

POST-WELD HEAT TREATMENT & PREHEAT

HEAT TREATED, CHARTED AND SIGNED.

PWHT and preheat on site with six multi-channel power units and a large stock of ceramic pad heaters, or in our Darwin workshop kiln: 800 × 800 mm and 1.2 m deep, ideal for small spools, with larger kilns built to suit. Every cycle is programmed and recorded, with digital logging if you want it.

- 4 × GLOBAL HEAT 65 KVA
- 2 × MANNINGS 50 KVA
- KILN 800 × 800 × 1200 MM
- ASME B31.3
- ASME B31.1
- AS 4458
- DIGITAL LOGGING

SITE HEAT TREATMENT

SIX POWER UNITS. THIRTY-SIX CHANNELS.

Local PWHT and preheat on site of pipe butt welds, branches and pipe-to-flange joints, with ceramic heating pads rated to 1050 °C. Each unit runs six low-voltage channels, each on its own programme, so several welds can heat at once.

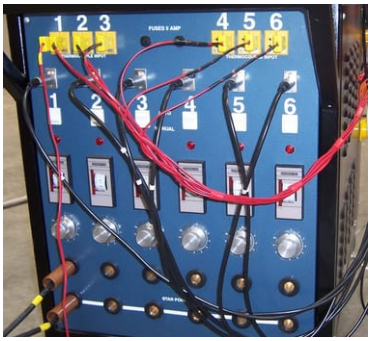
GLOBAL HEAT
4 × 65 KVA
Six-channel power units, a programmer on every channel.

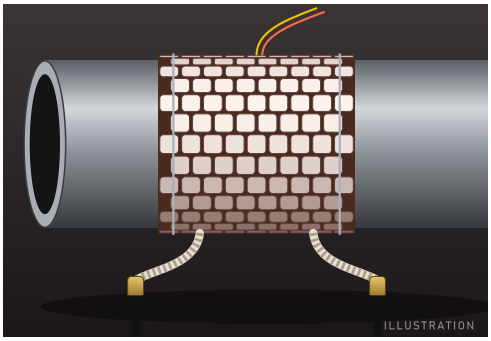
MANNINGS
2 × 50 KVA
Six channels each, run alone or alongside the 65 kVA units.

HEATING
CERAMIC PADS
A large stock of flexible low-voltage pad heaters and cables.

CONTROL
RECORDERS
Programmers and chart recorders, with digital logging as an option.


One of our six-channel power units.


Thermocouples in, power out, six channels.

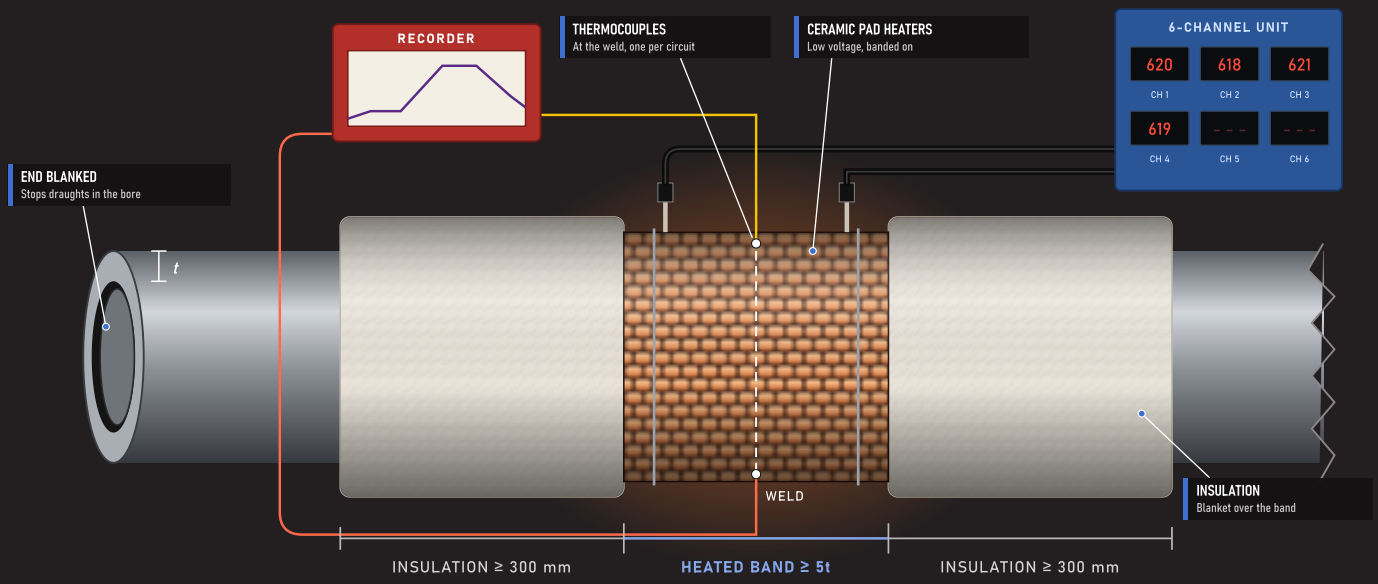


Ceramic pad heater banded onto a pipe weld.

LOCAL PWHT SET-UP

SET UP TO THE PROCEDURE, WELD BY WELD.

ILLUSTRATION



BAND WIDTH AND GAPS
A heated band at least five wall thicknesses wide, with the gaps between pads kept to the wall thickness or less.

THICKNESS CHANGES & FLANGES
Two independently controlled bands either side of the weld, plus a band on the flange where it needs one.

