

MINIGRIP

Foam Vacuum Gripper



For a Compact
and durable design,
Look no further!



versatile

- Foams adjust to smooth and rough surfaces easily
- Level compensators allow the Mini-Gripper to adjust for uneven layer heights without changing the mount
- Ability to pick a variety of products without adjustment
- Unlike larger grippers, with fixed hole locations, arrayed Mini-Gripper(s) may be moved to obtain a variety of pitches
- Provides a new way to obtain faster cycle times!

compact

- Easily adaptable to current tight clearance applications comparable to vacuum cups
- No need for over sizing for small applications. MGs do the trick!
- The vacuum source can be installed directly to or close to the Mini-Gripper to maximize its capability and efficiency (If using the manifold (VM) vacuum source, it must be installed close to the gripper/s)
- Much smaller sizes compared to FlexiGrip grippers

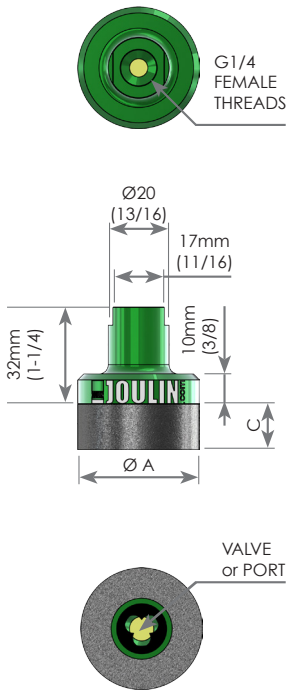
easy to install

- Initial installation or changing a MG out for another is a snap!
- One 10mm compressed air fitting makes for quick push-lock connection to airline (airline - 10mm O.D.)
- Retrofit existing cups or existing pump system



Innovative solutions for your handling projects

Round Foam MiniGrip



MG-

Range of the gripper

VG-

Technology:
- VG = Valve Gripper
- PG = Port Gripper

GR25

Style (A):
- GR25 [31/32]
- GR30 [1-3/16]
- GR40 [1-9/16]
- GR50 [1-31/32]
- GR60 [2-3/8]
- GR70 [2-3/4]

-REG

Flow (PG or VG):
- REG = Regular
- HG = High

Style / Dimensions	GR25	GR30	GR40	GR50	GR60	GR70
C (Foam Thickness) - mm (in)	12 (15/32)	12 (15/32)	15 (19/32)	15 (19/32)	24 (15/16)	24 (15/16)
Weight w/o fitting - g (oz)	23 (0.81)	29 (1.02)	44 (1.55)	63 (2.22)	86 (3.03)	115 (4.06)
Holding Force N (lbs)* - 70% vacuum						
Non porous... like steel	4.7 (1)	7 (1.5)	11.1 (2.4)	17 (3.8)	21 (4.7)	38 (8.5)
Semi-porous... like wood	3.8 (0.8)	5.7 (1.2)	9.1 (2)	14 (3.1)	18 (4)	31 (6.9)
Porous... like cardboard	3.5 (0.7)	5.2 (1.1)	8.3 (1.8)	11 (2.4)	13 (2.9)	17 (3.8)
Vacuum consumption... Nl/s	0.06	0.07	0.09	0.12	0.14	0.17

* Fully covered, safety factor 2 already applied

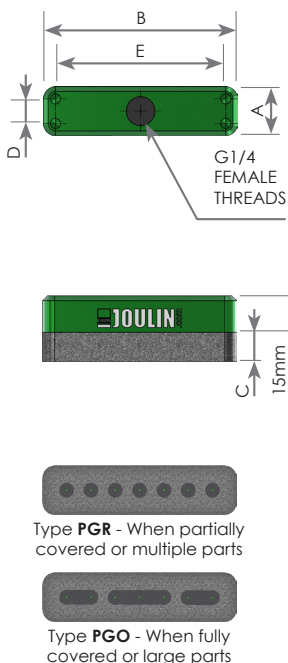
* Forces and flow data given as a design help; these may vary a lot depending on the surface.

