACH, (DE)**  
Engineering : Siemens AG, Offenbach, (DE)  
Year of Construction : 1998

Power / Voltage : 40 kW / 400 V  
Design Temperature : 230 °C  
Design Pressure : 9.0 barg  
Code : AD-Merkblätter  
Operation Temperature : 230 °C  
Operation Pressure : 7.45 barg  
Fluid to be heated : steam  
Material of construction : 1.0305, (St 35.8), 1.0425, (P265GH)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **SAPROM S.P.A., TRECATE, (IT)**  
Engineering : Foster Wheeler Milano, (IT)  
Year of Construction : 1998

Power / Voltage : 100 kW / 500 V  
Explosion protection : EExd IIC  
Design Temperature : 240 °C  
Design Pressure : 25.9 barg  
Code : VSR  
Operation Temperature : 220 °C  
Operation Pressure : 17.3 barg  
Fluid to be heated : LPG vaporized  
Material of construction : ASTM A333-Gr.6, A350-LF2

**Client / User** : **PETROCHEMICAL PLOCK S.A., PLOCK, (PL)**  
Engineering : KTI B.V., Zoetermeer, (NL)  
Year of Construction : 1998

Power / Voltage : 146 kW / 380 V  
Explosion protection : EExd IIC  
Design Temperature : -29/649 °C / -29/566°C (heating insert)  
Design Pressure : 16.0 barg  
Code : ASME VIII Div. 1  
UOP-Specification  
Operation Temperature : 386 °C  
Operation Pressure : 13.82 barg  
Fluid to be heated : H<sub>2</sub> + HCBN  
Material of construction : ASTM A240-304, A182-F304

**Client / User** : **RAISIO YHTYMA STEROL TECHN. OY, RAISIO, (FI)**  
Engineering : RINTEKNO OY, (FI)  
Year of Construction : 1998

Power / Voltage : 300 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 350 °C  
Design Pressure : 8.0 barg  
Code : SFS  
Operation Temperature : 300 °C  
Operation Pressure : 3,0 barg  
Fluid to be heated : Santotherm 66  
Material of construction : 1.0305, (St 35.8), 1.0425, (P265GH)



# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **SHELL NEDERLAND RAFFINADERIJ CHEMIE, (NL)**  
Engineering : J.G.C. Dordtse Eng. B.V., Dordrecht, (NL)  
Year of Construction : 1998

Power / Voltage : 57 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 676 °C, 649 °C (tube sheet)  
Design Pressure : 2.7 barg  
Code : Stoomwezen  
UOP-Specification  
Operation Temperature : 580 °C  
Operation Pressure : 0.07 barg  
Fluid to be heated : air  
Material of construction : ASTM A213-TP304, A182-F321

**Client / User** : **AUKRA-MIDSUND OFFSHORE AS, MOLDE, (NO)**  
Engineering : AMOF, Molde, (NO)  
Year of Construction : 1998  
Code : BS 5500  
Explosion protection : EExde IIC  
Fluid to be heated : natural gas  
Design Temperature : -10 / 150 °C  
Operation Temperature : 35°C  
Power / Voltage : 830 kW / 690 V  
Operation Pressure : 49 barg  
Material of construction : ASTM A182-F316L (heating insert)  
Power / Voltage : 250 kW / 690 V  
Operation Pressure : 209 barg  
Material of construction : ASTM A182-F51

**Client / User** : **WINTERSHALL AG ERDÖL-RAFF. EMSLAND, (DE)**  
Engineering : Wintershall AG, Lingen, (DE)  
Year of Construction : 1998

Power / Voltage : 180 kW / 500 V  
Explosion protection : EExd IIC  
Design Temperature : 300 °C  
Design Pressure : 30,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 270 °C  
Operation Pressure : 23,0 barg  
Fluid to be heated : hydrogen  
Material of construction : 1.5415, (16Mo3)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **ISOMERIZATION AND REFORMER REVAMP-REF. (PL)**  
Engineering : Technipetrol SpA, Rom, (IT)  
Year of Construction : 1998

