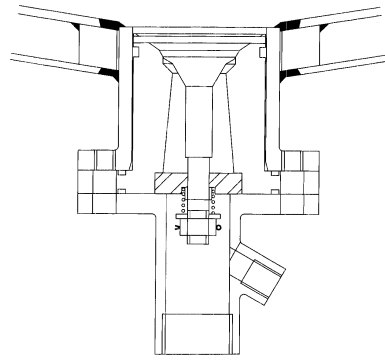


The 'Vapinject' steam injector...where rapid heating is required...patented & unique to Giusti



The 'Vapinject' consists of an air/steam-mixing chamber with injector valve, fitted through the vessel wall. The valve is spring-loaded so that when the system is not being used, seepage of the product cannot occur. The number of units per vessel varies, depending on batch size and required heat up time. 'Vapinject' is useful for rapid heating to 95°C where the product contains reasonable volumes of water. For temperature profiles above 95°C 'Vapinject'

can be supplemented by other heating media and still offer substantial process time benefits.

- Rapid heating, self-cleaning and hygienic - requires food quality steam
- Pressure vacuum or atmospheric systems
- Eliminates steam hammer
- No need for venturi or product recirculation
- Suitable for manual or auto control

MATERIALS & CONSTRUCTION

- All contact steel is stainless 316L, non-contact steel is stainless 304
- Vessel wall scrapers are PTFE- a FDA approved material. Al/Bronze alloy is used on hot oil systems
- All internal welds are ground and polished. External body welds are ground smooth and crevice free
- External fillet welds are cleaned and burnished
- Standard finish is satin polish internally and dull polish externally above jacket
- Seismic calculations and construction available at extra cost

NEMA RATING

- All systems are rated at least NEMA 12 (IP55)
- Other standards are available on request

AGITATION

- Agitation whilst cooking and/or cooling is usually recommended. A wide range of options is available.

AUTOMATION

- All major Automation schemes can be accommodated including Siemens, Allen-Bradley, Mitsubishi & Group Schneider/Square D
- Controls can vary from simple push-button arrangement to fully automated SCADA system
- In-house automation engineering

ELECTRICAL

- Supply voltage must be specified between 220-480 volts, 3ph, +n, 50/60hz
- Control circuits are 24v

VESSEL SIZES

- Vessel sizes range from 50 to 10,000 litres. Proper vessel sizing is highly process dependent. Giusti can provide specialist advice without obligation.

OPERATING PRESSURES

- Standard pressure/vacuum vessels are rated 1 bar or full vacuum inside the vessel, and atmosphere/3 (or 5.5) bar in the jacketed void

PATENTS

- 'Vapinject' direct steam injection
- 'Giusti' flush seat valves

APPROVALS

- T Giusti Ltd. is an ISO 9001 registered company
- Pressure vessel approvals include PD 5500, ASME, TUV, APARVE & GOST

MAINTENANCE/HYGIENE

- Some Atmospheric and all Pressure/vacuum vessels are capable of full integration into CIP/SIP system. Offering high up-time and low maintenance
- Please note Glycol and steam systems must be separate

Cooking & Cooling Systems



While every attempt is made to ensure the accuracy of data, Briggs pursues a policy of continuous improvement and reserve the right to change specification without prior notice

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 Fax: +1 (585) 426 0250
 Email: sales@briggsusa.com

Giusti cooking and cooling systems offer process excellence with minimum batch times. Usually combined with one of a range of market leading Giusti agitator systems to help reduce problems such as burn-on or localized frosting. Cooking options include the unique and patented Giusti 'Vapinject'

direct steam injector, steam jacket, hot oil or limpet coil. Cooling options include vacuum, towns' water, chilled water, glycol and pumped/scraped heat exchangers. Atmospheric and Pressure/Vacuum systems are available (pressure-vacuum has major process advantages) together with cost-

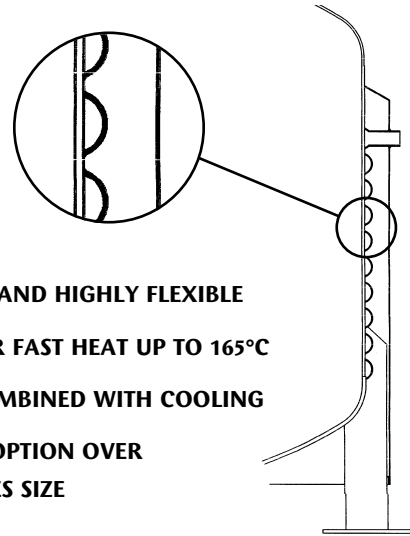
effective insulation options. Manual, semi-automatic or fully automated control is offered, supported by an in house team of process and automation engineers. Vessel sizes up to 10,000 litres can be provided.

