

Giusti Horizontal Agitation Mixing System

KEY TECHNICAL DATA - GIUSTIMIX & ULTIMIX



GIUSTI

APPROVALS

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

NEMA RATING

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

MATERIALS & CONSTRUCTION

- All contact steel is stainless 316L, non-contact steel is stainless 304
- Vessel wall scrapers are PTFE- an FDA approved material
- 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 dull polish internally and externally above jacket
- Seismic calculations and construction available at extra cost

VESSEL SIZES

- Standard vessel sizes range from 75 to 2300 litres (see chart below)

- Custom sizes as large as 10,000 litres can be accommodated

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
- Siemens HMI (Human Machine Interface) offers simple and effective semi-automated control
- In-house automation engineering

ELECTRICAL

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

AGITATION

- Normal maximum speed on anchor agitator is 36 rpm, variable down to 9 rpm. Minimum speed can be variable to 1 rpm by addition of extra cost fixed speed blowers.
- Emulsifier can be single speed (2800 rpm), dual speed (1400/2800rpm) or variable (700-2800 rpm)

PATENTS

- 'Vapinject' direct steam injection
- 'Giusti' flush seat valves
- 'Impacton' in line emulsifier
- 'Giustimix' Agitator

LIDSTYLES

- Flat one piece drop on, 3 piece hinged, fully welded, flange bolted, swing bolted or hinged & clamped

MAINTENANCE/HYGIENE

- Pressure/vacuum vessels capable of full integration into CIP/SIP system
- High up-time, low maintenance

OPERATING PRESSURES

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

HEATING & COOLING

- Flooded jacket, Spiral coil, Limpet coil, Dimple jacket or 'Vapinject' direct steam injection heating
- Mains water, Chilled water or Glycol cooling
- Heating/Cooling under vacuum can produce significant benefits

GIUSTI HORIZONTAL AGITATION MIXERS - Standard vessel sizing

Litres	75	120	250	500	750	1000	1200	1500	2000	2500
US Gallons	20	30	65	130	200	265	315	400	530	660
Dia. Bottom Entry (mm)	2	2	3	3	3	3	3	4	4	4
Dia. Bottom Entry (inches)	50	50	75	75	75	75	75	100	100	100
kW of Agitator Drive										
Ultimix	1.1	1.5	2.2	3	3	4	5.5	7.5	7.5	11
Giustimix	0.50	0.75	1.1	1.5	2.2	2.2	3	4	4	7.5
kW of Emulsifier										
Ultimix	4	4	4	7.5	7.5	7.5	7.5	11	11	11

Data is nominal and based on product viscosities between 20,000 & 200,000 cps - SIZING IS HIGHLY PRODUCT DEPENDENT

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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Horizontal Agitation Mixing

GIUSTIMIX & ULTIMIX



Two designs make up the range of Giusti 'horizontal' agitator mixing systems, aimed specifically at food processors. The **Giustimix** can be supplied from 75 to 2500 litres capacity, and has a patented uni-directional, scraped surface agitator. It operates horizontally and allows

complete and efficient mixing of shear sensitive ingredients. The **Ultimix** agitator is 'u' shaped and operates at 45 degrees from horizontal, allowing the incorporation of an emulsifier/powder disperser for the blending of thickeners and flavours into a base mix, prior to the addition of

shear sensitive ingredients. Both systems can be either Atmospheric or Pressure/Vacuum and have manual, automatic or full PLC control. Custom vessel sizes up to 6000 litres can be provided.

With over 80 years of process engineering knowledge and a client list that spans the world. From a single simple vessel to a full turnkey facility... **Giusti can help.**

WORLD LEADERS IN PROCESS TECHNOLOGY, SYSTEMS AND PRODUCTS

Giusti are experts in mixing and blending, cooking and cooling, process design and factory automation.

- **INTERNATIONAL FOOD INDUSTRY**
- **TOILETRIES AND COSMETICS**
- **PHARMACEUTICALS**
- **GLOBAL PROJECT MANAGEMENT**
- **ADVANCED AUTOMATION**
- **DEDICATED TESTING FACILITY**

Giusti horizontal mixing systems

- Aimed specifically at food and dairy processors
- Available in a range of standard sizes from 75 litre to 2300 litre - custom sizes up to 10,000 litres can be provided
- Ultra hygienic construction of 316 L stainless for contact parts & 304 for non-contact parts
- Internal welds are ground and polished and vessel bottoms are 'Bumped' not spun. This means superior stress and corrosion resistance, easy maintenance and long life
- Lid mechanisms are simple and far lighter in weight than when connected to vertical agitation system
- Efficient vessel wall Scrapers are constructed of low wear PTFE, an FDA approved material - again this means long trouble free life. Product contamination risk is also minimised
- Atmospheric systems or Pressure/Vacuum. The later offers reduced cycle times, potential for vacuum loading and the full benefits of CIP (clean in place). Batch to batch times are minimised
- Many heating and cooling options - pick the most cost effective for your application
- For high water content products requiring rapid heating times, consider Giusti's patented 'Vapinject' - an air-steam mixing chamber with injector, fitted through the vessel wall. It's unique and very effective