Power / Voltage : 1150 kW / 380 V  
Design Temperature : -25/482 °C / -25/400 °C  
Design Pressure : 20.0 barg / 36.5 barg  
Code : ASME VIII Div. 1  
UOP-Specification  
Operation Temperature : 316 °C / 260 °C  
Operation Pressure : 9.0 barg / 30.9 barg  
Fluid to be heated : hydrocarbon / H<sub>2</sub>-rich gas  
Material of construction : ASTM A335-Gr.12

**Client / User** : **Yanbu, (CN)**  
Engineering : Linde AG, (DE)  
Year of Construction : 1998

Power / Voltage : 798 kW / 460 V  
Explosion protection : IP 55  
Design Temperature : 350°C  
Design Pressure : 3 bar g  
Code : ASME VIII Div. 1 Ed 95 Add. 96  
Operation Temperature : 207°C  
Operation Pressure : 1.12 bar  
Fluid to be heated : nitrogen  
Material of construction : ASTM SA 106 Gr. B

**Client / User** : **FINA ANTWERPEN, (BE)**  
Engineering : Kvaerner Process, Antwerpen, (BE)  
Year of Construction : 1998

Power / Voltage : 210; 285 kW / 400 V  
Design Temperature : 150; 450 °C  
Design Pressure : 0,9; 3,5 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 100; 450 °C (max.)  
Operation Pressure : 0,6; 14,0 barg  
Fluid to be heated : air; steam + air  
Material of construction : ASTM A240-316, A182-F316; ASTM A387-Gr.11, A182-F11

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **ZAKLADY AZOTOWE S.A., TARNOW, (PL)**  
Engineering : Zaklady Azotowe S.A., Tarnow, (PL)  
Year of Construction : 1997

Power / Voltage : 62 kW, 380 V  
Design Temperature : 450°C  
Design Pressure : 20,0 barg  
Code : AD-Merkblätter (UDT)  
Operation Temperature : 390°C  
Operation Pressure : 14,0 barg  
Fluid to be heated : steam (dry)  
Material of construction : 1.4541, (SS 321)

**Client / User** : **WINTERSHALL AG ERDÖL-RAFF. EMSLAND, (DE)**  
Engineering : Wintershall AG, Lingen, (DE)  
Year of Construction : 1997

Power / Voltage : 18 kW / 500 V  
Explosion protection : EExd IIC  
Design Temperature : 660 °C , 550 °C (tube sheet)  
Design Pressure : 4,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 538 °C  
Operation Pressure : 0.04 barg  
Fluid to be heated : Air  
Material of construction : 2.4816 (Inconel 600)

**Client / User** : **STANDARD FASEL-LENTJES B.V., UTRECHT, (NL)**  
Engineering : Standard Fasel-Lentjes B.V., Utrecht, (NL)  
Year of Construction : 1997

Power / Voltage : 100 kW / 400 V  
Design Temperature : 280 °C  
Design Pressure : 9,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 230 °C  
Operation Pressure : 7,45 barg  
Fluid to be heated : steam  
Material of construction : 1.0305, (St 35.8), 1.0425, (P265GH)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **THAI ORGANIC CHEMICALS CO.LTD., (TH)**  
Engineering : Humphrey & Glasgow  
Year of Construction : 1997

Power / Voltage : 200 kW / 380 V  
Explosion protection : EExd IIC  
Design Temperature : 380°C  
Design Pressure : 7,0 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 250°C  
Operation Pressure : 2,9 barg  
Fluid to be heated : propene (vapour phase)  
Material of construction : ASTM A106-Gr.B, A105

**Client / User** : **ZIMMER AG, FRANKFURT, (DE)**  
Engineering : Zimmer AG, Frankfurt, (DE)  
Year of Construction : 1997

Power / Voltage : 145 kW / 415 V  
Design Temperature : -20 / 420 °C  
Design Pressure : 15,6 barg  
Code : AD-Merkblätter  
Operation Temperature : 390 °C (max.)  
Operation Pressure : 11,0 barg  
Fluid to be heated : steam  
Material of construction : 1.4541, (SS 321)

**Client / User** : **Linde Repcegaz**  
Engineering : Linde AG, (DE)  
Year of Construction : 1997

Power / Voltage : 200 kW / 400 V  
Explosion protection : IP 55  
Design Temperature : 460°C  
Design Pressure : 40 bar  
Code : AD-Merkblätter  
Operation Temperature : 450°C  
Operation Pressure : 33.2 bar  
Fluid to be heated : Roh CO2 gas  
Material of construction :

