



# JOULIN

## VACUUM HANDLING SYSTEM



[www.joulin.biz](http://www.joulin.biz)

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# HISTORY

JOULIN



**J**OULIN, since its formation 50 years ago, has dealt with wood stacking/destacking applications. Through the years, experience was gained in various vacuum techniques and technologies now unique to the industry.

The design and development of solutions with larger, higher capacity gripping surfaces and lower vacuum levels allows Joulin to overcome many of the shortcomings of standard vacuum solutions.

Our auto-regulated valve was originally designed in 1969 to handle layers of products without any adjustment.

Years of “know how” and experience are built into our patented grippers that are simple, reliable and low maintenance. Joulin grippers are not affected by sawdust, humidity and surfaces that are moulded, rough or twisted and therefore can be used with virtually any surface.

The advantages of this concept and design were quickly realized in the lumber industry where JOULIN is still a world leader.

The world has become familiar with JOULIN grippers as several thousand systems and more than 85% of the production is spread across 5 continents.

Our goal is to propose solutions that best fit your needs both technically and economically. Our sales teams and technicians are specialists as a result of their training and experience and are ready to answer any inquiries

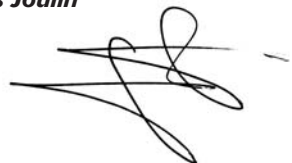
Your needs are important to us and we strive to deliver a system that meets or exceeds them. JOULIN's desire is to partner with our customers and supply their needs.

Through our experience and close collaboration with both integrators and manufacturers, we are able to meet your requirements proposing personalized solutions from the gripping tool to the entire manipulator.

We now have an office in the US to better serve the needs of North America.

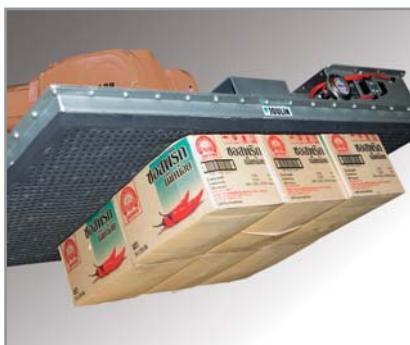
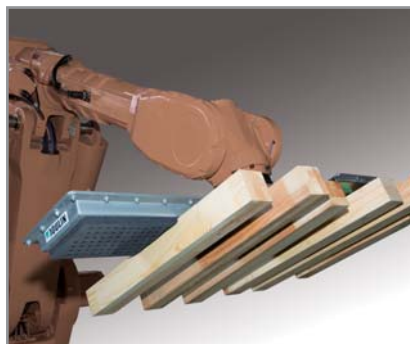
**Performance, flexibility and quick response are our goals.**

*François Joulin*

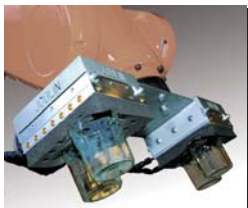
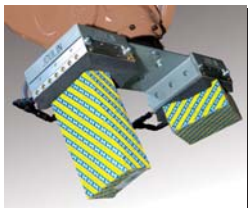
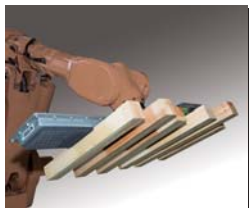
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# JOULIN'S PERFORMANCE

JOULIN



# Joulin's Performance



## JOULIN

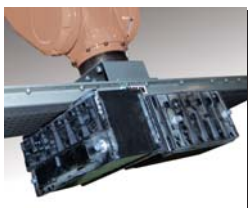
does not need any adjustment to handle various products with varying dimensions, shapes, weights and materials



Unlift adapts to full and partial layers, porous, soft, twisted and deformed products...



Patented low vacuum technology :  
 Handling capacity : 3000kg/m<sup>2</sup> (614 Lbs/ft<sup>2</sup>)  
 Independent and auto-regulated valve system  
 Light, multi purpose and compact  
 Easy to install



