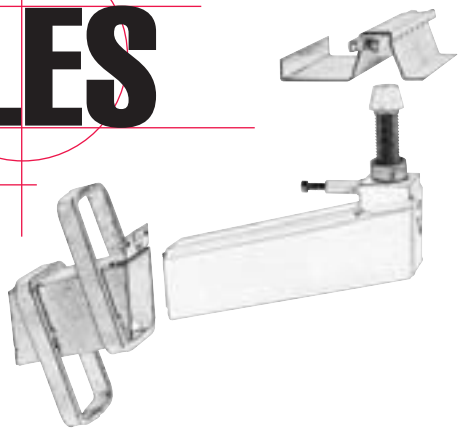
HERCULES



User manual

2005

B.S.Italia®
Styl-Comp Group
innovazione basata sull'esperienza
innovation based on experience

PLEASE READ ALL THE INFORMATION AND INSTRUCTIONS IN THIS MANUAL CAREFULLY BEFORE USING ANY COMPONENT IN THE ECO SYSTEM, COVERED BY INTERNATIONAL PATENT.

If you have any queries about the correct use of the components described in this manual, please contact B.S.Italia:

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www.styl-comp.it • infobsitalia@styl-comp.it

B.S.Italia is ISO 9001 certified and the HERCULES system is designed and built in accordance with:

B.S.Italia certification

Product certification

- General parts:
  Eurocodes and state-of-the-art.
- Product standards:
  ISO, EN, DIN and UNI standards.
- Screws:
  ISO standards
- Material controls:
  SINAL accredited labs - SINAL is part of EA (European Accreditation)
- Quality System:
  ISO 9001 through IGQ: IGQ is part of CISQ, which in turn is part of IQNet Reg. Nr. IT-0188
- Anti-seismicity:
  ISMES certified dynamic tests
- Supporting system designed and built in accordance with:
  Safety factor
  Steel
  Welding

TABLE OF CONTENTS

In the present manual, measures refering to the 5 ton “Hercules” system are specified without brackets. In between brackets the measures refering to the “Hercules” system up to 15 ton, but only when differing from the 5 ton system.

The drawings in this manual are purely indicative.

ADVANTAGES

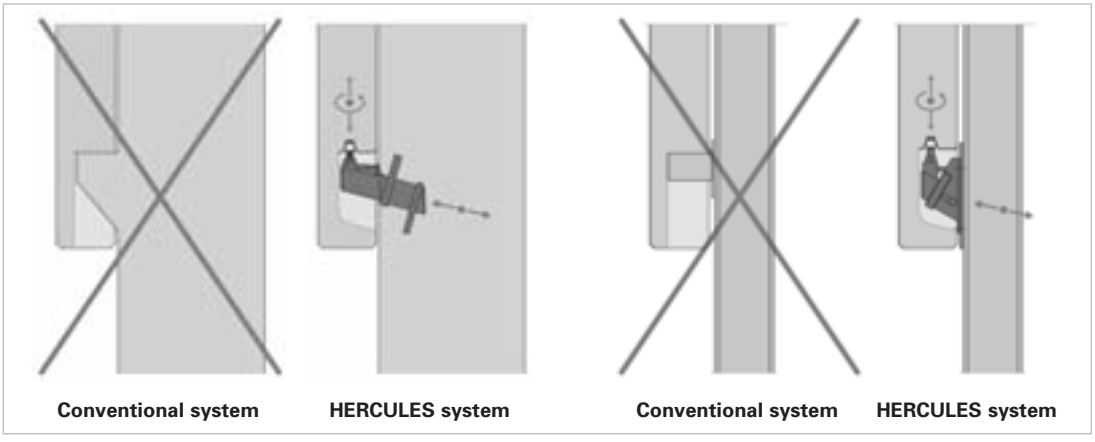
ERCOLE is the new supporting system for panels and is extremely:

adjustable: it lets you **adjust to millimetre along the three Carthesian axes** (see page 7);

versatile: it comes in many versions and can be applied to any **load bearing structure**,whether precast or cast-in-place, vertical, horizontal or cantilevered, in reinforced concrete or metal, **of any size or thickness**. In fact, the ERCOLE system can be set at right-angles or be parallel to the panel it has to support, can be aligned or otherwise, adjacent to or apart from the structure;