PG : metered port openings
VG : one valve in the only opening

Example:

MG-VG-GR60-HG = Valve Gripper 60mm O.D. footprint; High flow

Rectangular Foam MiniGrip



MG-

Range of the gripper

PGO-

Technology:
- PGR = Port Gripper Round
- PGO = Port Gripper Oblong

20X80

Dimensions (AxB):
- 20x80 [25/32 x 3-5/32]
- 20x120 [25/32 x 4-23/31]
- 40x60 [1-9/16 x 3-15/16]
- 40x100 [1-9/16 x 3-15/16]

-REG

Flow (PG):
- REG = Regular
- HG = High

Overall Dimensions	20x80	20x120	40x60	40x100
Dimension C - mm (in)	12 (15/32)	12 (15/32)	15 (19/32)	15 (19/32)
Dimension D - mm (in)	10 (3/8)	10 (3/8)	30 (1-3/16)	30 (1-3/16)
Dimension E - mm (in)	70 (2-3/4)	110 (4-11/32)	50 (2)	90 (3-17/32)
Weight w/o fitting - g (oz)	49 (1.73)	75 (2.65)	71 (2.5)	118 (4.16)
Holding Force N (lbs)* - 70% vacuum				
Non porous... like steel	16 (3.5)	25 (5.6)	31 (6.9)	59 (13.2)
Semi-porous... like wood	14 (3.1)	22 (4.9)	27 (6.0)	52 (11.6)
Porous... like cardboard	12 (2.6)	19 (4.2)	23 (5.1)	41 (9.2)
Vacuum consumption... Nl/s	0.1	0.15	0.21	0.38

* Fully covered, safety factor 2 already applied

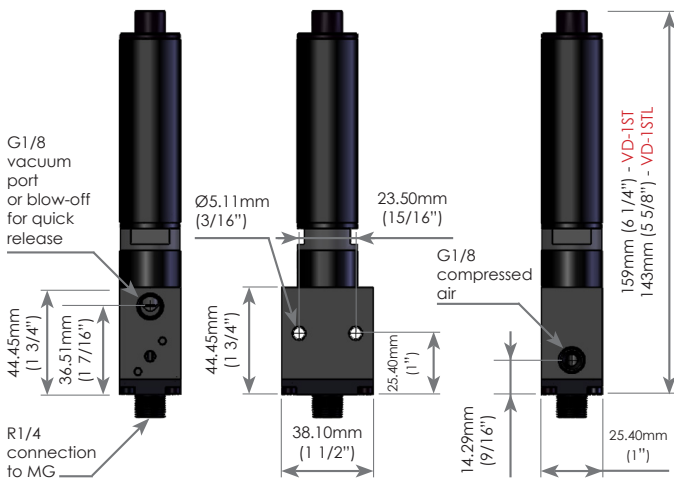
* Forces and flow data given as a design help; these may vary a lot depending on the surface.

PG : metered port openings

Example:

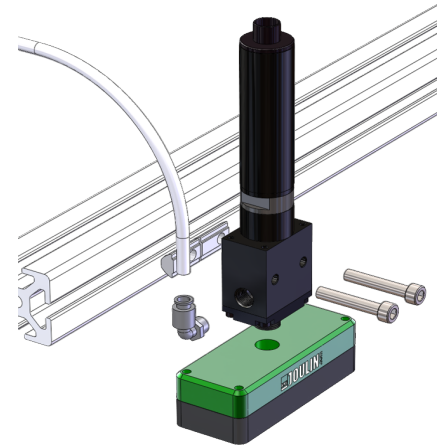
MG-PGO-20X80-REG = Port Gripper 20mm x 80mm footprint; Oblong holes in the foam; Regular flow

