IRONJAW®

IMPLEMENTATION GUIDELINE

METRIC STANDARD

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contact@ironjaw.tech
www.ironjaw.tech

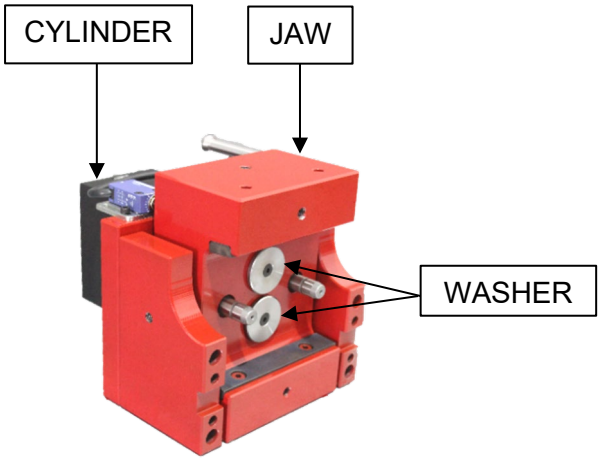
IRONJAW LDA
Rua Cidade Nova Lisboa, no.11,1800-107 Lisboa, Portugal
Registered in the Commercial Registry of Lisbon No 514203684 Capital of €1.043.000

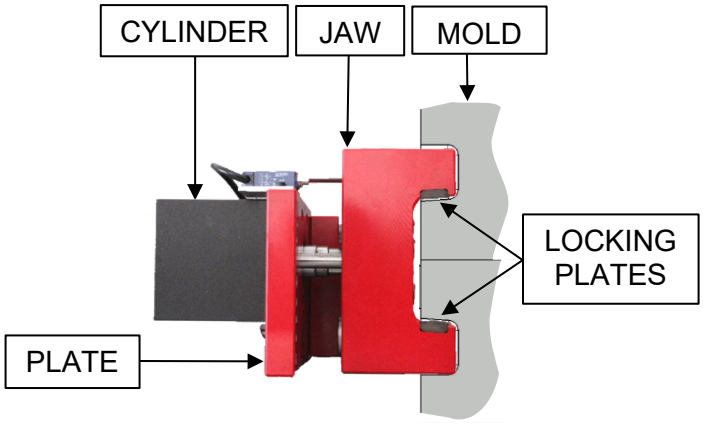
A/ IRONJAW® PRESENTATION

- We advise you, first of all to watch the video to understand the operating principle: http://www.ironjaw.tech/about-iron-jaw/
- All images in this document are for illustration purposes only. They are non-contractual.
- IRONJAW® system is the first technology in the world designed to boost the clamping force of plastic injection machines up to +60%.
- IRONJAW® connects to the hydraulic lines of your Injection Molding Machine (IMM) and it's operated and piloted by the Injection Molding Machine like a mold core.
- IRONJAW® is available in 4 different kit sizes.
- Each kit includes 2 IRONJAW® units.