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **BAYER AG, KREFELD, (DE)**  
Engineering : Bayer AG, Krefeld, (DE)  
Year of Construction : 1997

Power / Voltage : 210 kW / 500 V  
Design Temperature : 400 °C  
Design Pressure : 20,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 350 °C  
Operation Pressure : 16,0 barg  
Fluid to be heated : steam, overheated  
Material of construction : 1.0305, (St 35.8), 1.0425, (P265GH)

**Client / User** : **NESTE OY, NAANTALI, (FI)**  
Engineering : NESTE OY, Naantali, (FI)  
Year of Construction : 1997

Power / Voltage : 103 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 265 °C  
Design Pressure : 6 barg  
Code : SFS  
Operation Temperature : 204 °C  
Operation Pressure : 0.2 barg  
Fluid to be heated : Nitrogen  
Material of construction : ASTM A 105

**Client / User** : **BASF AG, LUDWIGSHAFEN, (DE)**  
Engineering : BASF AG, Ludwigshafen, (DE)  
Year of Construction : 1997

Power / Voltage : 35 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 500 °C  
Design Pressure : 4,0 barg  
Code : AD-Merkblätter  
Operation Temperature : 450 °C  
Operation Pressure : 1,0 barg  
Fluid to be heated : Hydrocarbon  
Material of construction : 1.4571 (SS 316Ti)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **SOW Böhlen, (DE)**  
Engineering : Linde KCA Dresden (DE); Linde AG, (DE)  
Year of Construction : 1996

Power / Voltage : 170; 300 kW / 660 V  
Explosion protection : EEx de IIC T3  
Design Temperature : 440; 320°C  
Design Pressure : 36.0; 19.5 bar g  
Code : AD-Merkblätter  
Operation Temperature : 220/240°C; 290 / 300°C  
Operation Pressure : 27.5; 6.0 bar  
Fluid to be heated : hydrogen; methan  
Material of construction : 1.4541 (SS 321)

**Client / User** : **PEROXIDOS DI BRASIL, (BR)**  
Engineering : KTI, Rom, (IT)  
Year of Construction : 1996

Power / Voltage : 140 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 460 °C  
Design Pressure : 28.1 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 400 °C  
Operation Pressure : 24.5 barg  
Fluid to be heated : steam  
Material of construction : ASTM A335-P11, A182-F11

**Client / User** : **OSI SPECIALITIES ITALIA S.P.A., Mailand (IT)**  
Engineering : Termoli-Italy, (IT)  
Year of Construction : 1996

Power / Voltage : 465 kW / 380 V  
Design Temperature : 330 °C  
Design Pressure : 10.5 barg  
Code : ANCC-VSR  
Operation Temperature : 295 °C  
Operation Pressure : 7.5 barg  
Fluid to be heated : Thermoil-59  
Material of construction : ASTM A106-Gr.B, A105

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **FORTEK OY, OULU (FI)**  
Engineering : Eltekno Oy, Porvoo (FI)  
Year of Construction : 1996

Power / Voltage : 31600 kW / 230 V  
Explosion protection : EExd IIC  
Design Temperature : 340 °C  
Design Pressure : 16.0 barg  
Code : SFS  
Operation Temperature : 315 °C  
Operation Pressure : 5.0 barg  
Fluid to be heated : Santotherm 66  
Material of construction : 1.0425, (A516Gr.60)

**Client / User** : **CIBA GEIGY AG, BASEL (CH)**  
Engineering : Ciba Geigy AG, Basel (CH)  
Year of Construction : 1996

Power / Voltage : 400 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 700 °C  
Design Pressure : 4.0 barg  
Code : SVTI-Vorschriften  
Operation Temperature : 637 °C; 650 °C (max.)  
Operation Pressure : 0.5 bar  
Fluid to be heated : overheated steam  
Material of construction : 1.4876 (Incoloy 800HT)

**Client / User** : **HOECHST AG, Gendorf (DE)**  
Engineering : Hoechst AG, Gendorf (DE)  
Year of Construction : 1996

Power / Voltage : 150 kW / 1120 V  
Explosion protection : EExd IIC  
Design Temperature : 780 °C  
Design Pressure : 6.0 barg  
Code : AD-Merkblätter  
Operation Temperature : 750 °C  
Operation Pressure : 1.0 barg  
Fluid to be heated : steam  
Material of construction : 1.4876 (Incoloy 800HT)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **DSM KUNSTSTOFFEN B.V., GELEEN (NL)**  
Engineering : DSM Kunststoffen B.V., Geleen (NL)  
Year of Construction : 1995