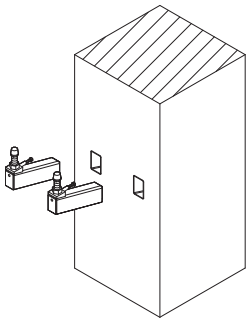
cost-effective: the low cost of this system can be appreciated at all stages in the production process:

- **design**: the system comes in a wide range of pre-calculated certified variants, ready to be used, and so no design calculations are necessary;
- **production**: no projecting parts makes it easy to move columns and panels;
- **transport**: the absence of protrusions simplifies the transport of columns and beams;
- **installation**: the dry assembly of the parts makes for fast insertion in the structure, without the need for welding or bolting, meaning fewer skilled workers are required.



Conventional system | HERCULES system | Conventional system | HERCULES system

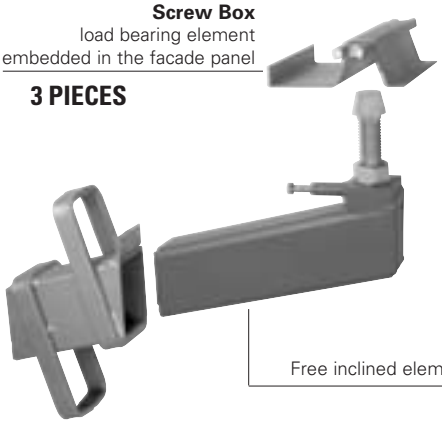
EMBEDDED VERSION



Case Tube
load bearing element
embedded in the structure

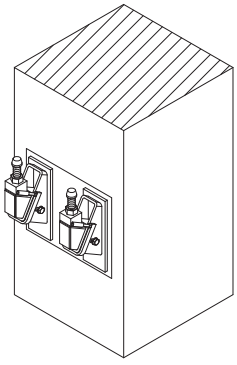
Screw Box
load bearing element
embedded in the facade panel

3 PIECES



HERCULES bracket
Free inclined element, removable and adjustable

FLUSH-MOUNTED VERSION (WELDED OR BOLTED ON)