Universal tool to handle  
your products, pallets and slipsheets

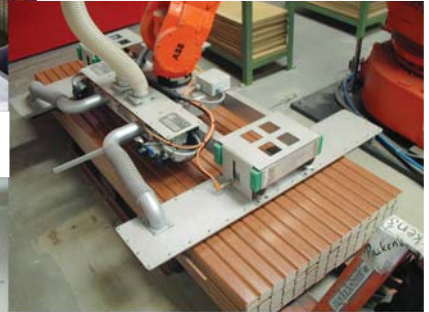
# JOULIN

minimum workspace



**Easy, reliable,  
minimum maintenance**

**Fast installation,  
guaranteed function**



**No damage to product**

**Not affected by  
dust, sawdust,  
sand, humidity...**

**Tests and  
demonstrations available**

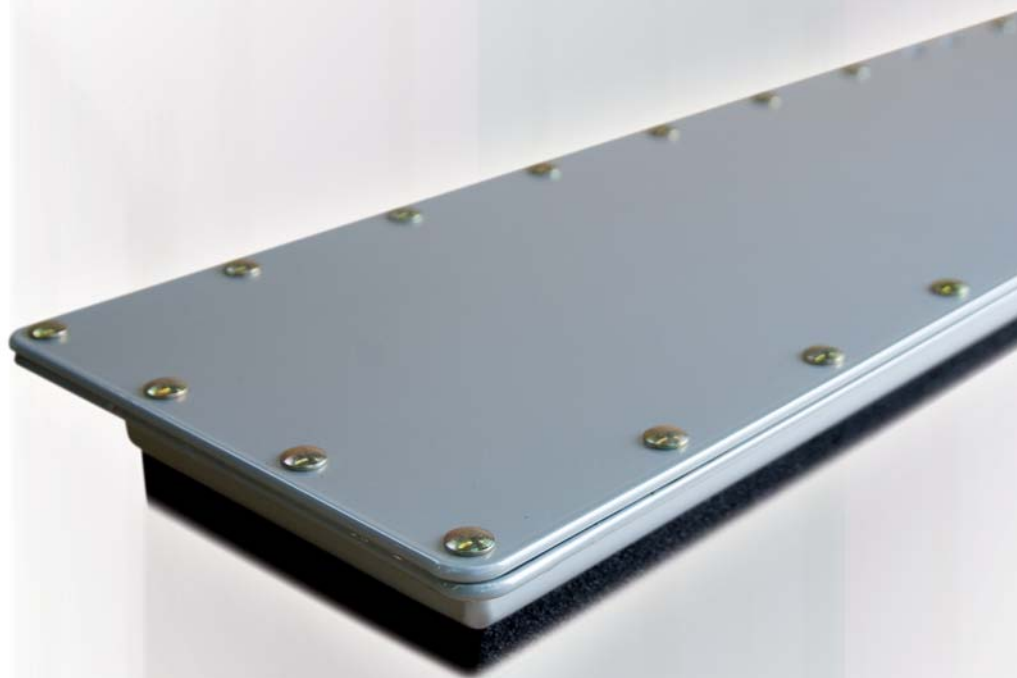
# JOULIN'S SYSTEM

JOULIN





***TC Range***



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**JOULIN**

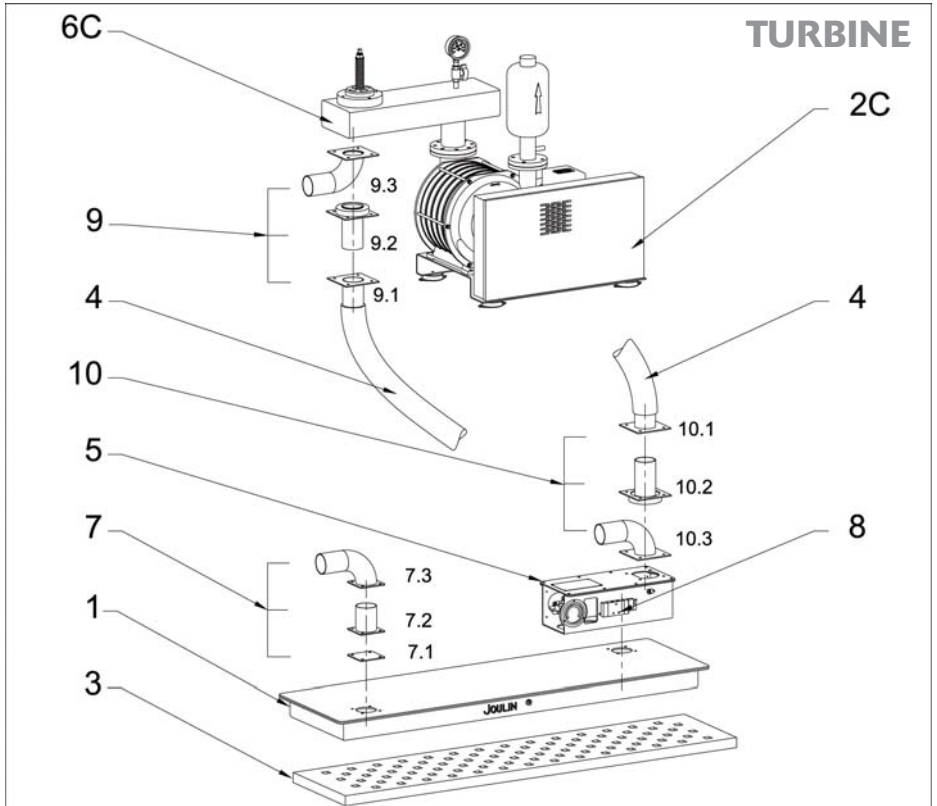
## Principle

- Each patented gripper opening has one valve. This auto-regulated valve operates to open or close depending if there is product under the particular valve. If there is product the valve stays open and grips; If not, the valve closes not losing vacuum
- No adjustment is necessary if the layer configuration or size changes. This also helps conserve power
- Gripping power remains constant whether single part or entire layer
- In order to estimate the capacities and necessary options please contact your JOULIN specialist. WE GUARANTEE THE FUNCTION

## General characteristics

- **CONCEPT 1** : Power consumption of the turbine is approximately 30% of normal in release position (air flow generated by electric turbine)
- **CONCEPT 2** : Venturi power consumption only in pick up mode (air flow generated by compressed air)
- Rotate 90° standard
- Standard design with angled edges to facilitate integration on your manipulator. All the perimeter bolts can be utilized for attachment.
- Aluminium standard (others on request)
- Custom colors, finishes, and materials available
- Standard adjustments are simple to adapt to your needs
- Purchase of “Gripper only” available
- Multiple heads configured in series only require one turbine