IRONJAW® Kit Size	Boost in Ton[1]
S	50
M	100
L	250
XL	400

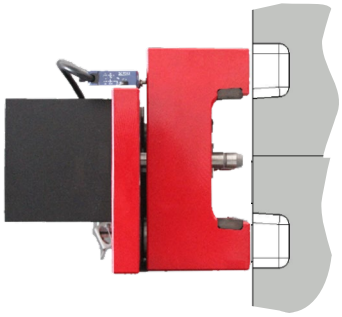
[1]Boost for 2 IRONJAW® units

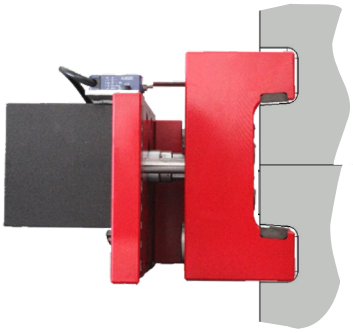




IRONJAW® in Unlocked Position

IRONJAW® in Locked Position





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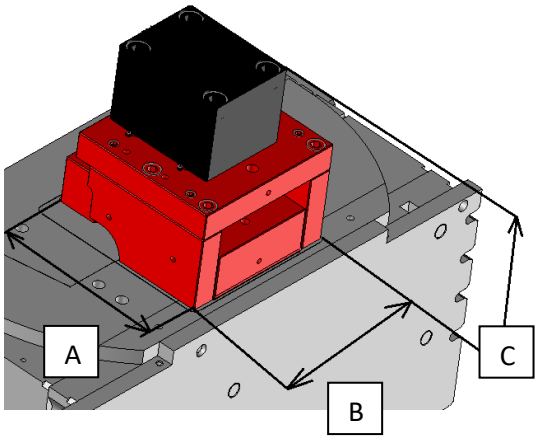
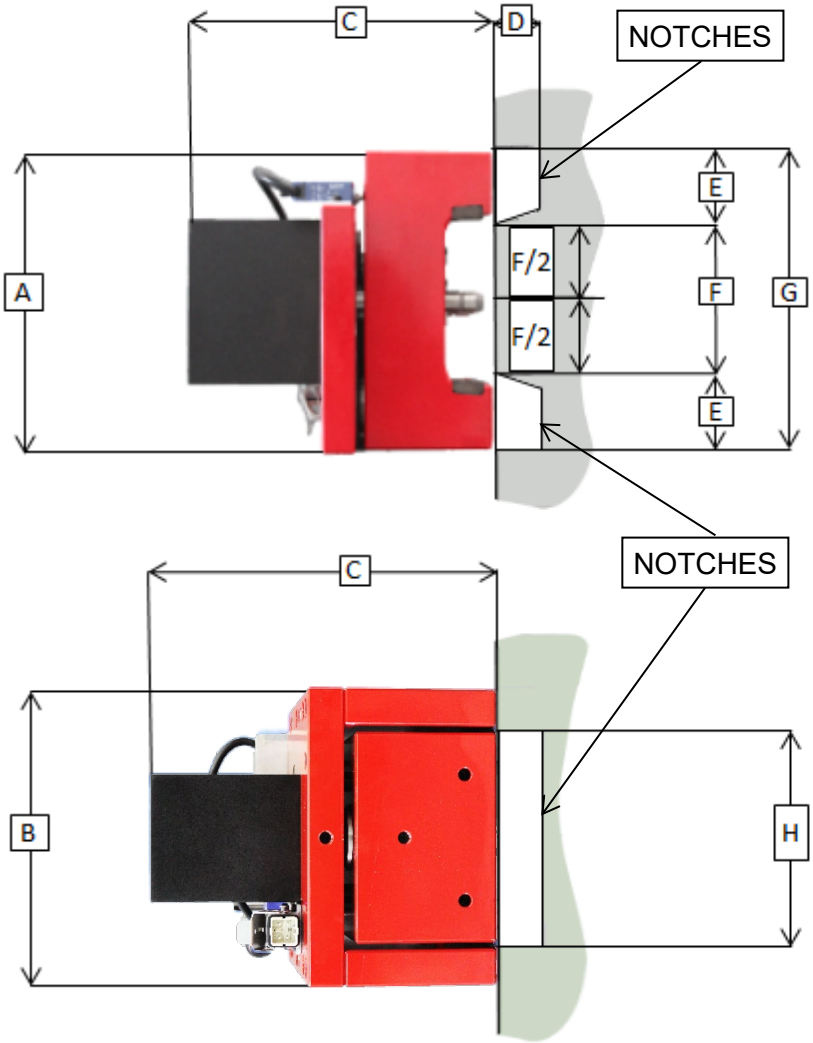
B/ DIMENSIONS & WEIGHTS

• Dimensions are for information only. They should not be used for integration in the mold design or for machining mold notches.
• For the machining of the notches on the mold, **it is imperative to use the 3D step files** that were provided to you by the Ironjaw team.