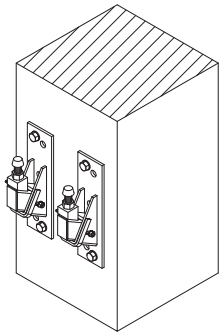


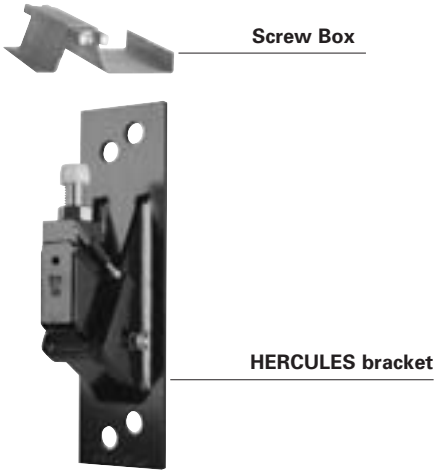
Screw Box

HERCULES bracket

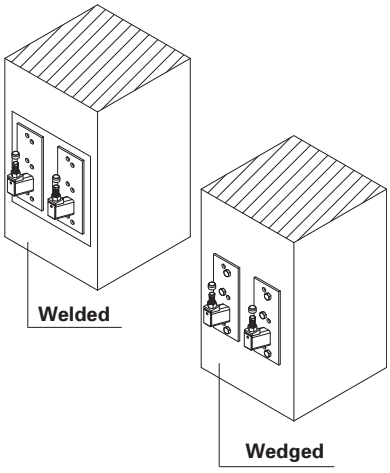
Case Tube

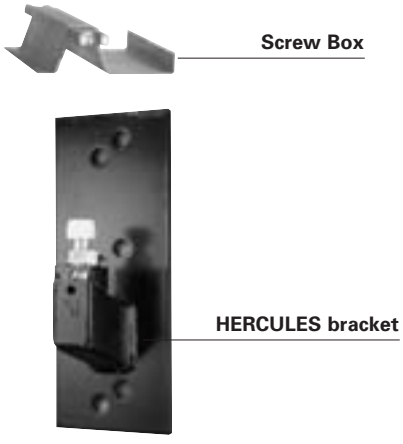
FLUSH-MOUNTED VERSION TO BE WEDGED





FLUSH-MOUNTED VERSION (FOR ERROR CORRECTION)

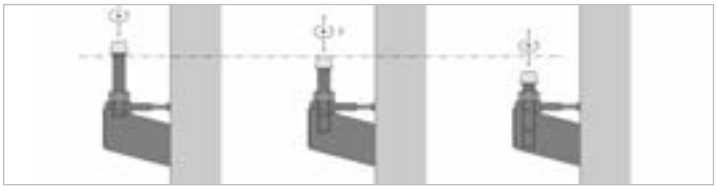




Millimetre adjustment on all three Cartesian axes

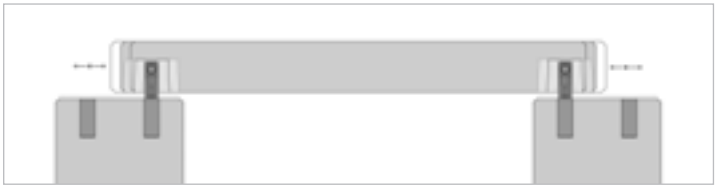
The HERCULES system is the only one that lets you get precision erection, thanks to adjustments in the height, projection and distance from the facade element.

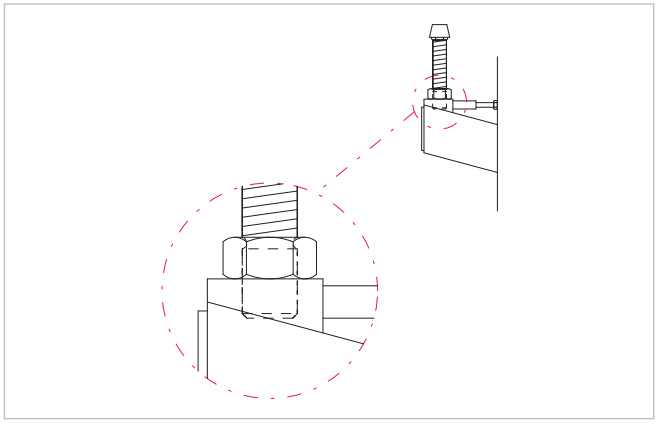
Height adjustment (up/down)



Alignment adjustment (in/out)

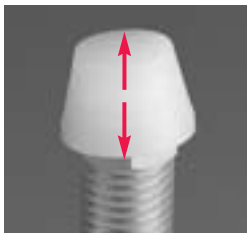
Position tolerance (left/right)





N.B.: The grooves on the main screw shows the max adjustment limit (height) and must never be higher than the top of the bolt (the bolt must be tightened against the bracket) (see page 55).

Shifting hood with shock absorber



Anti-seismic

The HERCULES system is the only system in the world to pass the strict dynamic stress, wave and jerk tests with a real reinforced concrete panel (800 x 250 x 20 cm).

Seismic tests on vibrating table

Micro-mobility

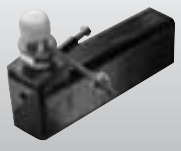
The HERCULES bracket's shifting hood not only acts as a shock absorber to counter earthquakes, but also lets the panel shift very slightly within its vertical fixtures (bracket and precast facade element).

In fact, the hood helps minimise thermal, hygrometric and material stresses, all of which lead to continuous micro-movements in the panel supporting system lengthways.