Power / Voltage : 150 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : -20/280 °C  
Design Pressure : 5.0 barg  
Code : Stoomwezen  
Operation Temperature : 230 °C  
Operation Pressure : 4.8 barg  
Fluid to be heated : methane  
Material of construction : 1.4541, (SS321)

**Client / User** : **SHELL NEDERLAND RAFF. BV, MOERDIJK (NL)**  
Engineering : ABB Lummus Crest B.V., Voorburg (NL)  
Year of Construction : 1995

Power / Voltage : 40 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 435 °C  
Design Pressure : 5.0 barg  
Code : Stoomwezen  
Operation Temperature : 230 °C  
Operation Pressure : 2.0 barg  
Fluid to be heated : heavy hydrocarbons  
Material of construction : 1.5415 (tube bundle only), (16Mo3)

**Client / User** : **NESTE OY, ESPOO (FI)**  
Engineering : Neste OY, Espoo (FI)  
Year of Construction : 1995

Power / Voltage : 220 kW / 400 V  
Explosion protection : EExd IIC  
Design Temperature : 280 °C / 450 °C (heat transfer tube)  
Design Pressure : 7.0 barg  
Code : SFS  
Operation Temperature : 280 °C (max.)  
Operation Pressure : 0.42 barg  
Fluid to be heated : process gas (H<sub>2</sub>S, H<sub>2</sub>, SO<sub>2</sub>, N<sub>2</sub>, H<sub>2</sub>O)  
Material of construction : 1.0305, ASTM A105



# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **PETROGAS, GOUDA (NL)**  
Engineering : Petrogas, Gouda (NL)  
Year of Construction : 1994

Power / Voltage : 80 kW / 380 V  
Explosion protection : EExd IIB  
Design Temperature : -20/50 °C  
Design Pressure : 45.0 barg  
Code : Stoomwezen  
Operation Temperature : 23 °C  
Operation Pressure : 33.0 barg  
Fluid to be heated : fuel gas  
Material of construction : ASTM A105 (tube bundle only)

**Client / User** : **SASOL IND. (PTY) LTD, SECUNDA (ZA)**  
Engineering : Badger B.V., Den Haag (NL)  
Year of Construction : 1993

Power / Voltage : 155 kW / 525 V  
Explosion protection : EExd IIB  
Design Temperature : 250 °C  
Design Pressure : 17.6 barg  
Code : ASME VIII Div. 1 & AD-Merkblätter  
Operation Temperature : 98 up to 200 °C  
Operation Pressure : 3.0 barg  
Fluid to be heated : FCC Slurry/waxy oil; medium temperature pitch  
Material of construction : 1.0305, (ASTM A105)

**Client / User** : **AKZO FIBERS B.V., EMMEN (NL)**  
Engineering : AKZO Fibers B.V., Emmen (NL)  
Year of Construction : 1993

Power / Voltage : 165 kW / 380 V  
Explosion protection : non hazardous areas  
Design Temperature : 150 °C  
Design Pressure : 4.5 barg  
Code : Stoomwezen  
Operation Temperature : 130 °C  
Operation Pressure : 3.5 barg  
Fluid to be heated : water  
Material of construction : ASTM A106, A105

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **SHELL NEDERLAND CHEMIE B.V., MOERDIJK (NL)**  
Engineering : Shell Nederland Chemie B.V., Moerdijk (NL)  
Year of Construction : 1993

Power / Voltage : 500 kW / 660 V  
Explosion protection : ExnR  
Design Temperature : 650 °C  
Design Pressure : 4.5 barg  
Code : Stoomwezen  
Operation Temperature : 620 °C  
Operation Pressure : 3.9 barg  
Fluid to be heated : nitrogen  
Material of construction : 1.4541, (SS321)

**Client / User** : **MZRIP-REFINERY, PLOCK (PL)**  
Engineering : Mannesmann Anlagebau AG, Düsseldorf (DE)  
Year of Construction : 1993