Venturi Direct Mount



VD-
 MG Option:
 Venturi Direct Mount

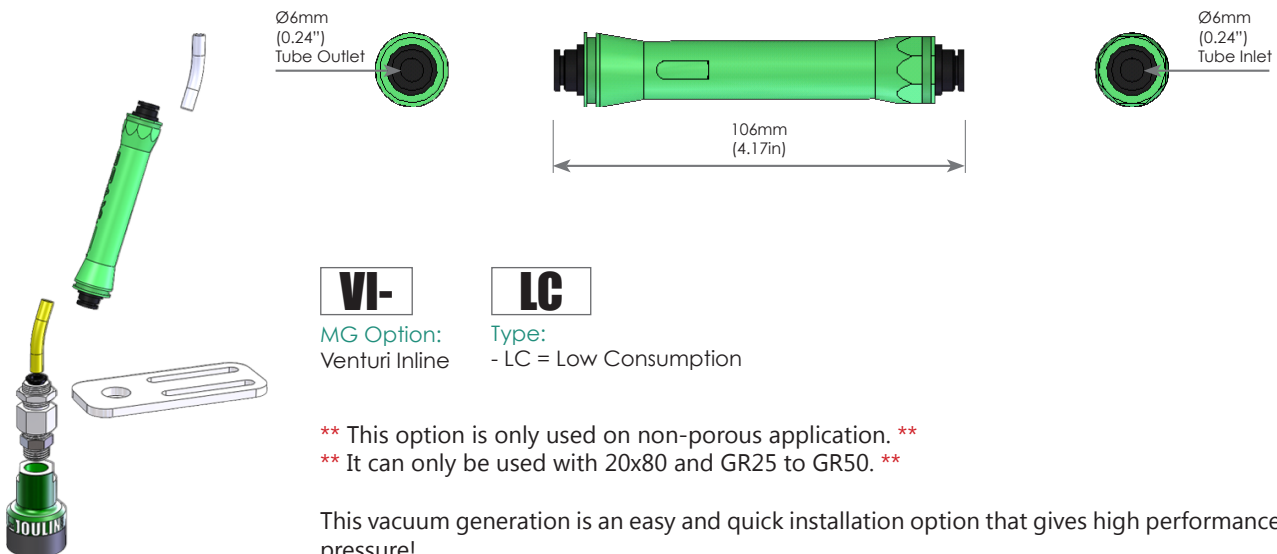
1ST
 Integrated
 Vacuum Source:
 - 1ST = One Stage Regular Flow
 - 1STL = One Stage Low Flow



This vacuum generation is an easy and quick installation option that gives higher flow for the larger MG grippers!

Use the 1STL for non-porous application to reduce compressed air consumption.

Venturi Inline

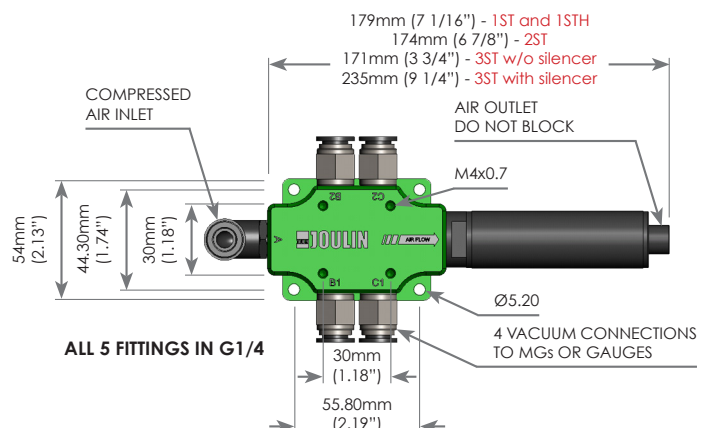


This vacuum generation is an easy and quick installation option that gives high performance at low feed pressure!

Venturi Manifold

VM-
 MG Option:
 Venturi Manifold

1ST
 Integrated Vacuum Source:
 - 1ST = One Stage Regular Flow
 - 1STH = One Stage High Flow
 - 2ST = 2 Stages
 - 3ST = 3 Stages