The permutations of heating and cooling are as varied as the processes themselves... a client list that spans the world can vouch that Giusti's eighty years experience counts!

Giusti Cook & Cool Systems

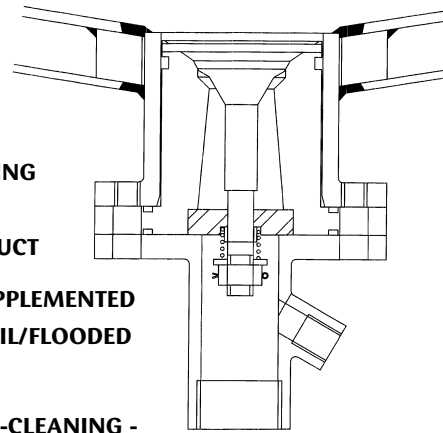
HERE'S JUST A FEW OF THE OPTIONS...

Limpet Coil & Steam...



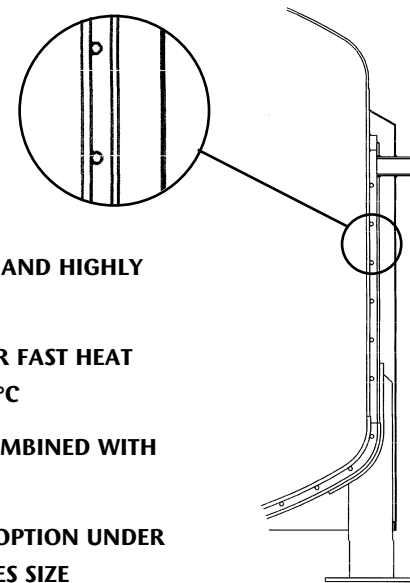
- EFFICIENT AND HIGHLY FLEXIBLE
- GENTLE OR FAST HEAT UP TO 165°C
- EASILY COMBINED WITH COOLING
- THE BEST OPTION OVER 5000 LITRES SIZE

The Unique Giusti 'Vapinject' Steam Injector...



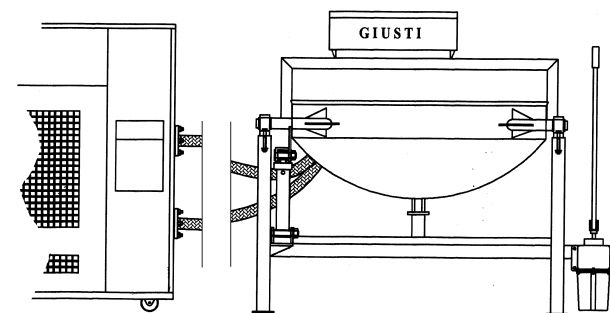
- VERY FAST HEATING TO 95°C - NEEDS WATER IN PRODUCT
- OVER 95°C IS SUPPLEMENTED WITH LIMPET COIL/FLOODED JACKET
- EFFICIENT & SELF-CLEANING - MANUAL OR AUTO CONTROL

Fully Flooded Steam Jacket...



- EFFICIENT AND HIGHLY FLEXIBLE
- GENTLE OR FAST HEAT UP TO 165°C
- EASILY COMBINED WITH COOLING
- THE BEST OPTION UNDER 5000 LITRES SIZE

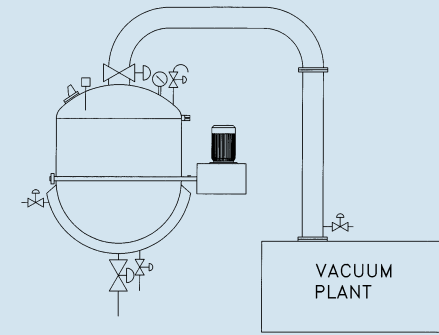
Electrically Heated Oil...