Weight [kg]	1 Unit	1 Kit
S	44	88
M	110	220
L	365	730
XL	775	1550

Dimensions [mm]	A	B	C	D	E	F	G	H
S	220	212	248	37	56.31	117.38	230	170
M	300	262	336	55	76.31	157.38	310	200
L	450	422	459	75	111.31	237.38	460	320
XL	600	522	586	95	146.31	317.38	610	380

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C/ STEEL RECOMMENDATION FOR MOLD

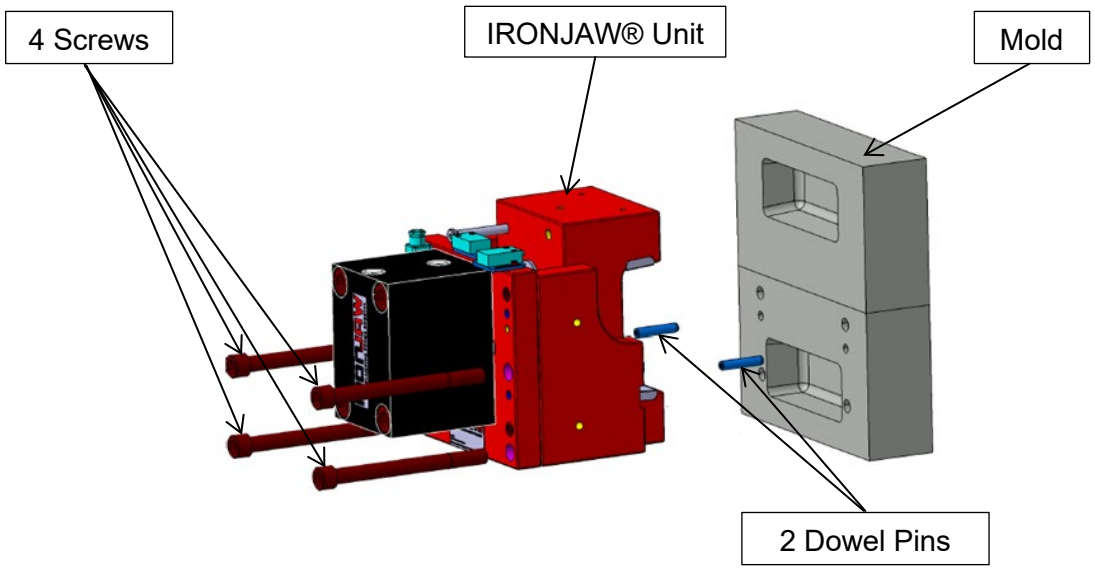
Steel mold recommendation* for the implementation of IRONJAW® with the following mechanical properties:

- Yield strength: Re 0.2% > 830 MPa.
- Ultimate tensile strength: Rm > 950 MPa.

*If the mold steel properties are lower than the recommended, request a review of the steel mold properties to IRONJAW team in order to be validated.

D/ ATTACHMENT ON MOLD

IRONJAW® attachment to mold requires 4 screws and 2 dowel pins per each unit.



RECOMMENDATION:

- It is recommended to attach IRONJAW® to the fixed part of the mold, to avoid motion of the hydraulic hoses (during the open/close movement of the IMM plate) which can interfere with other equipment on the IMM.

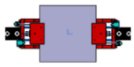
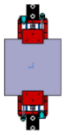
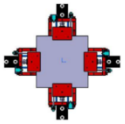
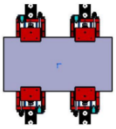
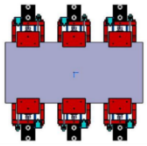
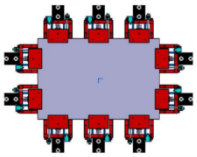
SCREWS AND PINS REFERENCES