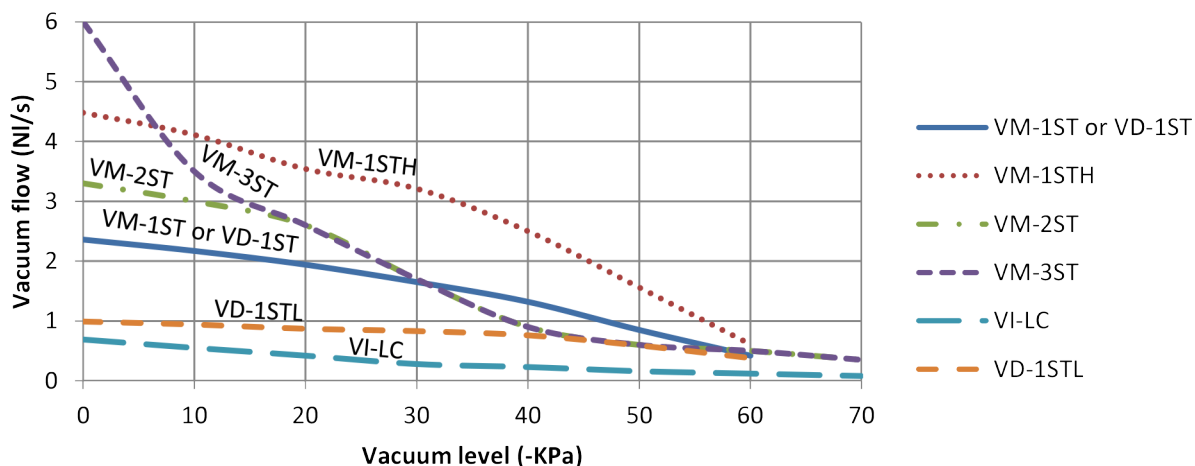


This vacuum generation option is a quick and easy installation option that gives high flow and multiple gripper installation capabilities!

Comparison of the different Vacuum Generators

Notes:

1. Provided as shown with all straight 10mm fittings. All tube inlets provided will be capped.
2. For better performance the vacuum source should be installed as close as possible to the gripper.



Type	Max vacuum kPa	Feed pressure mPa	Air consumption NI/s	Vacuum flow NI/s at different vacuum levels -kPa							
				0	10	20	30	40	50	60	70
VM-1ST or VD-1ST	65	0.6	1.79	2.36	2.17	1.94	1.65	1.32	0.85	0.42	-
VM-1STH	65	0.6	3.86	4.48	4.11	3.54	3.21	2.5	1.56	0.61	-
VM-2ST	75	0.6	1.75	3.3	3	2.6	1.7	0.9	0.6	0.5	0.35
VM-3ST	75	0.6	1.75	6	3.5	2.6	1.7	0.9	0.6	0.5	0.35
VD-1STL	65	0.6	0.85	0.99	0.94	0.87	0.83	0.76	0.59	0.38	-
VI-LC	75	0.6	0.44	0.69	0.55	0.42	0.28	0.23	0.16	0.12	0.08

Recommended maximum MGs per Vacuum Generator

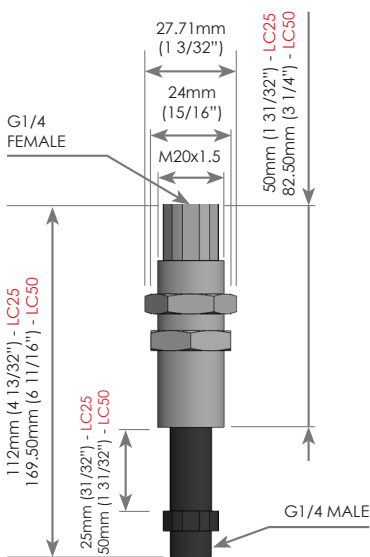
Cartridges	MiniGrip Sizes and Recommended Vacuum Flow (NI/s)									
	20x80	20x120	40x60	40x100	GR25	GR30	GR40	GR50	GR60	GR70
	0.10	0.15	0.21	0.38	0.06	0.07	0.09	0.12	0.14	0.17
VM-1ST	4	2	2	1	7	5	4	3	2	2
VM-1STH	6	3	2	1	10	8	6	5	4	3
VM-2ST	5	3	2	1	8	7	5	4	3	3
VM-3ST	5	3	2	1	8	7	5	4	3	3
VD-1ST	1	1	1	1	1	1	1	1	1	1
VD-1STL	1	1	1	1	1	1	1	1	1	1
VI-LC	1	0	0	0	1	1	1	1	0	0

Valve Mini-Gripper vs. Port Mini-Gripper

The **Valve Mini-Gripper (MG-VG)** operates with a single check valve which automatically closes if no product is fully present and where a larger gripper is unnecessary. Example: arraying MG-VGs for the purpose of picking light weight narrow parts that are to be picked and placed horizontally (< 60° angle).