- Range of insulation options to control heat loss and address plant health and safety issues
- Complete turnkey facilities available - from process engineering and automation, to civil engineering if required
- Manual, Automatic or Full PLC - simple control through to full ERP integration
- In house Automation Engineering-all major automation systems covered
- We know your application. We have eighty years of process engineering knowledge - a reference list that spans the World and covers many applications
- Options include full vessel tilting for product discharge or to aid access to the agitator assembly
- Flame proof system options for hazardous environments
- A wide range of drums, lifts and supplementary systems is also available - as well as side vessels for the preparation of slurries or the melting of fats

Giustimix

- Unique and patented horizontal agitator gives gentle tumbling action for the mixing of shear sensitive product
- Ideally suited to products such as soups, pie fillings, ready meals, preserves as well as fish, vegetable and fruit dishes

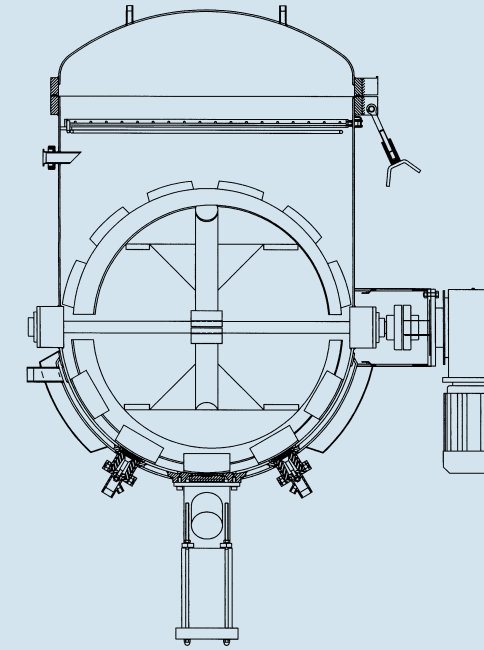
Ultimix

- The 'u' shaped agitator operates at 45 degrees to horizontal, allowing emulsification/powder dispersal to be added in-vessel. Particularly effective when combined with vacuum loading for clean fast mixing of powders below the product level, right at the mixing head
- Emulsifier is bottom mounted and gives particulate reduction to 10 microns. Single speed (1400 rpm), dual speed (1400/2800 rpm) or variable speed (700 - 2800 rpm) dependent on your process needs.

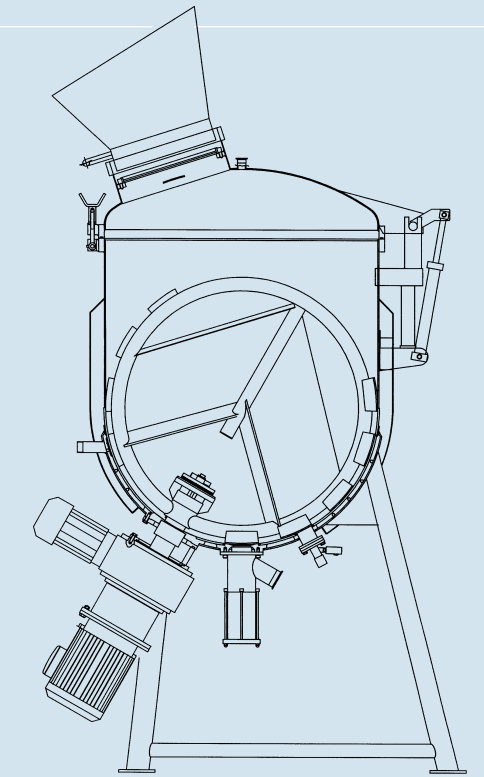
The Ultimix is particularly effective for products requiring an initial high shear phase followed by gentle low shear mixing of sensitive additions.

Giusti Horizontal Agitation Mixing System

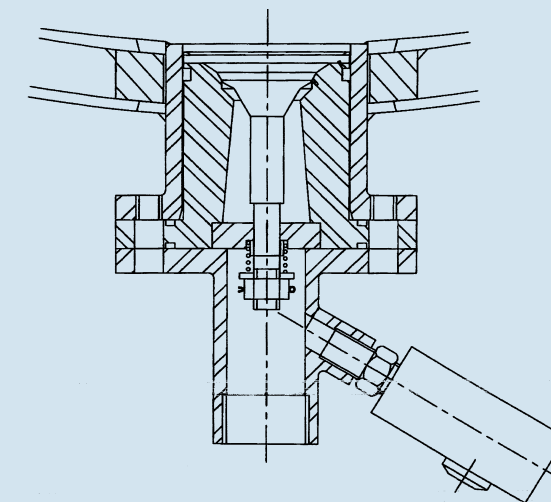
GIUSTIMIX & ULTIMIX



Giustimix - gentle tumbling agitation



Ultimix - emulsification or powder addition in vessel



Vapinject Steam Injector

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.

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