

# GAROS Injector



**RED MEAT**



**POULTRY**



**FISH**

# Injector

The GAROS range of Brine Injectors and Tenderisers has been refined and developed to meet new requirements for uniformity, injection percentages and hygiene within the modern meat / poultry / fish industry. Our fourth generation of machines, GSI, are at the forefront of technology.

The premium range comprises three basic models, GSI 420, 620 and 820, all of which can be supplied as single or double machines. The 620 and 820 are also available as triple machines.

From 48 to 768 needles, capacity from 1,4 to 15 tonnes per hour depending on product and injection rate. For more exactly information, please the technical details for each area.



We can also offer a range of basic "step-in" models. This is an injector solution often used in smaller or medium sized process facilities. It can also be a good type of machine to use at a test kitchen or a production line for special products etc. The basic range comprises 2 different models, the GSI 350 and GSI 480. These models is offered as single machines, all equipped with a PLC and inline filter. For more information, please see our "Step-in" brochure.

## Areas

-  **RED MEAT**
-  **POULTRY**
-  **FISH**

## Benefits

- Hygienic design
- User friendly
- Safe to use

## Contribution

- Brine injecting
- Tenderising
- Adding value



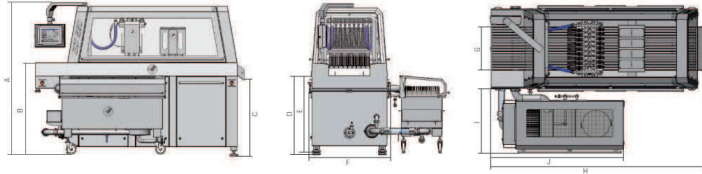
# Characteristics and advantages:

Some of the characteristics and advantages:

- Uniform injection, low SD value thanks to unique flow and ventilation system.
- Flow system adapted to even the most viscous types of brine and marinade.
- Horizontally (HDI) and vertically (VDI) differentiated injection.
- Stainless steel, high-capacity centrifugal pump.
- Separate circulation pump for viscous brine keeps the solution in constant circulation to prevent sedimentation at the bottom.
- Valves that are pneumatically controlled and completely maintenance free.
- Automatic draining after injection
- Automatic washing program.
- Fully visual control and movable arm during injection process.
- Rotating filter with 4-stage filtration
- Automatic self-cleaning inline filter
- Fully automatic lubrication with alarm system
- PLC control with 15-inch color touchscreen panel or Manual control.
- Designed high hygienic standard and minimal service and maintenance.
- All standard components are well known brands, such as SEW, Mitsubishi, Telemecanique, Siemens and Bosch Rexroth.



## Technical details



Technical measurement for Red Meat

Measurements in mm	A	B	C	D	E	F	G	H	I	J	Weight in kg
GSI 420 Single	2240	1345	1125	1198	1155	1050	424	2490	890	1927	1280
GSI 420 Combi	2240	1345	1125	1198	1155	1050	424	3100	890	1927	1750
GSI 420 Double	2240	1345	1125	1198	1155	1050	424	3100	890	1927	2000
GSI 620 Single	2240	1345	1125	1198	1155	1250	624	2490	890	1927	1405
GSI 620 Combi	2240	1345	1125	1198	1155	1250	624	3100	890	1927	1860
GSI 620 Double	2240	1345	1125	1198	1155	1250	624	3100	890	2627	2075
GSI 620 Triple	2240	1345	1125	1198	1155	1250	624	3710	890	2627	2500
GSI 820 Single	2240	1345	1125	1198	1155	1450	824	2490	890	1927	1530
GSI 820 Combi	2240	1345	1125	1198	1155	1450	824	3100	890	1927	1980
GSI 820 Double	2240	1345	1125	1198	1155	1450	824	3100	890	2627	2175
GSI 820 Triple	2240	1345	1125	1198	1155	1450	824	3710	890	2627	2675

Technical measurement for Poultry and Fish

Measurements in mm	A	B	C	D	E	F	G	H	I	J	Weight in kg
GSI 420 Single	2240	1345	1125	1198	1155	1050	424	2490	890	1927	1280
GSI 420 Double	2240	1345	1125	1198	1155	1050	424	3100	890	1927	2000
GSI 620 Single	2240	1345	1125	1198	1155	1250	624	2490	890	1927	1405
GSI 620 Double	2240	1345	1125	1198	1155	1250	624	3100	890	2627	2075
GSI 820 Single	2240	1345	1125	1198	1155	1450	824	2490	890	1927	1530
GSI 820 Double	2240	1345	1125	1198	1155	1450	824	3100	890	2627	2175

GAROS reserves the right to make technical modifications in measures or design at any time.