IRONJAW® Kit Size	Screw	Unit Qty.	Kit Qty.	Dowel Pin	Unit Qty.	Kit Qty.
S	CHC M12x160 DIN912-ISO4762	4	8	Ø10x050 DIN7979 m6	2	4
M	CHC M20x220 DIN912-ISO4762	4	8	Ø12x060 DIN7979 m6	2	4
L	CHC M30x300 DIN912-ISO4762	4	8	Ø16x100 DIN7979 m6	2	4
XL	CHC M36x380 DIN912-ISO4762	4	8	Ø20x100 DIN7979 m6	2	4

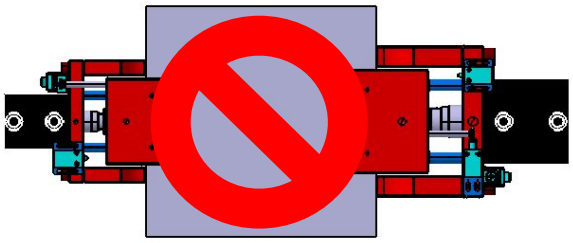
E/ POSSIBLE IMPLEMENTATIONS

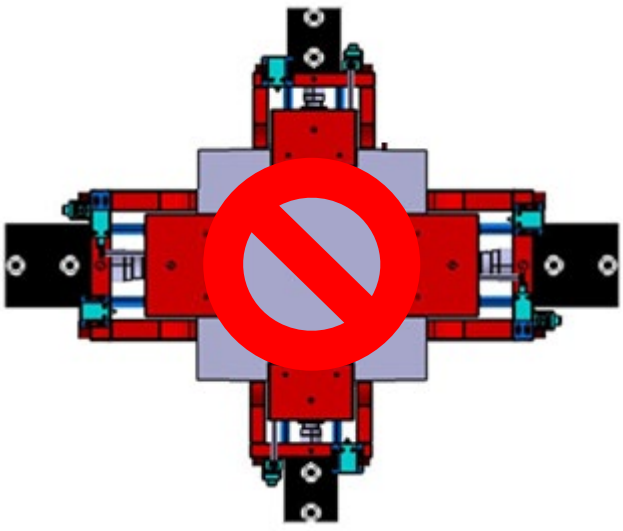
Multiple IRONJAW® implementations are possible.

In these cases, you need to use **the same IRONJAW®** Kit Size on the same mold.

IRONJAW® KIT →	Size S	Size S	Size S	Size M	Size L	Size XL
1 IRONJAW® KIT = 2 IRONJAW® UNITS	1x	1x	2x	2x	3x	5x
						