**Our solutions include**  
**CUSTOM DESIGNS, QUICK AND ECONOMICAL**

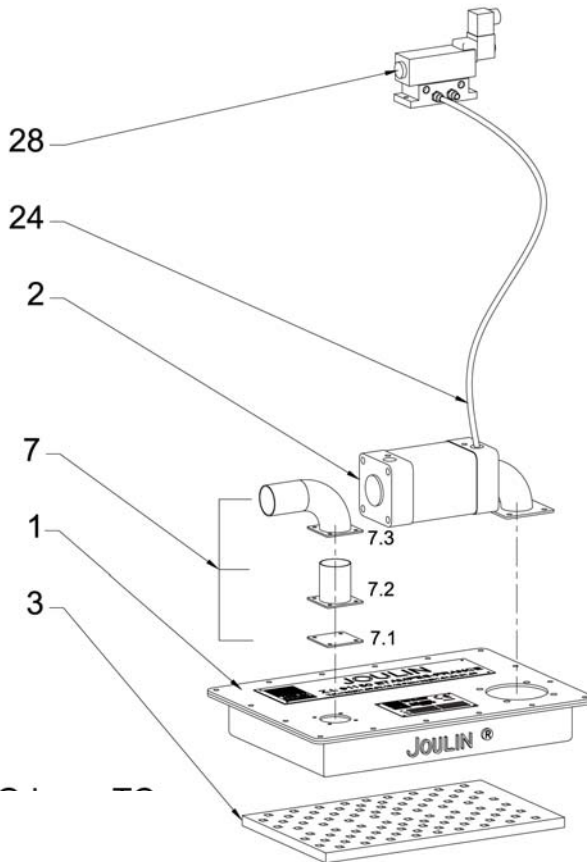


**JOULIN**

10.3	1	Connector (90°)
10.2	1	Connector (rotating)
10.1	1	Connector (straight)
9.3	1	Connector (90°)
9.2	1	Connector (rotating)
9.1	1	Connector (straight)
8	1	Electrovalve (24 VDC)
7.3	1	Connector (90°)
7.2	1	Connector (straight)
7.1	1	Closing plate (single head)
6C	1	Pick up/release (flow reverse module)
5	1	Pick up/release module 360x170x120 [14" 3/16x6" 11/16x4" 3/4] (L x l x h)
4	1	Flexible pipe
3	1	Foam pad
2C	1	Turbine
1	1	Vacuum gripper/head
N°.	Qty	Description

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## VENTURI



**JOULIN**

28	1	Electrovalve (24 VDC)
24	1	Flexible pipe
7.3	1	Connector (90°)
7.2	1	Connector (straight)
7.1	1	Closing plate (single head)
3	1	Foam pad
2	1	Vacuum pump
1	1	Vacuum gripper/head
N°.	Qty	Description

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## TECHNICAL DATA

Standard foam thickness 24mm Thickness of gripper 45 mm														
<b>TC CONCEPT 1 (turbine)</b>														
Type	TC1040C1	TC2020C1	TC1060C1	TC2040C1	TC1660C1	TC10130C1	TC16130C1	TC4060C1	TC40130C1	TC40130C1	TC90130C1	TC90130C1	TC110130C1	TC120150C1
Useful surface (mm)	100 x 400	200 x 200	100 x 600	200 x 400	160 x 600	100 x 1300	160 x 1300	400 x 600	400 x 1300	400 x 1300	900 x 1300	900 x 1300	1100 x 1300	1200 x 1500
Useful surface ( inch)	3.937x15.748	7.874x7.874	3.937x23.622	15.748x15.748	6.300x23.622	3.937x51.181	6.300x51.181	15.748x15.748	15.748x51.181	15.748x51.181	35.433x51.181	35.433x51.181	43.307x51.181	47.244x59.055
Outside dimensions (mm)	170 x 470	270 x 270	170 x 670	270 x 370	230 x 670	170 x 1370	230 x 1370	670 x 470	670 x 1370	670 x 1370	970 x 1370	970 x 1370	1170 x 1370	1270 x 1570
Outside dimensions( inch)	6.693x18.112	10.630x10.630	6.693x26.382	10.630x14.567	9.091x26.382	6.693x53.150	9.091x53.150	26.382x18.112	26.382x53.150	26.382x53.150	38.189x53.150	38.189x53.150	46.063x53.150	50.000x61.024
Turbine power 50 Hz* ( Kw)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	4.3	4.3	4.3	7.5
Turbine power 60 Hz* ( Kw)	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	4.8	4.8	4.8	8.5
Number of openings	76	81	116	126	203	256	448	551	330	1216	759	2816	924	3456
Pitch of opening	20	20	20	20	20	20	20	20	40	20	40	20	40	20
Weight (Kg)	2.5	2.5	3.5	3.5	5	6.5	10.5	12	26	26	56.5	56.5	71.5	90
<b>TC CONCEPT 2 (Venturi)</b>														
Type	TC1040C2	TC2020C2	TC1060C2	TC2040C2	TC1660C2	TC10130C2	TC16130C2	TC4060C2	TC40130C2	TC40130C2	TC90130C2	TC90130C2	TC110130C2	
Useful surface (mm)	100 x 400	200 x 200	100 x 600	200 x 400	160 x 600	100 x 1300	160 x 1300	400 x 600	400 x 1300	400 x 1300	900 x 1300	900 x 1300	1100 x 1300	
Useful surface ( inch)	3.937x15.748	7.874x7.874	3.937x23.622	15.748x15.748	6.300x23.622	3.937x51.181	6.300x51.181	15.748x15.748	15.748x51.181	15.748x51.181	35.433x51.181	35.433x51.181	43.307x51.181	
Outside dimensions (mm)	170 x 470	270 x 270	170 x 670	270 x 370	230 x 670	170 x 1370	230 x 1370	670 x 470	670 x 1370	670 x 1370	970 x 1370	970 x 1370	1170 x 1370	
Outside dimensions( inch)	6.693x18.112	10.630x10.630	6.693x26.382	10.630x14.567	9.091x26.382	6.693x53.150	9.091x53.150	26.382x18.112	26.382x53.150	26.382x53.150	38.189x53.150	38.189x53.150	46.063x53.150	
Power	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
Compressed air needed (Nl/sec)	7	7	7	7	7	7	7	7	7	7	7	7	7	
Number of openings	76	81	116	126	203	256	448	551	330	1216	759	2816	924	
Pitch of opening	20	20	20	20	20	20	20	20	40	20	40	20	40	
Weight (Kg)	2.5	2.5	3.5	3.5	5	6.5	10.5	12	26	26	56.5	56.5	71.5	

