

STEAM, the on-site generated and in-house managed, critical process **ENERGY**

STEAM LINK®

1998 - 2023

25 YEARS

Working with any steam energy dependent company, providing independent site-specific process & steam integration services.

“PUTTING IT ALL TOGETHER”

“THE PROCESS – ENGINEERING – OPERATION”

Cost Effective - Energy Efficient - Sustainable.



• **IMPROVE PRODUCTIVITY**

• **Integrate OPERATION**

• **Assess ENGINEERING**

• **Identify PROCESS**

YOU

ACHIEVE MORE >< WITH LESS

ENERGY – TIME – RESOURCES – WASTE / EMISSION

Managed STEAM ENERGY and PROCESS Integration.

STEAM LINK® providing independent and site focused services, aimed to optimise the steam energy systems performance by assisting you to make the right choices. Choices that are directly relevant to your Process Plant or Project and that fully meet your objectives; **technically**, **operationally**, and **commercially**, as we inspect and identify the jigsaw pieces of your steam energy installation we recognise and implement the opportunities to improve the efficiency and performance of your existing or proposed operations.

WHO IS MANAGING THE CRITICAL, ON-SITE INSTALLED STEAM ENERGY SYSTEM?

THE PROCESS

- Ensure the production plant layout is functional, advanced technology and procedures engaged, required steam supplied, with provision supporting intermittent controlled peak demand cycles.

ENGINEERING

- Site -/ process specific sized Boiler & auxiliary equipment, distribution pipes and installation, capable to supply the required dynamic steam energy controlled as per demand.
- identify actual steam demand, start-up time, distribution losses, intermittent high demand cycles.
- Site and process specific selected valves, steam supply, quality and required control systems.
- Effective condensate removal and recovery system, eliminate waterlogging and water hammer.
- Establish a process plant maintenance / service schedule, reduce unforeseen downtime.
- Identify waste energy recovery opportunities and steam storage facility, available on demand.
- **Presentation:** *Explain the steam energy system, the process integration and expected performance.*

OPERATION

- Controlled supply of the dynamic steam energy, at required quality, as per process demand.
- Modulating steam energy control systems, vacuum and condensate removal taken care of.
- Reduce non-productive time, such as the plant start up, load & unload products, cleaning.

Extract of testimony provided by a valued client.

I recommend STEAM LINK® to any company that uses steam energy in its processes, as we achieved substantial energy savings, plus improved plant performance, all adding up to a reduced production cost per unit.

Visit the Steam Link website, www.steamlink.com.au for more references or information!

STEAM LINK®

Manfred Schneider

Industry liaison Manager

Mob: 0430 293 059

P.S.

Request a Steam Plant Investment performance check, contact **STEAM LINK® on 07-3881 1605**, Email: steam@steamlink.com.au and leave your name and contact details, one of our Steam energy specialists will call you back within three (3) working Days to provide more detailed information, or provide date / cost for a site visit.

STEAM ENERGY DEPENDENT COMPANIES / ORGANISATIONS

- **Hospitals**

- Instrument washers and sterilising Autoclaves
- RO – Water generated clean steam, extremely aggressive condensate.

- **Food processing**

- Commercial Kitchen
- Value added processes, washed fresh chilled, pre-cooked, and frozen.
- Prepared food, calories and portion controlled, chilled.
- Controlled product heating, maintain set temperature / time.
- Pasteurising process, Fruit juice, Milk, Yoghurt,
- Live steam required steam quality, culinary filtered hygienic controlled.

- **Stressed concrete curing process.**

- Atmospheric: products and process covered with blanket, easy access
- Precise timed, temperature step control, maintain curing set temperature and humidity, recorded for quality control.

- **Timber drying process.**

- Kiln dried / Soft wood – high temperature +/- 145°C
- Kiln dried / Hard wood – low temperature +/- 50°C
- Controlled temperature, humidity, and airflow,
- Wood fired Boiler, - Sawdust, Pellets

- **Commercial Laundries**

- Batch washers, Roll Ironer, Dryers
- Waste heat recovery, heating hot water storage tank keep at 70°C,

- **Abattoirs**
- **Food processing**
- **Paper & Cardboard**
- **Tissue paper**
- **Stockfeed Mills**
- **Cannery**
- **Bakeries**
- **Laboratories**
- **Dry Cleaners**
- **Refineries / Petrochem**
- **Explosives / Fertiliser**
- **Rubber curing**

- **Prepared Foods**
- **Breweries, Bottling Plant**
- **General Manufacturing**
- **Chemicals, Urea,**
- **Sugar Mills, Distilleries**
- **Pharmaceutical**
- **Pet Food**
- **Dairy / Cheese**
- **Rubber curing**
- **Waste sterilisation**
- **Oilseed crushing process.**
- **Timber drying**

Steam Table

Gauge Pressure	Temperature	Enthalpy of Water (M)	Enthalpy of Evaporation (hfg)	Enthalpy of Steam (hg)	Specific Volume
kPa 'G'	degC	kJ/kg	kJ/kg	kJ/kg	m3/kg
0	100.0	419.04	2257.0	2676.0	1.673
100	120.4	505.6	2201.1	2706.7	0.881
110	122.0	512.2	2197.0	2709.2	0.841
120	123.5	518.7	2192.8	2711.5	0.806
200	133.7	562.2	2163.3	2725.5	0.603
225	136.4	574.0	2155.3	2729.3	0.560
250	139.0	585.0	2147.6	2732.6	0.522
300	143.8	605.3	2133.4	2738.7	0.461
700	170.5	721.4	2047.7	2769.1	0.240
1000	184.1	781.6	2000.1	2781.7	0.177

saturated process steam

Pipe capacity 'SATURATED STEAM' at specific velocities

Pressure Bar / Gauge	Velocity m/s	pipe diameter										
		15mm	20mm	25mm	32mm	40mm	50mm	65mm	80mm	100mm	125mm	150mm
Saturated steam capacity per kg/h												
1.0	15	8	17	29	43	65	112	182	260	470	694	1020
	25	12	26	48	72	100	193	300	445	730	1160	1660
	40	19	39	71	112	172	311	465	640	1150	1800	2500
2.0	15	12	25	45	70	100	182	280	410	715	1125	1580
	25	19	43	70	112	162	295	428	656	1215	1755	2520
	40	30	64	115	178	275	475	745	1010	1895	2925	4175
4.0	15	19	42	70	108	156	281	432	635	1166	1685	2460
	25	30	63	115	180	270	450	742	1080	1980	2925	4225
	40	49	116	197	295	456	796	1247	1825	3120	4940	7050
7.0	15	29	63	110	165	260	445	705	952	1815	2765	3990
	25	49	114	190	288	450	785	1205	1750	3025	4815	6900
	40	76	177	303	455	690	1210	1865	2520	4585	7560	10880
10.0	15	41	95	155	250	372	626	1012	1465	2495	3995	5860
	25	66	146	257	405	562	990	1530	2205	3825	6295	8995
	40	104	216	408	615	910	1635	2545	3600	6230	9880	14390

The capacities shown are based on the nominal pipe diameter, the velocity and the steam's specific volume,
Based on manufacturers new pipe specification dimensions, according to relevant standard.

ABOVE CHART DATA IS AN INDICATION ONLY