CHOICE OF HERCULES SYSTEM

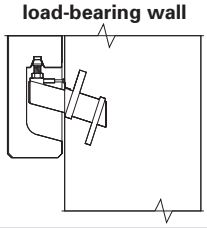
CHOICE OF HERCULES SYSTEM

The specific HERCULES system can be chosen to suit the thickness of the panel to be supported, the required load capacity and the type of support needed for the construction.

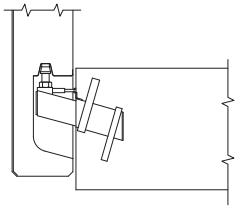
Type	Panel thickness cm	Load capacity (tons)	Support type
M.E.	16 - 30	2-5-7,5-10-15	System for supporting wall panels with columns, load-bearing walls beams and floor slabs.
M.E.T.	14 - 16	2-5-7,5-10-15	
M.E.S.	10 - 14	2-5	
	Available on request: the Lowered M.E. and the Raised M.E. that absorb any discrepancies in height between the design and the actual construction of the structure and the cladding.		
M.E. for s.v.o.	18 20 22 24	2 5 7,5-10 15	System for supporting horizontal/vertical panels (e.g. lintel) or for fixing panels flush with the structure
			
Upturned M.E.	da 20	2-5-7,5	System for supporting panels on beams or floor slabs (e.g. top panel in a building). Also used where there are no columns.
			

Examples of use

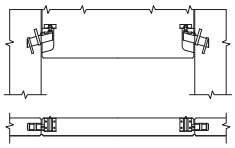
Column or load-bearing wall



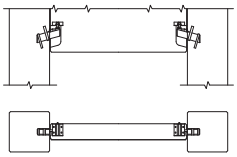
Panel/Beam or floor/slab



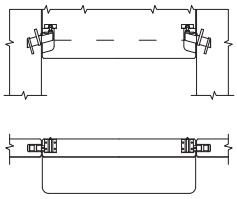
Horizontal Panel
Vertical Panel



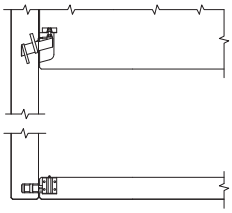
Column - Portal - Column



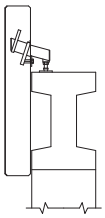
Portal



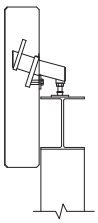
Panel corner - Panel



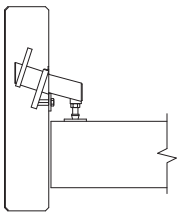
Panel - Beam



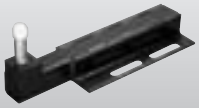
Panel - Metal beam



Panel - Floor slab

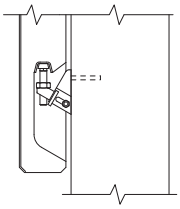


CHOICE OF HERCULES SYSTEM

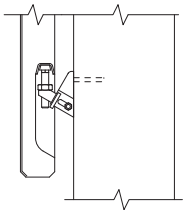
Type	Panel thickness cm	Load capacity (tons)	Description
ERCOLINA 	8 - 12	0,5-1-1,5	System for supporting cladding panels flush with or apart from the structure to be anchored or bolted.
M.E.E. 	16 - 30	5-10	Flush-mounted system for metal structures, cast-in-place or precast reinforced concrete to be anchored, bolted or welded.
M.S. 	8 - 14 16 - 30	1,5 2	System supporting panel from floor slab.
Welded M.E. 	10 - 30	2-5-7,5	System for existing structures with already completed panel production.