The **Port Mini-Gripper (MG-PG)** operates with a single open port. The gripper will still pick light weight products if at least 80% of the gripper covers it. Again, these are handy where a larger gripper is not necessary. An application example may be picking single can drinks that are to be picked and placed horizontally or vertically. MG-PG grippers can be flipped 360° with products attached. Of course, these MGs can be arrayed with other MG Grippers as well.

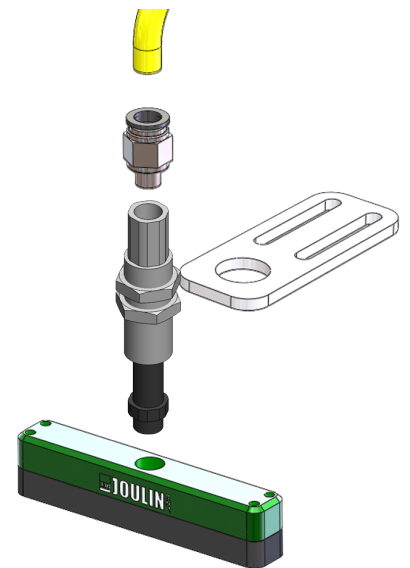
Level Compensation (non-rotating)



LC25

MG Option:

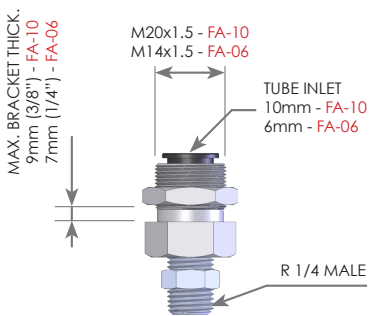
- LC25 = 25mm [0.98"] Travel
- LC50 = 50mm [1 31/32"] Travel



The Level Compensation option is designed to give the end user the ability to handle uneven layer surfaces.

This is a heavy duty non-rotating design with a high flow capacity.

Special Fittings

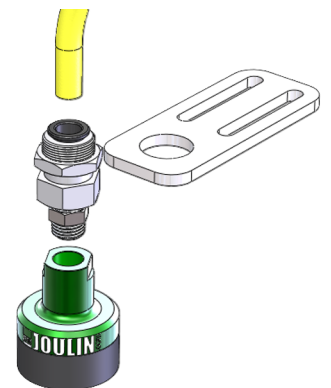


FA-

MG Option:
Fitting Assembly

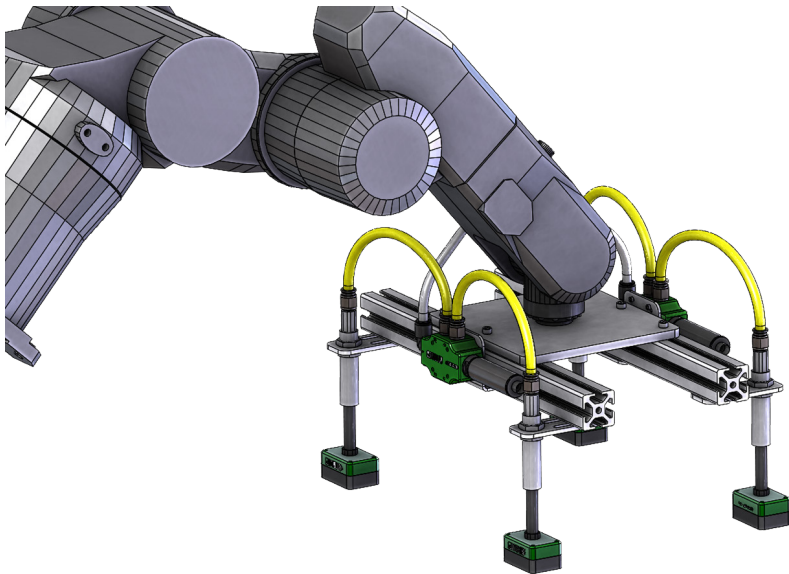
06

Fitting Size:
- 06 = Fitting Assembly for 6mm inlet tube X R1/4
- 10 = Fitting Assembly for 10mm inlet tube X 1/4