IRONJAW® BOOST →	+50 ton	+50 ton	+100 ton	+200 ton	+750 ton	+2000 ton

ONLY ONE IRONJAW® SIZE PER MOLD





PROHIBITED SOLUTION

because of different IRONJAW® sizes on the same mold

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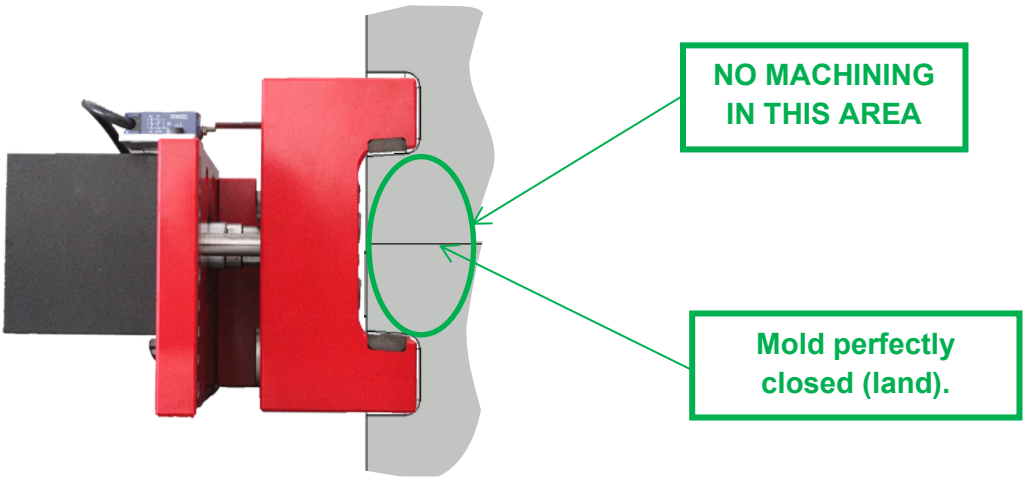
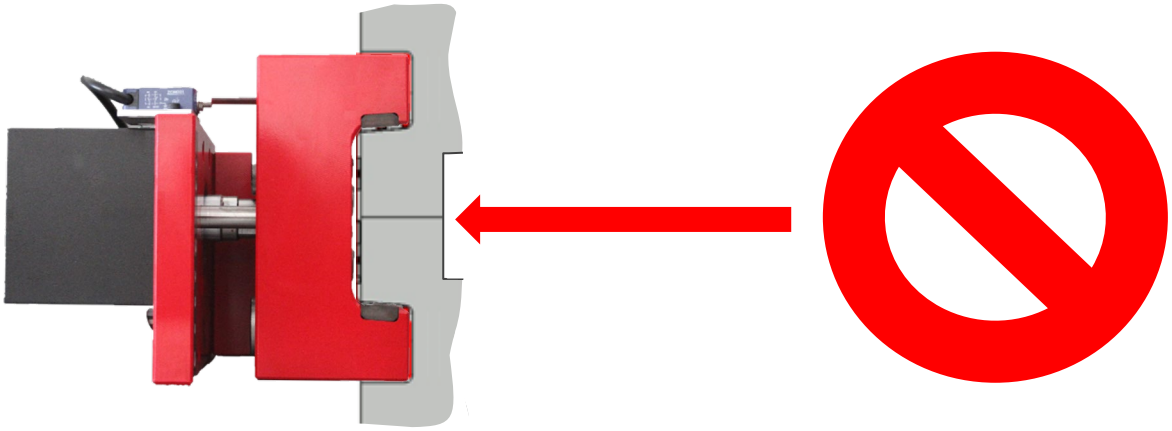
GOOD IMPLEMENTATION



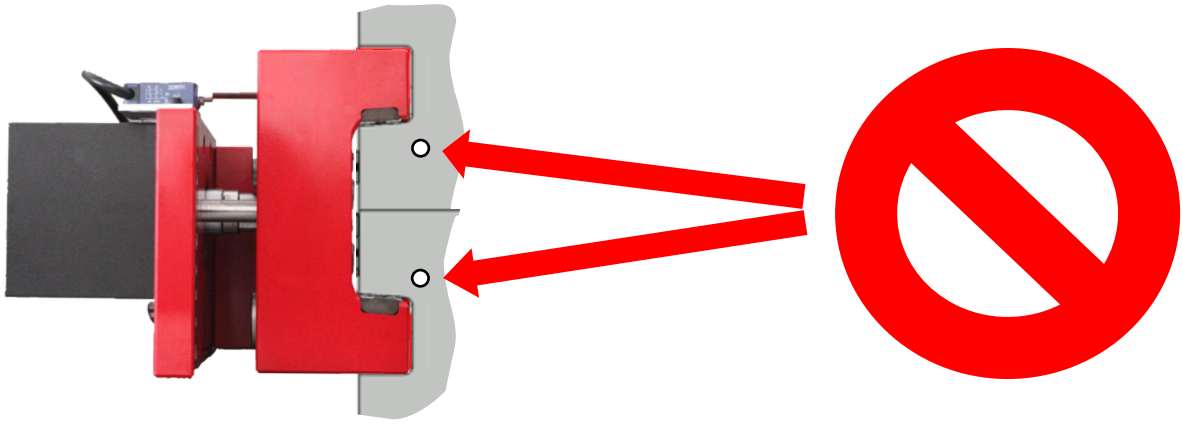
• No clearance and sufficient steel mass near the notches.
• Molded joint plane area located between the 2 notches in support (direct or with a plate in joint plane).

