CEISA
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TECHNICAL OFFICE
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DOSING AND TEMPERATURE CONTROL SKID CONFIGURATION

PHARMACEUTICAL / VETERINARY / COSMETIC SECTOR

PRODUCT	**Fluid type***	o Watery o Ointment o Cream o Gel o Organic
	Viscosity	Between 1cP and 22,000 cP
	Density	Between 500 kg/m^3 and 1.500 kg/m^3
REACTOR	**Minimum working volume to be controlled***	Between 10L and 1.000L
	Maximum working volume to be controlled*	Between 20L and 4.000L
	Type of cooling / heating jacket	o Half cane errule o Half cane ferrule + lower bottom o Double jacket ferrule o Double jacket ferrule + lower bottom
CIRCUIT	**Product flow**	Between 50 kg/h and 80000 kg/h
	Heating / cooling typology	o Instant heating o Recirculation heating o Instant cooling o Recirculation cooling
HEATING / COOLING SYSTEM	**Control type**	o Fast heating o Recirculation heating o Temperature maintenance o Tempered o Sudden cooling o Heat sterilization
	Target temperature*	Between 5°C and 135°C
	Closed systems for accurate temperature control	o Water recirculation pump o Water expansion vessel o Automatic water supply o Manual water supply o Steam exchanger o Electrical water heater o Cooling cold water exchanger for jacket

* Other options available on request.

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HEATING / COOLING SYSTEM	**Open systems for accurate temperature control**	○ Industrial steam with mechanical regulation ○ Industrial steam with automatic regulation ○ Direct cooling water with mechanical regulation ○ Direct cooling water with automatic regulation	
	Other heating systems	○ Electric heat trace (no fluids required) ○ Standalone equipment	
	Temperature control system	○ Jacket fluid temperature control ○ Tank temperature control ○ Tank wall temperature control ○ Product pipe temperature control	
DOSIFICATION	**Dosification control**	○ Load cell ○ Flowmeter ○ Weighing platform ○ Tank radar level ○ Loading queue ○ Without loading queue ○ Control valve ○ On-off valve	
	Fluid movement	○ Purified water ring ○ Pumping system ○ PIG ○ Compressed air pressure control ○ Vacuum	
	Flow to dose	Between 50 kg/h and 8.000 kg/h	
	Quantity to dose	Between 2 kg and 6.000 kg	
	Dosification process tolerance*	0,5 % - 1,5 %	
CONNECTIONS AND SKID GEOMETRY	**Type of connections**	**In contact:** ○ Clamp	**No contact:** ○ Flange (heating/cooling side) ○ Thread (heating/cooling side)
	Type of valve in contact with the product	○ Membrane valve	

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CONNECTIONS AND SKID GEOMETRY	**Type of valve without contact with the product**	○ Butterfly valve ○ Ball valve ○ Globe valve ○ Control valve	
	Type of pipe in contact with the product	ASME-BPE SF1	
	Type of pipe without contact with the product	○ Millimetric ○ ISO-1127 ○ DIN-11850 ○ ASME-BPE-SF1	
	SKID Mobility	○ Fixed SKID	○ Mobile SKID
DOCUMENTATION		○ GMP	○ ATEX
AUTOMATION		○ Keypad ○ HMI ○ SCADA	○ 21CFR ○ User configurable recipes ○ Remote access

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FOOD SECTOR

PRODUCT	**Fluid type***	o Watery o Milk o Custard o Pastry fluids o Cream
	Viscosity	Between 1cP and 22,000 cP
	Density	Between 500 kg/m^3 and 1.500 kg/m^3
REACTOR	**Minimum working volume to be controlled***	Between 10L and 1.000L
	Maximum working volume to be controlled*	Between 20L and 4.000L
	Type of cooling / heating jacket	o Half cane errule o Half cane ferrule + lower bottom o Double jacket ferrule o Double jacket ferrule + lower bottom
CIRCUIT	**Product flow**	Between 50 kg/h and 80000 kg/h
	Heating / cooling typology	o Instant heating o Recirculation heating o Instant cooling o Recirculation cooling
HEATING / COOLING SYSTEM	**Control type**	o Pasteurization o Cooking o Heat sterilization
	Target temperature*	Between 5ºC and 135ºC
	Closed systems for accurate temperature control	o Water recirculation pump o Water expansion vessel o Automatic water supply o Manual water supply o Water vapor exchanger o Electrical water heater o Cooling cold water exchanger for jacket

* Other options available on request.

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DOSING AND TEMPERATURE CONTROL SKID CONFIGURATION

FOOD SECTOR

HEATING / COOLING SYSTEM	**Open systems for accurate temperature control**	○ Industrial steam with mechanical regulation ○ Industrial steam with automatic regulation ○ Direct cooling water with mechanical regulation ○ Direct cooling water with automatic regulation
	Other heating systems	○ Electric heat trace (no fluids required) ○ Standalone equipment
	Temperature control system	○ Jacket fluid temperature control ○ Tank temperature control ○ Tank wall temperature control ○ Product pipe temperature control
DOSIFICATION	**Dosification control**	○ Load cell ○ Flowmeter ○ Weighing platform ○ Tank radar level / guided microwave level
	Fluid movement	○ Helical pump ○ PIG ○ Compressed air pressure control ○ Vacuum
	Flow to dose	Between 50 kg/h and 8.000 kg/h
	Quantity to dose	Between 2 kg and 6.000 kg
	Dosification process tolerance*	0,5 % - 1,5 %
CONNECTIONS AND SKID GEOMETRY	**Type of connections**	**In contact:** ○ DIN - 11850 ○ Clamp **No contact:** ○ Flange (heating/cooling side) ○ Thread (heating/cooling side)
	Type of valve in contact with the product	○ Butterfly valve DIN-11850 ○ Clamp butterfly valve

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FOOD SECTOR

CONNECTIONS AND SKID GEOMETRY	**Type of valve without contact with the product**	○ Butterfly valve ○ Ball valve ○ Globe valve ○ Control valve	
	Type of pipe in contact with the product	○ ASME-BPE SF1	○ DIN-11850
	Type of pipe without contact with the product	○ Millimeter ○ ISO-1127 ○ DIN-11850 ○ ASME-BPE-SF1	
	SKID Mobility	○ Fixed SKID	○ Mobile SKID
DOCUMENTATION		○ GMP	○ ATEX
AUTOMATION		○ Keypad ○ HMI ○ SCADA	○ User configurable recipes ○ Remote access

* Other options available on request.