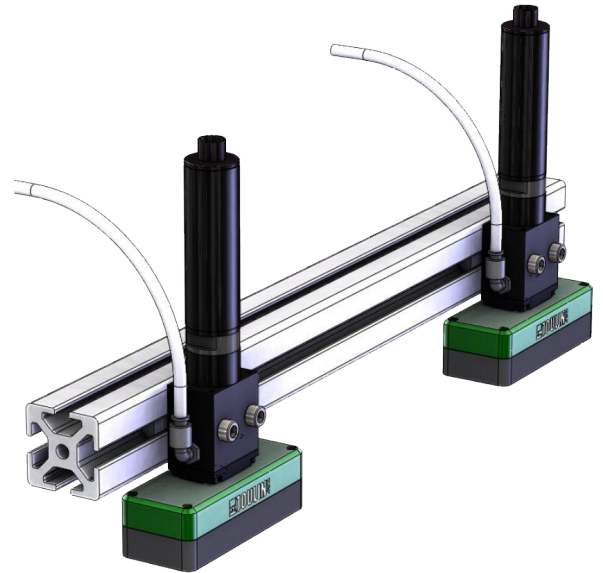


This fitting assembly makes it easy to mount any Mini Gripper a bracket up to 9mm [3/8"] thick!

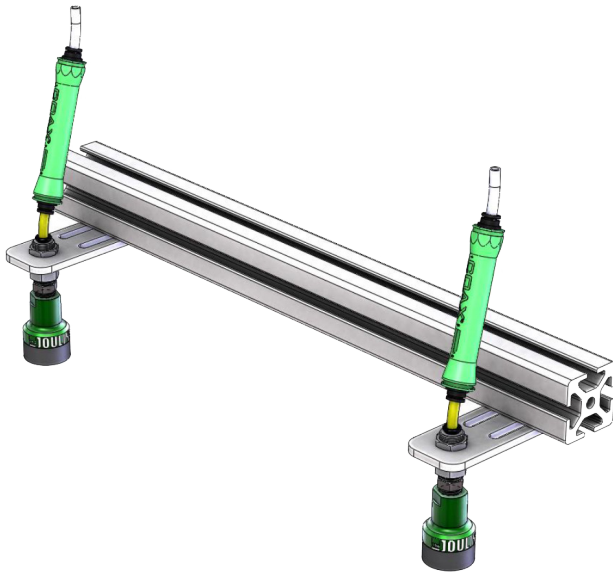
Integration's Examples



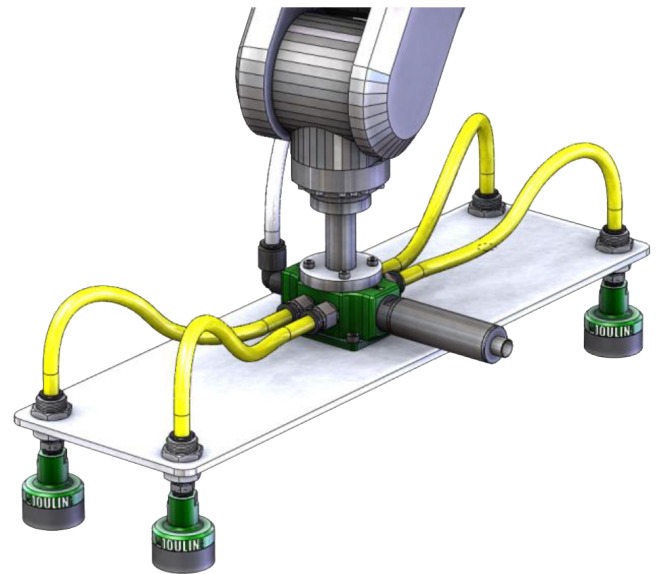
4 x MG-PG-40x60-HG + Level compensators LC50
2 x VM-1ST