## Technical details Red Meat

	GSI 420 Single / Combi / Double	GSI 620 Single / Combi / Double / Triple	GSI 820 Single / Combi / Double / Triple
Capacity	Up to 7 ton/h depending on product and injection rate	Up to 11 ton/h depending on product and injection rate	Up to 13 ton/h depending on product and injection rate
Forward feed width	420 mm	620 mm	820 mm
Forward feed system	Walking beam or Intralox conveyor	Walking beam or Intralox conveyor	Walking beam or Intralox conveyor
Forward feed	30 or 60 mm	30 or 60 mm	30 or 60 mm
Number of needles	48, 96 192 /	72, 144 or 288 /	96, 192 or 384 /
Needle type	2x48, 2x96 or 2x192 single, double or quadro	2x72, 2x144 or 2x288 single, double or quadro	2x96, 2x192 or 2x384 single, double or quadro
Number of knives	432	672	864
Stroke/min needle head	20-70 / 20-70	20-70 / 20-70	20-70 / 20-70
Stroke/min knife head	20-60	20-60	20-60
Stroke height	240 mm	240 mm	240 mm
Max product height	210 mm	210 mm	210 mm
Max product height knife head	150 mm	150 mm	150 mm
Pump capacity	500l/min - 1000l/min	500l/min - 1000l/min	500l/min - 1000l/min
Brine pressure	0,5-5 bar	0,5-5 bar	0,5-5 bar
Volume filter unit	430l / 430l / 700l	430l / 430l / 700l	430l / 430l / 700l
Rated voltage	400V	400V	400V
Power supply drive unit	1,5kW / 1,5+1,5kW / 1,5+ 1,5kW	3kW / 3+3kW / 3+3kW / 3+3+3kW	1kW / 4+4kW / 4+4kW / 4+4+4kW
Power supply pump	5,5kW / 5,5kW / 5,5+5,5kW	5,5kW / 5,5kW / 5,5+5,5kW / 5,5+5,5kW	5,5kW / 5,5kW / 5,5+5,5kW / 5,5+5,5kW
Connected load	7kW / 8,5kW / 8,5kW	9kW / 12kW / 17,5kW / 20,5kW	10kW / 14kW / 23kW / 29kW
Compressed air consumption	307 / 528 / 614 NI/min	461 / 852 / 922 / 1248 NI/min	615 / 1212 / 1230 / 1740 NI/min
Rotary filter unit	PLC model	PLC model	PLC model
Screen filter unit	Manual model	Manual model	Manual model
Inline filter	PLC model	PLC model	PLC model
Brine circulation pump	PLC model	PLC model	PLC model
Differential injection	PLC & Manual model	PLC & Manual model	PLC & Manual model
1 way injection	PLC model	PLC model	PLC model
Fully automatic lubrication	PLC model	PLC model	PLC model
Semi automatic lubrication	Manual model	Manual model	Manual model
Pneumatic needle valves	PLC & Manual model	PLC & Manual model	PLC & Manual model
Pneumatic washing bar	PLC model	PLC model	PLC model
Meat juice separation	PLC & Manual model	PLC & Manual model	PLC & Manual model
Over flow brine separation	PLC & Manual model	PLC & Manual model	PLC & Manual model

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## Technical details Poultry