Esempi di utilizzo

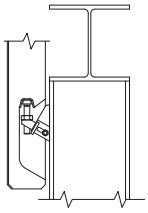
Attached panel



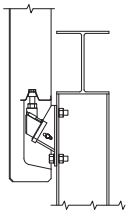
Distanced panel



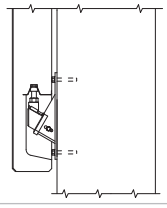
Welded Ercolina



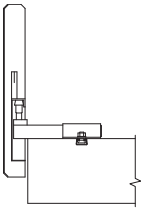
For metal structure



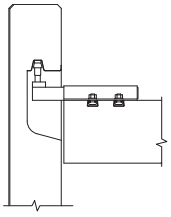
For reinforced concrete structures

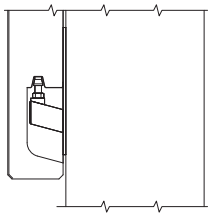


Fixing to floor slab



Fixing to roof

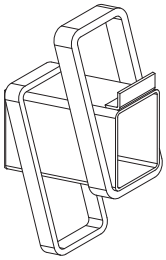




CASE TUBE

The Case Tube is the load-bearing structure in the bracket embedded inside the structure.
B.S.Italia Case Tubes are fitted with a special recyclable foam shape to prevent the concrete from entering the case during casting. It comes in three versions:

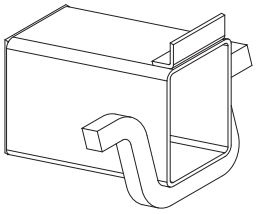
Stirruped S.T. Case Tube



2 - 5 - 10 - 15 ton

the **Stirruped S.T**. and **Half-stirruped S.T**. Case Tubes that can be used with all embedded brackets.

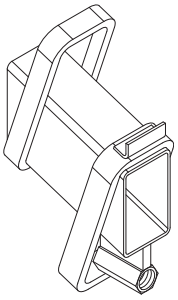
Half-stirruped S.T. Case Tube



2 - 5 - 10 - 15 ton

When it is impossible to position the S.T. Case Tube precisely in the structure, the **Half-stirruped S.T.** can be used thanks to its reduced stimping. We recommend using this Case Tube in slabs.

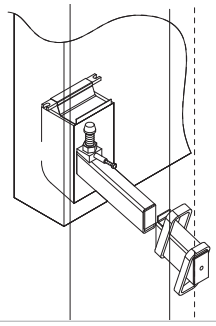
Upturned S.T. Case Tube



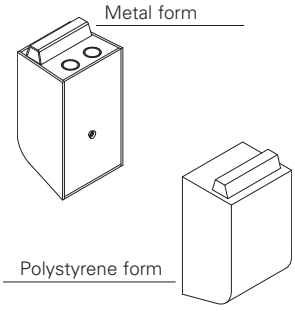
2 - 5 - 7,5 ton

The **Upturned S.T**. Case Tube must only be used with the Upturned M.E. bracket.

Positioning the Screw Box in the polystyrene or metal form

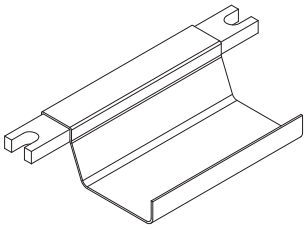


The Screw Box is the element that is inserted in the panel in order for this to sit on the support bracket. Disposable polystyrene or reusable metal forms are used to position the Screw Box. The metal forms have a magnet for perfect positioning and must be oiled so they can then be extracted after stripping and so be reused. These forms create the cavity needed to insert the bracket.



N.B. A depth of 33 cm is normally required to insert the Screw Box; the polystyrene forms can be cut to measure if this depth is not available.

S.V. - S.V.T. - S.V.S. Screw Boxes

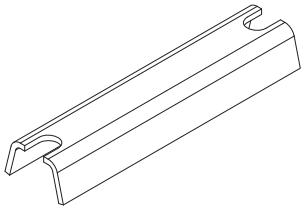


5 - 15 ton (S.V.S. only 5 ton)

The Screw Box comes in various versions:
S.V. for panels 16-30 cm thick
S.V.T. for panels 14-16 cm thick
S.V.S. for panels 10-14 cm thick

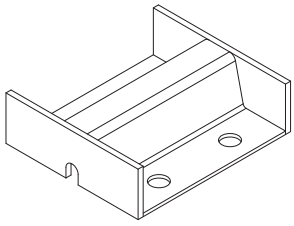
Then there is a range of specific panels:

S.V. Screw Box for Ercolina bracket



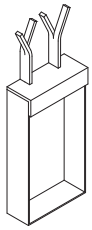
0,5 - 1 - 1,5 ton

S.V.O. Screw Box for M.E. bracket for S.V.O.