Power / Voltage : 110; 293 kW / 380 V  
Explosion protection : EExdeIIC  
Design Temperature : 650; 649 °C  
Design Pressure : 1.04; 0.35 barg  
Code : ASME VIII Div. 1 & AD-Merkblätter  
UOP - Specification  
Operation Temperature : 569; 522; 487 °C  
Operation Pressure : 0.24; 0.036; 0.07 barg  
Fluid to be heated : air; gas mixture (N<sub>2</sub>+O<sub>2</sub>+H<sub>2</sub>O+HCl+CO<sub>2</sub>+Cl<sub>2</sub>)  
Material of construction : ASTM A240-321; 2.4816 (Inconel 600)

**Client / User** : **ESSO RAFINADERIJ, ROTTERDAM (NL)**  
Engineering : Fluor Daniel Consultants, Halsteren (NL)  
Year of Construction : 1992

Power / Voltage : 650 kW / 660 V  
Explosion protection : EExd IIC  
Design Temperature : 300 °C  
Design Pressure : 40.4 barg  
Code : Stoomwezen  
Operation Temperature : 260 °C  
Operation Pressure : 21.5 barg  
Fluid to be heated : gas mixture (H<sub>2</sub> + HC)  
Material of construction : ASTM A333-Gr 6, A350-LF2, A182-Gr F11

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **DSM KUNSTSTOFFEN B.V., GELEEN (NL)**  
Engineering : ABB Lummus Crest, Voorburg; John Brown, Zoetermeer  
Year of Construction : 1992

Power / Voltage : 150; 80 kW / 380 V  
Explosion protection : EExde IIC  
Design Temperature : -20/400; 400 °C  
Design Pressure : 9.8; 6.0 barg  
Code : Stoomwezen  
Operation Temperature : 371, 260 °C  
Operation Pressure : 2.9; 2.5 barg  
Fluid to be heated : methane; nitrogen & H<sub>2</sub>O-vapor  
Material of construction : 1.0565; ASTM A304L

**Client / User** : **ETW GMBH, KÖLN (DE)**  
Engineering : Foster Wheeler Energy Ltd. / Reading (GB)  
Year of Construction : 1991

Power / Voltage : 700; 60; 22 kW / 380 V  
Explosion protection : non hazardous areas  
Design Temperature : -196; -183/77 °C  
Design Pressure : 0.06 barg  
Code : Manufacturer's standard  
Operation Temperature : -171/60 °C ; -173/27 °C; -173/52 °C min./max  
Operation Pressure : 0.024; 0.0228; 0.0105 barg  
Fluid to be heated : air  
Material of construction : 1.4541 (SS 321)

**Client / User** : **SHELL NEDERLAND CHEMIE B.V., MOERDIJK (NL)**  
Engineering : KTI, Zoetermeer (NL)  
Year of Construction : 1991

Power / Voltage : 1070 kW / 660 V  
Explosion protection : EExde IIC  
Design Temperature : 580 °C  
Design Pressure : 10.8 barg  
Code : Stoomwezen  
Operation Temperature : 540 °C  
Operation Pressure : 6.8 barg  
Fluid to be heated : nitrogen or  
gas mixture (N<sub>2</sub>, O<sub>2</sub>, CO<sub>2</sub>, CO, H<sub>2</sub>)  
Material of construction : 1.4541, (SS321)

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **SOLVAY & CIE, LILLO (BE)**  
Engineering : John Brown, Zoetermeer (NL)  
Year of Construction : 1991

Power / Voltage : 180; 120 kW / 380 V  
Explosion protection : EExd IIC  
Design Temperature : -19/400 °C  
Design Pressure : 3.0; 2,0 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 325 °C; 305 °C  
Operation Pressure : 1.0 barg; 0,7 barg  
Fluid to be heated : nitrogen  
Material of construction : ASTM A333-Gr.6, A350-LF2

**Client / User** : **EXXON CHEMICALS B.V., ROTTERDAM (NL)**  
Engineering : John Brown, Zoetermeer (NL)  
Year of Construction : 1991

Power / Voltage : 285 kW / 500 V  
Explosion protection : EExd IIC  
Design Temperature : 375 °C  
Design Pressure : 53 barg  
Code : Stoomwezen  
Operation Temperature : 350 °C  
Operation Pressure : 15 barg  
Fluid to be heated : Hydrogen  
Material of construction : ASTM A333, A350-LF2