	<b>GSI 420</b> Single / Double	<b>GSI 620</b> Single / Double	<b>GSI 820</b> Single / Double
Capacity	Up to 3 ton/h depending on product and injection rate	Up to 6 ton/h depending on product and injection rate	Up to 10 ton/h depending on product and injection rate
Forward feed width	420 mm	620 mm	820 mm
Forward feed system	Intralox conveyor	Intralox conveyor	Intralox conveyor
Forward feed	30 or 60 mm	30 or 60 mm	30 or 60 mm
Number of needles	192	288 / 2x288	384 / 2x384
Needle type	Quadro	Quadro	Quadro
Stroke/min needle head	20-70	20-70 / 20-70	20-70 / 20-70
Stroke height	160 mm	160 mm	160 mm
Max product height	130 mm	130 mm	130 mm
Pump capacity	500l/min - 1000l/min	500l/min - 1000l/min	500l/min - 1000l/min
Brine pressure	0,5-4 bar	0,5-4 bar	0,5-4 bar
Volume filter unit	430l / 700l	430l / 700l	430l / 700l
Rated voltage	400V	400V	400V
Power supply drive unit	1,5kW / 1,5+1,5kW	3kW / 3+3kW	4kW / 4+4kW
Power supply pump	5,5kW / 5,5+5,5kW	5,5kW / 5,5+5,5kW	5,5kW / 5,5+5,5kW
Connected load	7kW / 8,5kW	9kW / 17,5kW	10kW / 23kW
Compressed air consumption	307 / 614 NI/min	461 / 922 NI/min	615 / 1230 NI/min
Rotary filter unit	PLC model	PLC model	PLC model
Screen filter unit	Manual model	Manual model	Manual model
Inline filter	PLC model	PLC model	PLC model
Brine circulation pump	PLC model	PLC model	PLC model
Differential injection	PLC & Manual model	PLC & Manual model	PLC & Manual model
1 way injection	PLC model	PLC model	PLC model
Fully automatic lubrication	PLC model	PLC model	PLC model
Semi automatic lubrication	Manual model	Manual model	Manual model
Pneumatic needle valves	PLC & Manual model	PLC & Manual model	PLC & Manual model
Pneumatic washing bar	PLC model	PLC model	PLC model
Meat juice separation	PLC & Manual model	PLC & Manual model	PLC & Manual model

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## Technical details Fish

	<b>GSI 420</b> Single / Double	<b>GSI 620</b> Single / Double	<b>GSI 820</b> Single / Double
Capacity	Up to 1,4 ton/h depending on product and injection rate	Up to 2,3 ton/h depending on product and injection rate	Up to 3 ton/h depending on product and injection rate
Forward feed width	420 mm	620 mm	820 mm
Forward feed system	Intralox conveyor	Intralox conveyor	Intralox conveyor
Forward feed	30 or 60 mm	30 or 60 mm	30 or 60 mm
Number of needles	192	288 / 2x288	384 / 2x384
Needle type	Quadro	Quadro	Quadro
Stroke/min needle head	20-90	20-90 / 20-90	20-90 / 20-90
Stroke height	100 mm	100 mm	100 mm
Max product height	75 mm	75 mm	75 mm
Pump capacity	500l/min - 1000l/min	500l/min - 1000l/min	500l/min - 1000l/min
Brine pressure	0,5-4 bar	0,5-4 bar	0,5-4 bar
Volume filter unit	430l / 700l	430l / 700l	430l / 700l
Rated voltage	400V	400V	400V
Power supply drive unit	1,5kW / 1,5+1,5kW	3kW / 3+3kW	4kW / 4+4kW
Power supply pump	5,5kW / 5,5+5,5kW	5,5kW / 5,5+5,5kW	5,5kW / 5,5+5,5kW
Connected load	7kW / 8,5kW	9kW / 17,5kW	10kW / 23kW
Compressed air consumption	307 / 614 NI/min	461 / 922 NI/min	615 / 1230 NI/min
Rotary filter unit	PLC model	PLC model	PLC model
Screen filter unit	Manual model	Manual model	Manual model
Inline filter	PLC model	PLC model	PLC model
Brine circulation pump	PLC model	PLC model	PLC model
Differential injection	PLC & Manual model	PLC & Manual model	PLC & Manual model
1 way injection	PLC model	PLC model	PLC model
Fully automatic lubrication	PLC model	PLC model	PLC model
Semi automatic lubrication	Manual model	Manual model	Manual model
Pneumatic needle valves	PLC & Manual model	PLC & Manual model	PLC & Manual model
Pneumatic washing bar	PLC model	PLC model	PLC model
Meat juice separation	PLC & Manual model	PLC & Manual model	PLC & Manual model

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