Indicative data

\* According to products to handle and speed

\*\* Nl/sec: with 6 bars ( 87 PSI)

To choose Nl/sec to flow\* multiply by 0.035

Power to Hp multiply by 1.34

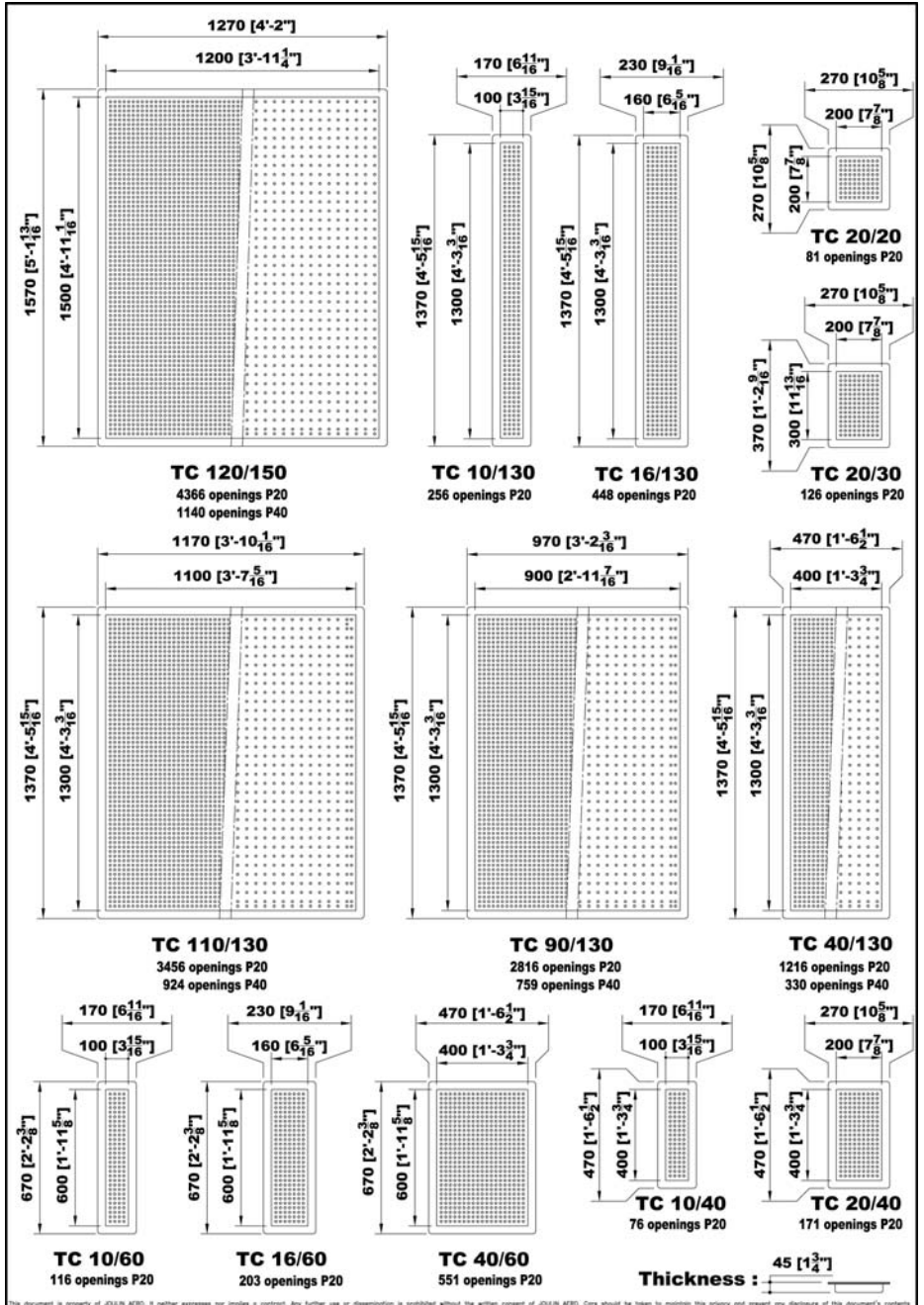
25.4 mm = 1 inch

1 Lbs = 0.45 Kg

# TC Range

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**JOULIN**



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**TL Range**



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**JOULIN**

## Principle

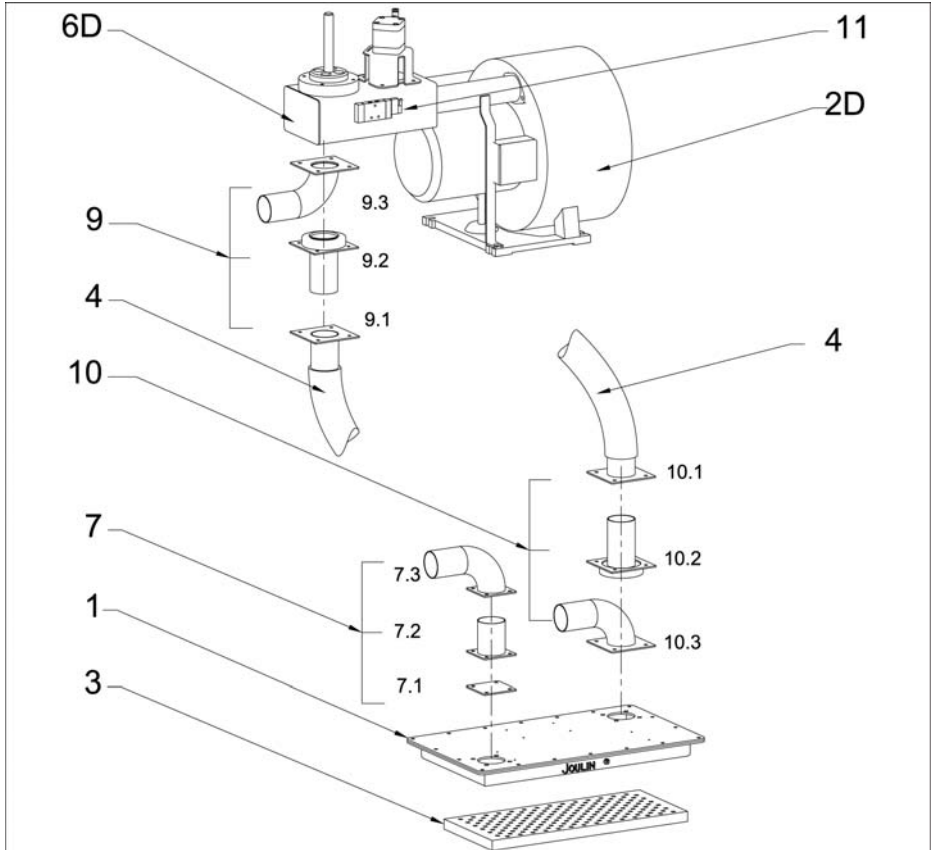
● The gripping capacity depends on the percentage coverage. Capacity increases with the percentage coverage. To estimate the capacities and necessary options please contact your JOULIN specialist. WE GUARANTEE THE FUNCTION.

## General characteristics

- **CONCEPT 1** : Power consumption of the turbine is approximately 30% of normal in release position (air flow generated by electrical turbine).
- **CONCEPT 2** : Venturi power consumption only in pick up mode (air flow generated by compressed air).
- Rotate 360° standard.