- IDEAL FOR STIR-FRY, BRATTING OR SEALING
- RAPID EFFICIENT HEAT-UP TO 300°C PLUS
- MANUAL OR AUTO CONTROL

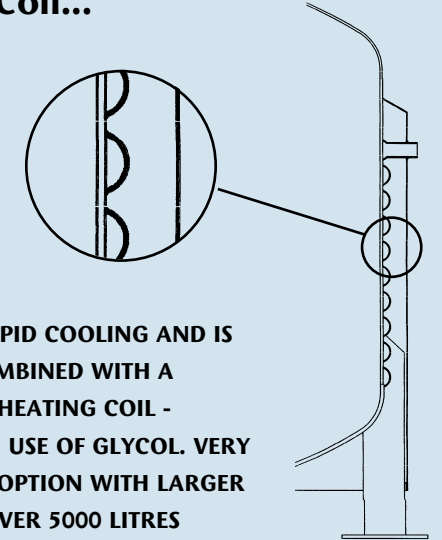
AND COOKING CAN BE COMBINED WITH COOLING...

Vacuum with Towns or Chilled Water...



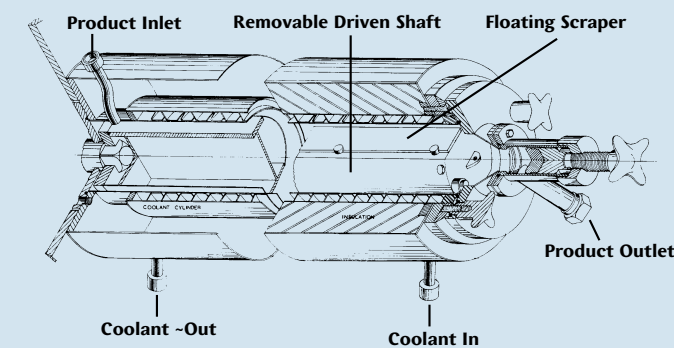
- VACUUM COOLING IS ONE OF THE MOST EFFECTIVE METHODOLOGIES AVAILABLE. FLOODING THE VESSEL JACKET WITH MAINS OR CHILLED WATER IMPROVES EFFICIENCIES STILL FURTHER

Glycol or Chilled Water in a Limpet Coil...



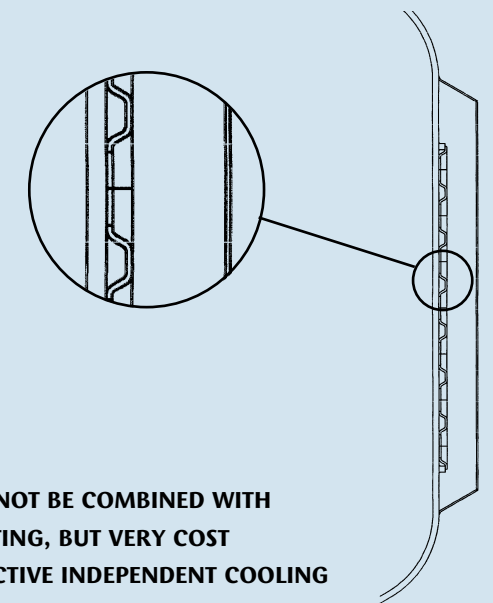
- OFFERS RAPID COOLING AND IS EASILY COMBINED WITH A SEPARATE HEATING COIL - ALLOWING USE OF GLYCOL. VERY EFFECTIVE OPTION WITH LARGER VESSELS OVER 5000 LITRES

Pumped and Scraped Heat Exchanger...



- PRODUCT IS PUMPED THROUGH 'FLO-CHILL' HEAT EXCHANGER, WHERE SURFACES ARE SCRAPED TO PREVENT COOLING PRODUCT FROM ACTING AS A BARRIER TO HEAT TRANSFER

Glycol Cooled Dimple Jacket...



- CANNOT BE COMBINED WITH HEATING, BUT VERY COST EFFECTIVE INDEPENDENT COOLING OPTION FOR LARGER VESSELS

heating systems... heating systems... heating systems

cooling systems... cooling systems... cooling systems

'The combination of the Giusti 'Vapinject' with Giusti's latest auto controlled vacuum cooling system, reduced batch to batch times beyond all expectations...'

'...we also saw a major reduction in burn-on and the CIP system is now totally effective. The ability to rapidly chill our product aseptically, has given real benefits in improved shelf life...'