5 - 15 ton

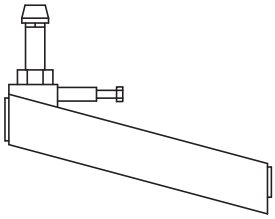
S.M.S. Screw Box for 1.5 ton M.S. slab bracket



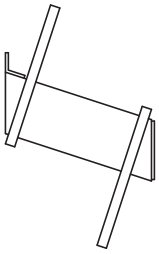
COUPLING BY TONNAGE S.V. - M.E. - S.T.

Case Tube 5 ton
S.V. - S.V.T.
S.V.S. - S.V.O.

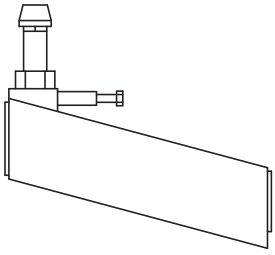
Hercules bracket 2 ton



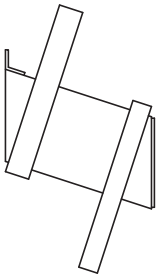
Case Tube 2 ton
with or without stirrups



Hercules bracket 5 ton



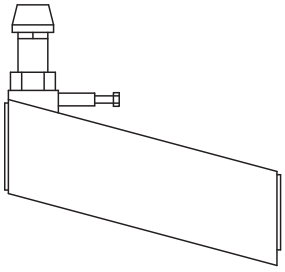
Case Tube 5 ton
with or without stirrups



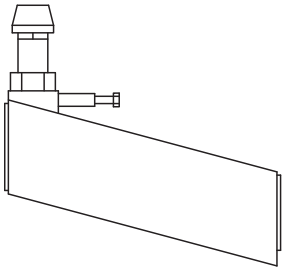
COUPLING BY TONNAGE S.V. - M.E. - S.T.

Case Tube 15 ton
S.V. - S.V.T.
S.V.O.

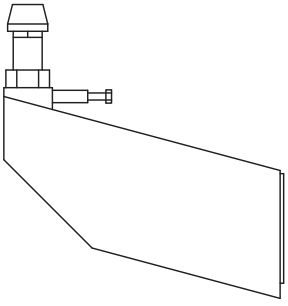
Hercules bracket 7,5 ton



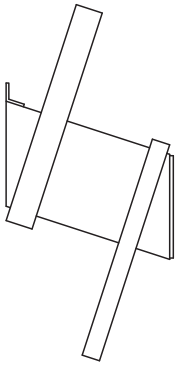
Hercules bracket 10 ton



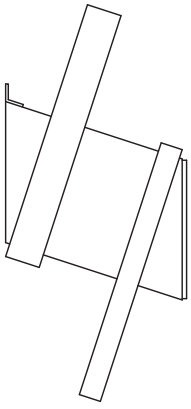
Hercules bracket 15 ton



Case Tube 10 ton
with or without stirrups



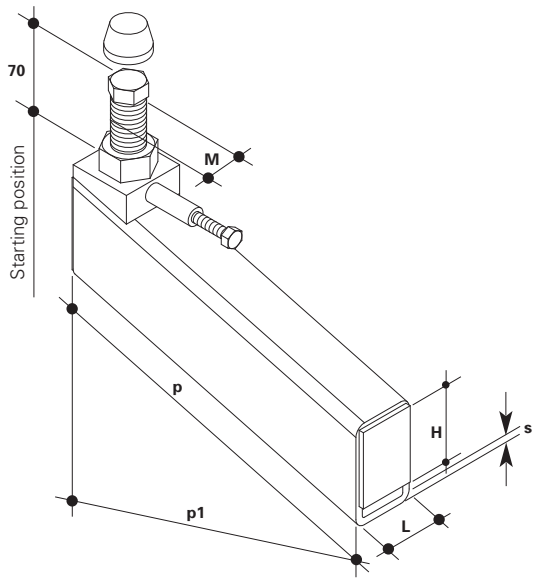
Case Tube 15 ton
with or without stirrups