- Standard design with angle edges In order to facilitate integration on your manipulator. All the perimeter bolts can be utilized for attachment.
- Aluminium standard (others on request).
- Custom colors, finishes, and materials available.
- Many possible valve and foam patterns.
- Pick up flexible products and soft bags.
- Purchase of "Gripper only" available.
- Multiple heads configured in series only require one turbine.

**Our solutions include**  
**CUSTOM DESIGNS, QUICK AND ECONOMICAL**





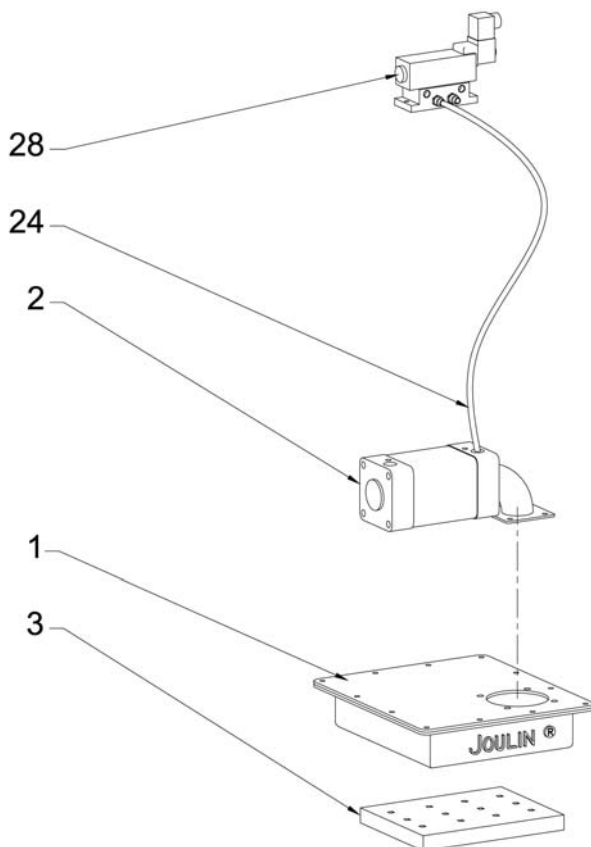
## TURBINE



11	1	Electrovalve (24 VDC)
10.3	1	Connector (90°)
10.2	1	Connector (rotating)
10.1	1	Connector (straight)
9.3	1	Connector (90°)
9.2	1	Connector (rotating)
9.1	1	Connector (straight)
7.3	1	Connector (90°)
7.2	1	Connector (straight)
7.1	1	Closing plate (single head)
6D	1	Pick up/release (flow reverse module)
4	1	Flexible pipe
3	1	Foam pad
2D	1	Turbine
1	1	Vacuum gripper/head
N°.	Qty	Description

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## VENTURI



28	1	Electrovalve (24 VDC)
24	1	Flexible pipe
3	1	Foam pad
2	1	Vacuum pump
1	1	Vacuum gripper/head
N°.	Qty	Description