2 x MG-PG-40x100-REG
2 x VD-1STL



2 x MG-VG-GR25-REG
2 x VI-LC

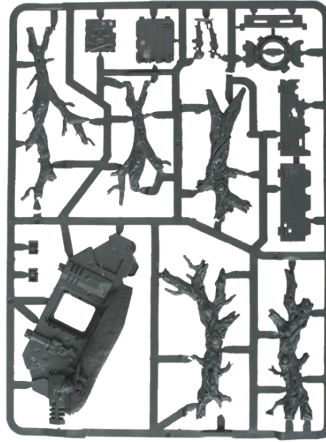


4 x MG-VG-GR40-HG
1 x VM-1ST

Examples of Products to Handle



Plastic parts



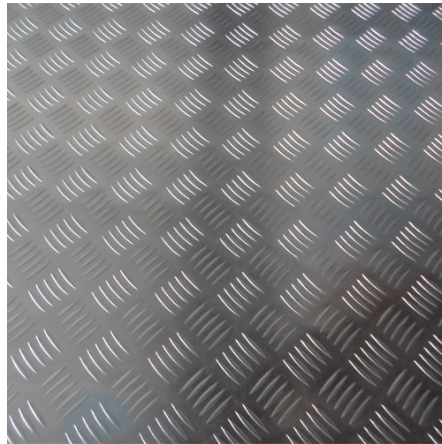
Plastic molded parts



Grill plates



Rough and irregular lumber



Checker plates



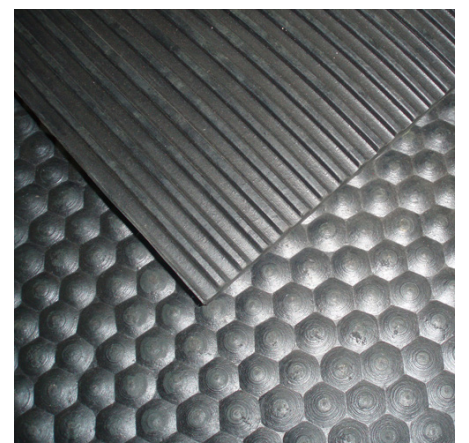
Slab cement



Cap of galss jars

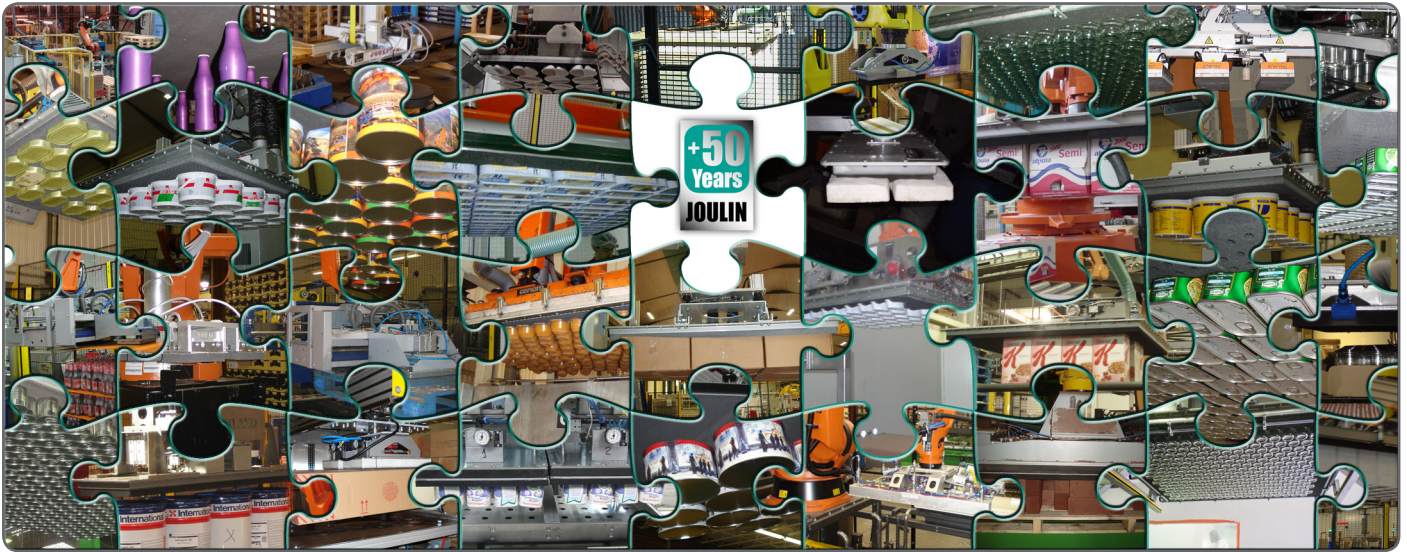


Cans with cap



Rubber mat

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Have a problem handling your products ?

Team Joulin has 50 years of Research and Development resulting in better solutions, more options, and vacuum systems offering greater flexibility than ever before.