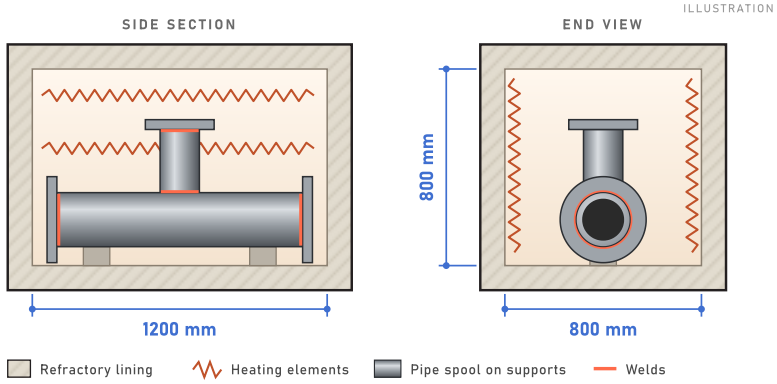
VERTICAL & BRANCH WELDS
Bands biased below the weld on vertical pipe, and a separate circuit on each branch.

WORKSHOP KILN

800 × 800 MM, 1.2 M DEEP. MADE FOR SMALL SPOOLS.

For spools, fittings, flanges and test coupons, our programmable kiln heat treats the whole item in one go, with no pads to place. Bring it to our Darwin workshop and it's run to your cycle and recorded.

ILLUSTRATION





Our workshop kiln, Darwin.

CHAMBER	800 × 800 MM
DEPTH	1200 MM
UP TO	1200 °C
CONTROL	PROGRAMMABLE

WHAT FITS

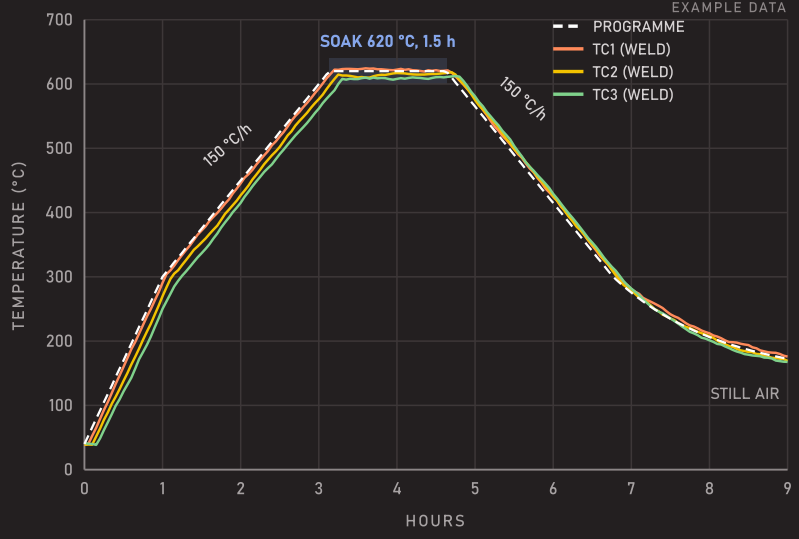
- Pipe spools up to 1.2 m long
- Flanges, fittings and small fabrications
- Welder and procedure test coupons
- Batches of small parts in one cycle

Bigger item? We can build a larger kiln to suit the job.

CONTROL AND RECORDS

PROGRAMMED, RECORDED AND LOGGED.

EXAMPLE DATA



Example data. The code, WPS and your specification set the rates, soak temperature and time.

PROGRAMMERS ON EVERY CIRCUIT

Heat-up rate, soak and cool-down set on the programmer. Circuits on the same weld run as slaves to one programme, so the joint heats evenly.

THERMOCOUPLES ON THE WELD

Type K, welded on by capacitor discharge, at least one per heating circuit, from certified wire.

RECORDERS CALIBRATED

Multi-point Type K recorders, calibrated at least every 12 months against a traceable calibrator.

DIGITAL LOGGING ON REQUEST

Every thermocouple logged digitally, as well as the paper chart, for a clean record in your data book.

1050 °C
Ceramic heating pads, site PWHT

1200 °C
Workshop kiln, programmable

36
Control channels across six power units

WHY HEAT TREAT

DONE TO THE CODE, FOR THE RIGHT REASONS.

01
RELIEVE RESIDUAL STRESS
Welding locks stress into the joint. PWHT relaxes it, cutting the risk of cracking in service.

02
TEMPER THE HAZ
Brings hardness down and toughness up in the heat-affected zone, as codes require for thicker and alloy welds.

03
PREHEAT
Slows cooling and drives off moisture before welding, lowering the risk of hydrogen cracking.

CODES WE WORK TO

ASME B31.3
Process piping

ASME B31.1
Power piping

AS 4458
Pressure equipment manufacture

YOUR WPS
And your specification, where it asks for more

HOW A HEAT TREATMENT RUNS

01
PLAN
Cycle from the code, WPS and your spec.

02
SET UP
Pads, thermocouples and insulation to the procedure.

03
HEAT & SOAK
Controlled heat-up, then held at temperature.

04
COOL
Controlled cool-down to the code's limit.

05
REPORT
Chart, log and report for each weld.

WELDER QUALIFICATIONS
Preheat and PWHT of test coupons for procedures that call for it, in the kiln or on pads, alongside our three welder qualification bays.

NDT AFTER HEAT TREATMENT
MT, UT and radiography from the same team once the weld has cooled, so the job closes out in one visit.

WHAT YOU GET

PWHT REPORT	TEMPERATURE CHART	THERMOCOUPLE SKETCH	DIGITAL LOG
Weld IDs, cycle, technicians and any deviations	Soak marked, with the recorder number	Positions on every weld	Every thermocouple, on request

WELDS DUE FOR HEAT TREATMENT?

Swift reporting, round the clock.

NATA 12303 | ISO 9001 | AINDT

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