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## TECHNICAL DATA

Standard foam thickness	24mm												
Thickness of gripper	45 mm												
<b>TL CONCEPT 1 (turbine)</b>													
Type	TL10/40C1	TL20/20C1	TL10/60C1	TL20/30C1	TL20/40C1	TL16/60C1	TL10/130C1	TL16/130C1	TL40/60C1	TL40/130C1	TL90/130C1	TL110/130C1	TL120/150C1
Useful surface (mm)	100 x 400	200 x 200	100 x 600	200 x 300	200 x 400	160 x 600	100 x 1300	160 x 1300	400 x 600	400x 1300	900 x 1300	1100 x 1300	1200 x 1500
Useful surface (inch)	3 <sup>15/16</sup> " x 15 <sup>3/4</sup> "	7 <sup>7/8</sup> " x 7 <sup>7/8</sup> "	3 <sup>15/16</sup> " x 23 <sup>3/8</sup> "	11 <sup>13/16</sup> " x 7 <sup>7/8</sup> "	15 <sup>5/8</sup> " x 7 <sup>7/8</sup> "	6 <sup>3/16</sup> " x 7 <sup>7/8</sup> "	3 <sup>15/16</sup> " x 23 <sup>3/8</sup> "	6 <sup>3/16</sup> " x 51 <sup>1/16</sup> "	23 <sup>3/8</sup> " x 15 <sup>3/4</sup> "	15 <sup>3/4</sup> " x 51 <sup>1/16</sup> "	35 <sup>13/16</sup> " x 51 <sup>1/16</sup> "	43 <sup>15/16</sup> " x 51 <sup>1/16</sup> "	47 <sup>11/16</sup> " x 59 <sup>1/16</sup> "
Outside dimensions (mm)	170 x 470	270 x 270	170 x 670	270 x 370	270x 470	230 x 670	170 x 1370	230 x 1370	470 x 670	470 x 1370	970 x 1370	1170 x 1370	1270 x 1570
Outside dimensions (inch)	6 <sup>11/16</sup> " x 18 <sup>1/2</sup> "	10 <sup>5/8</sup> " x 10 <sup>5/8</sup> "	6 <sup>11/16</sup> " x 26 <sup>3/8</sup> "	14 <sup>11/16</sup> " x 10 <sup>5/8</sup> "	18 <sup>11/16</sup> " x 10 <sup>5/8</sup> "	9 <sup>11/16</sup> " x 26 <sup>3/8</sup> "	6 <sup>11/16</sup> " x 53 <sup>15/16</sup> "	9 <sup>11/16</sup> " x 53 <sup>15/16</sup> "	26 <sup>3/8</sup> " x 18 <sup>1/2</sup> "	18 <sup>11/16</sup> " x 53 <sup>15/16</sup> "	38 <sup>11/16</sup> " x 53 <sup>15/16</sup> "	46 <sup>11/16</sup> " x 53 <sup>15/16</sup> "	50 x 61 <sup>15/16</sup> "
Turbine power 50 Hz* (Kw)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	16.5	22	37	37
Turbine power 60 Hz* (Kw)	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	19/23	22/37	37	37
Number of openings	40	25	60	40	50	60	120	132	150	1216	2816	3456	4366
Pitch of opening	40	40	40	40	40	40	40	40	40	20	20	20	20
Weight (Kg)	2.5	2.5	3.5	3.5	4.5	5	6.5	10.5	12	26	58.5	71.5	90
<b>TL CONCEPT 2 (Venturi)</b>													
Type	TL10/40C2	TL20/20C2	TL10/60C2	TL20/30C2	TL20/40C2	TL16/60C2	TL10/130C2	TL16/130C2					
Useful surface (mm)	100 x 400	200 x 200	100 x 600	200 x 300	200 x 400	160 x 600	100 x 1300	160 x 1300					
Useful surface (inch)	3 <sup>15/16</sup> " x 15 <sup>3/4</sup> "	7 <sup>7/8</sup> " x 7 <sup>7/8</sup> "	3 <sup>15/16</sup> " x 23 <sup>3/8</sup> "	11 <sup>13/16</sup> " x 7 <sup>7/8</sup> "	15 <sup>5/8</sup> " x 7 <sup>7/8</sup> "	6 <sup>3/16</sup> " x 23 <sup>3/8</sup> "	3 <sup>15/16</sup> " x 51 <sup>1/16</sup> "	6 <sup>3/16</sup> " x 51 <sup>1/16</sup> "					
Outside dimensions (mm)	170 x 470	270 x 270	170 x 670	270 x 370	270x 470	230 x 670	170 x 1370	230 x 1370					
Outside dimensions (inch)	6 <sup>11/16</sup> " x 18 <sup>1/2</sup> "	10 <sup>5/8</sup> " x 10 <sup>5/8</sup> "	6 <sup>11/16</sup> " x 26 <sup>3/8</sup> "	14 <sup>11/16</sup> " x 10 <sup>5/8</sup> "	18 <sup>11/16</sup> " x 10 <sup>5/8</sup> "	9 <sup>11/16</sup> " x 26 <sup>3/8</sup> "	6 <sup>11/16</sup> " x 53 <sup>15/16</sup> "	9 <sup>11/16</sup> " x 53 <sup>15/16</sup> "					
Power	2.3	2.3	4.6	2.3	4.6	4.6	6.9	6.9					
Compressed air needed (Nl/sec)	7	7	14	7	14	14	21	21					
Number of openings	40	25	60	40	50	60	120	132					
Pitch of opening	40	40	40	40	40	40	40	40					
Weight (Kg)	2.5	2.5	3.5	3.5	4.5	5	6.5	10.5					