BAD IMPLEMENTATION TO AVOID

Fragile area due to clearances near notches = Risk of rupture



Fragile zone due to holes near the notches = Risk of rupture



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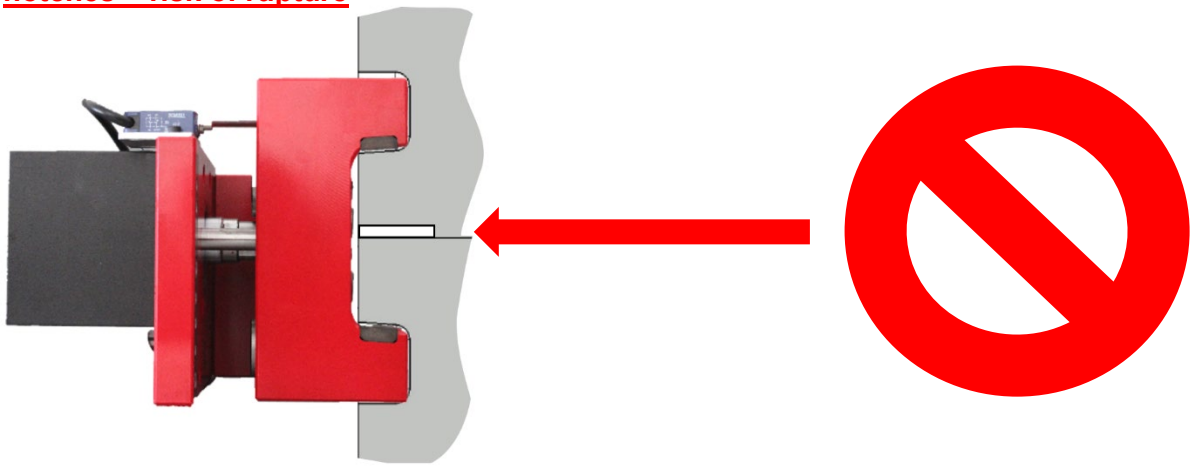
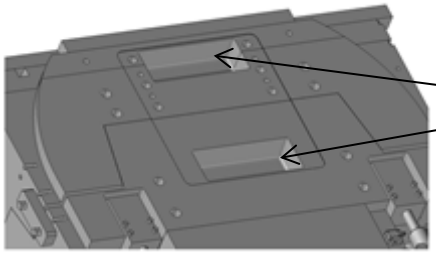
Fragile zone because no support at the level of the joint plane located between the 2 notches = risk of rupture



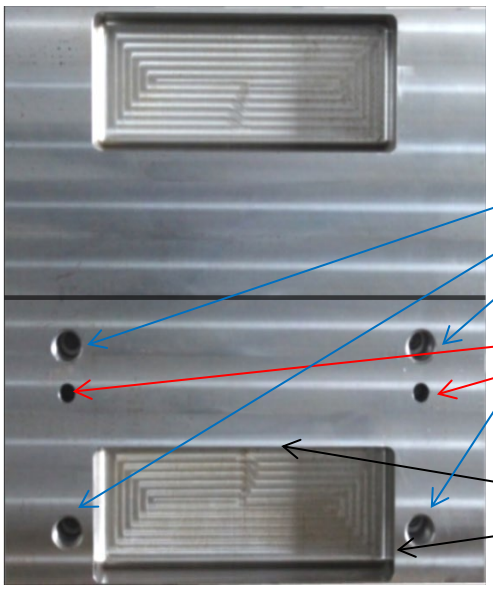
F/ MACHINING ON MOLD

All machining to be performed on the mold (notches, bores, threads) must be on a perfectly closed mold and this during a single machining operation.

Machining to be done



For each IRONJAW® unit, two notches machined on a perfectly closed mold with an assembly plane perfectly aligned between the 2 parts (fixed part and moving part of the mold locked together)



4 threaded holes

2 holes for guide pins

Rays to be applied on the sides and bottom of the housing to avoid any risk of cracks (defined in file step)