**Client / User** : **SHELL NEDERLAND CHEMIE B.V., PERNIS (NL)**  
Engineering : Vicoma, Hoogvliet (NL)  
Year of Construction : 1990

Power / Voltage : 120 kW / 380 V  
Explosion protection : ExnR  
Design Temperature : 290 °C  
Design Pressure : 6.0 barg  
Code : Stoomwezen  
Operation Temperature : 270 °C  
Operation Pressure : 5.2 barg  
Fluid to be heated : nitrogen + pentanes  
Material of construction : ASTM A106, A105

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **NESTE CHEMICALS N.V., BERINGEN (BE)**  
Engineering : John Brown, Zoetermeer (NL)  
Year of Construction : 1990

Power / Voltage : 85.5 kW / 380 V  
Explosion protection : EExd IIC  
Design Temperature : 180 °C  
Design Pressure : 8.5 barg  
Code : ASME VIII Div. 1  
Operation Temperature : 54 °C  
Operation Pressure : 7.0 barg  
Fluid to be heated : iso-butan  
Material of construction : ASTM A105 (tube bundle only)

**Client / User** : **SHELL CHEMIE KÖLN GMBH, KÖLN (DE)**  
Engineering : Fluor Daniel, Haarlem (NL)  
Year of Construction : 1989

Power / Voltage : 45 kW / 380 V  
Explosion protection : ExnR  
Design Temperature : -15/400 °C  
Design Pressure : 6 barg  
Code : AD-Merkblätter  
Operation Temperature : 350 °C  
Operation Pressure : 4.5 barg  
Fluid to be heated : nitrogen  
Material of construction : 1.4301 (SS 304), 1.4541 (SS 321)

**Client / User** : **ENICHEM ANIC S.P.A., Gela (IT)**  
Engineering : Snamprogetti S.p.A., Rom (IT)  
Year of Construction : 1989

Power / Voltage : 4200 kW / 380 V  
Explosion protection : EExde IIC  
Design Temperature : 427 °C  
Design Pressure : 136 barg  
Code : ANCC VSR-S-M  
Operation Temperature : 377 °C  
Operation Pressure : 111.75 barg  
Fluid to be heated : gas mixture (H<sub>2</sub> + HC)  
Material of construction : ASTM A336-F22, A182-F22

# Reference List

The following list gives an overview about electrical heaters we installed with major projects. Do not hesitate to contact us if you need further information.

**Client / User** : **MOBIL OIL RAFFENERIE GMBH, WÖRTH (DE)**  
Engineering : Badger B.V. Den Haag (NL)  
Year of Construction : 1989

Power / Voltage : 330 kW / 380 V  
Explosion protection : EExd IIC  
Design Temperature : 400 °C  
Design Pressure : 39 barg  
Code : AD-Merkblätter  
UOP-Specification  
Operation Temperature : 316 °C  
Operation Pressur : 31.5 barg  
Fluid to be heated : hydrogen or hydrocarbon  
Material of construction : 1.7335, (13CrMo44) (F11/F12)

**Client / User** : **SHELL CHEMIE KÖLN GMBH, KÖLN (DE)**  
Engineering : Fluor Daniel, Haarlem (NL)  
Year of Construction : 1989

Power / Voltage : 225 kW / 380 V  
Explosion protection : ExnR  
Design Temperature : -15/400 °C  
Design Pressure : 6.0 barg  
Code : AD-Merkblätter  
Operation Temperature : 350 °C  
Operation Pressure : 4.5 barg  
Fluid to be heated : nitrogen  
Material of construction : 1.4301 (SS 304), 1.4541 (SS 321)

**Client / User** : **ESSO NEDERLAND B.V., ROTTERDAM (NL)**  
Engineering : FLUOR Ltd., London (GB)  
Year of Construction : 1985

Power / Voltage : 3400 kW / 660 V  
Explosion protection : EExde IIC  
Design Temperature : 400 °C  
Design Pressure : 123 barg  
Code : Stoomwezen  
Operation Temperature : 377 °C  
Operation Pressure : 102 barg  
Fluid to be heated : gas mixture (H<sub>2</sub> + HC)  
Material of construction : ASTM A336 F22 / A182 F22