Indicative data

\* According to products to handle and speed

\*\* Nl/sec with 6 bars ( 87 PSI)

to change Nl/sec to ft<sup>3</sup>/min multiply by 0.035

Power to Hp multiply by 1.34

25.4 mm = 1 inch

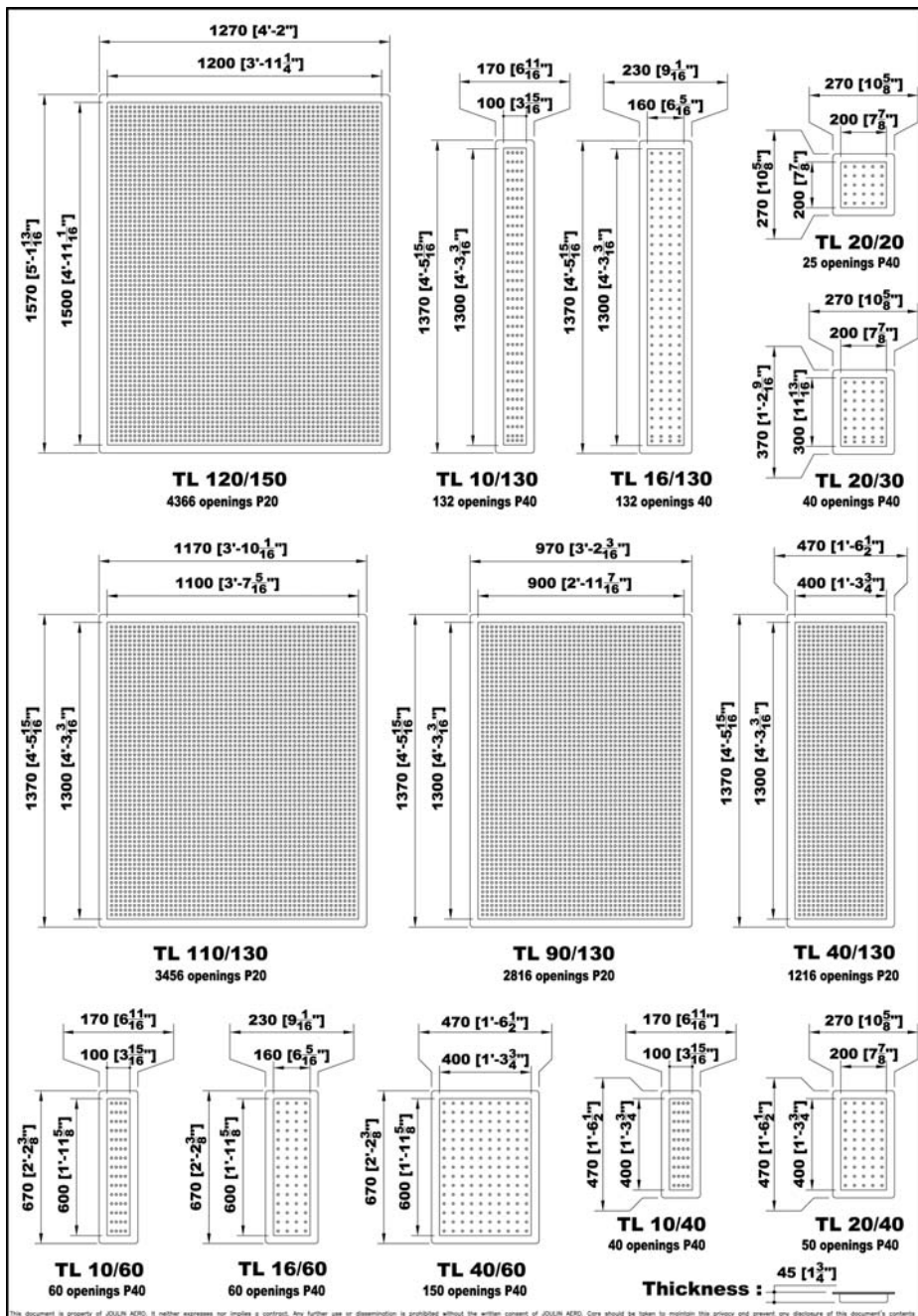
1 Lbs = 0.45 Kg

# TL Range

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**JOULIN**

TL 4



**ICV Range**



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**JOULIN**

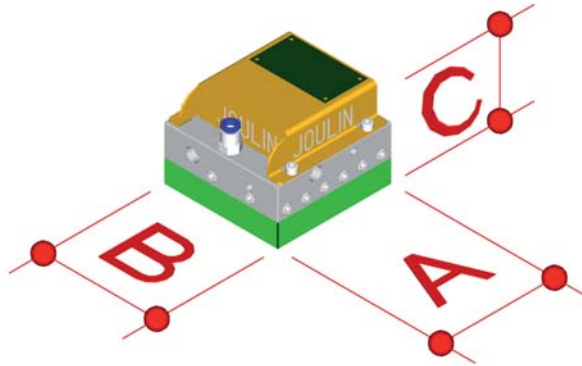
## Principle

- Each gripper opening is equipped with an independent venturi pump generator.
- This new system allows for virtually instantaneous pick up and release. This is the result of the close proximity of vacuum production to the opening
- Very easy to use and integrate
- Gripping power remains constant whether single part or entire layer

## General characteristics

- Standard design allows assembling modular units.
- Various models, sizes and venturi positions
- Light weight
- Small size
- Venturi power consumption only in pick up mode.
- Rotate 360° standard
- Aluminium standard (others on request)

**Our solutions include**  
**CUSTOM DESIGNS, QUICK AND ECONOMICAL**



## Standard dimensions

**A = 120 mm • B = 120 mm • C = 90 mm**

**A = 4.72 in • B = 4.72 in • C = 3.54 in**

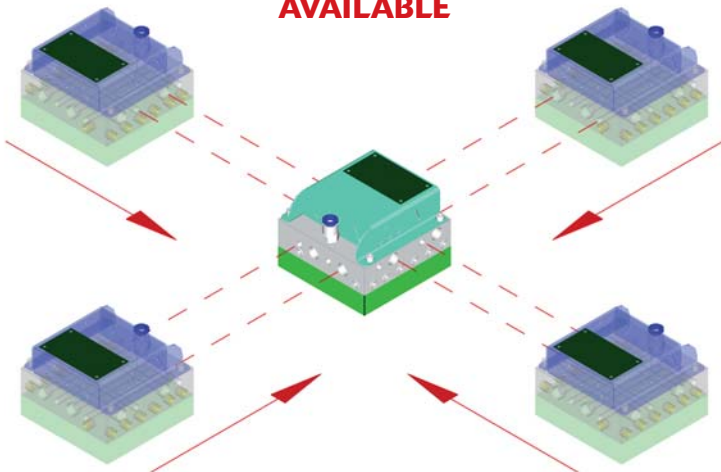
**Weight 1.3 Kg • 2.86 lb**

**Models with 25 or 9 openings**

**Opening consumption : 0.16 NI/sec • 0.0056 ft3/sec**

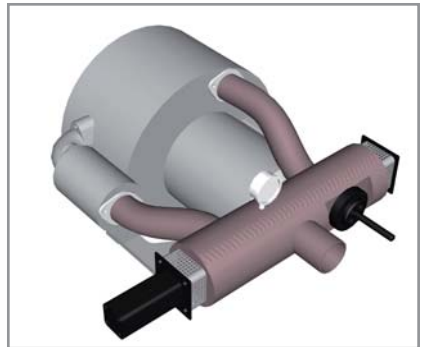
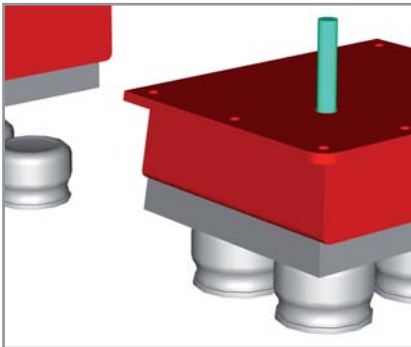
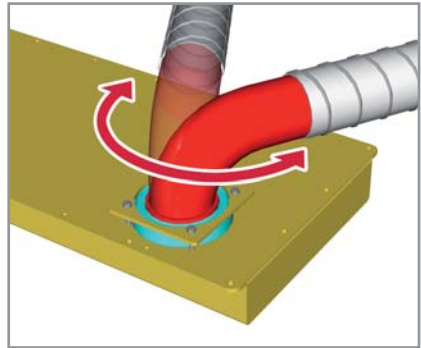
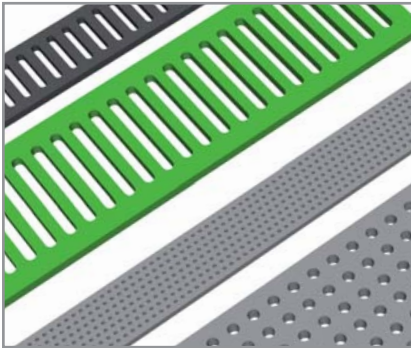
**Power : 53 W**

## MODULAR UNITS AVAILABLE

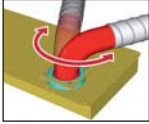


# OPTIONS

JOULIN



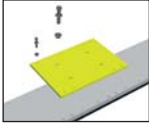




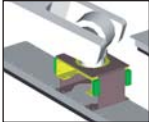
Rotating pipe connection



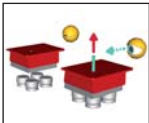
Flow reverser



Head built with precision attachment for robot



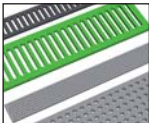
Head built with provision for attachment



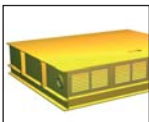
Product position sensor



Flat edge design



Wide range of foam compositions and designs



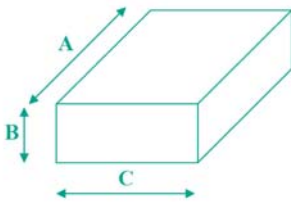
Designs with additional gripping capacity for seriously twisted layers as well as to reduce pick up time

- Rotation of the gripper 180° for TC products
- Mechanical assist with grippers for oversize products
- Special logic and power voltage choices on request
- Wiring options (standard or field bus)
- Independent and multiple gripping zones
- Complete custom designs
- Free testing of your products
- Demonstration grippers available for tests.
- Integration levels to your request (AUTOCAD, Solidworks)

# **QUESTIONNAIRE**



■ Product to handle. ....



	MIN	MAX
A		
B		
C		
Weight		



	MIN	MAX
⊙ D		
E		
Weight		

- Layer dimensions (length x width) .....
- Number of parts/layer .....
- Minimum layer possible (coverage in %) .....
- Pick up of Slip sheets .....
- Pick up of Pallets .....
- Minimum Time period of one cycle .....
- Robot make and model that will be used .....
- Maximum allowable weight of the gripper .....
- Application's description (If possible please send photos) .....

Name of the company : .....

Contact's name : .....

Address : .....

Phone : .....

Fax : .....

Website / e-mail adress: .....

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