HERCULES BRACKET for panels 16-30 cm thick

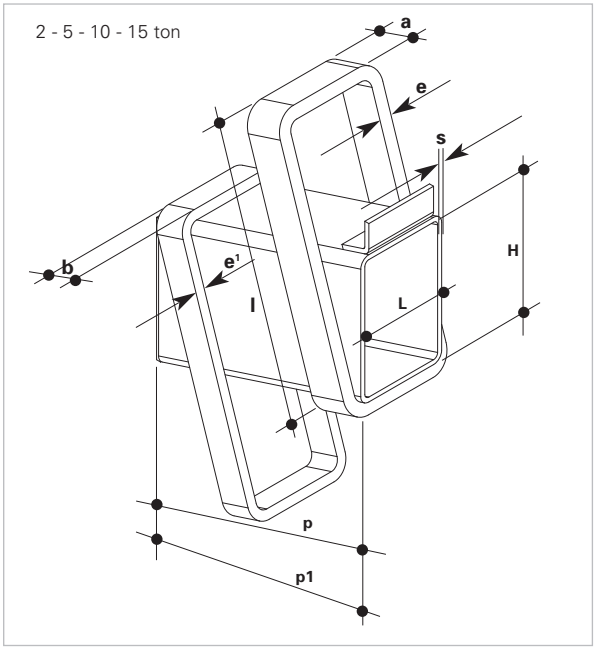
Dimensions in mm

2 - 5 - 7,5 - 10 - 15 ton



Code	Bracket	H	L	s	M	p*	p1*
1000-2.0	M.E. 2 ton	50	50	5	20	275	265,6
1000-5.0	M.E. 5 ton	80	50	8	24	275	265,6
1000-7.5	M.E. 7,5 ton	100	80	8	33	306	295,6
1000-10.	M.E. 10 ton	100	80	10	33	306	295,6
1000-15.	M.E. 15 ton	140	80	10	36	324	313

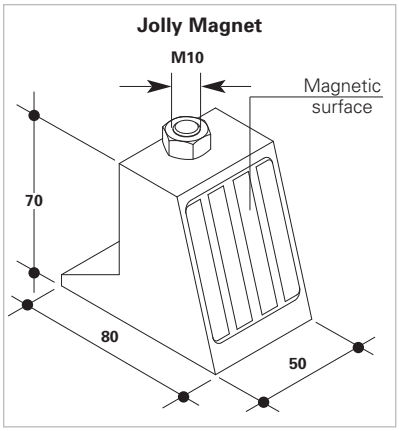
*p = inclined measure
*p1 = horizontal measure



S.T. and Half- stirruped S.T. Case Tubes can be used with
M.E.T. (page 27)
M.E.S. (page 30)
M.E. for S.V.O. (page 33)

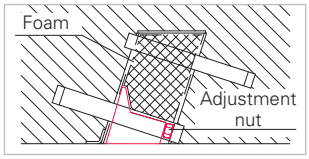
Code	Case Tube	H	L	p*	p1*	S	a	e	b	e¹	l
1020-2.0	S.T. 2 ton	54	54	150	157,7	3	10	10	10	10	150
1020-5.0	S.T. 5 ton	84	54	150	157,7	3	25	8	20	6	180
1020-10.	S.T. 10 ton	103	83	180	189,3	4	30	12	20	8	250
1020-15.	S.T. 15 ton	143	83	200	210,3	5	40	12	25	8	300

*p = inclined measure
*p1 = horizontal measure



Jolly Magnet

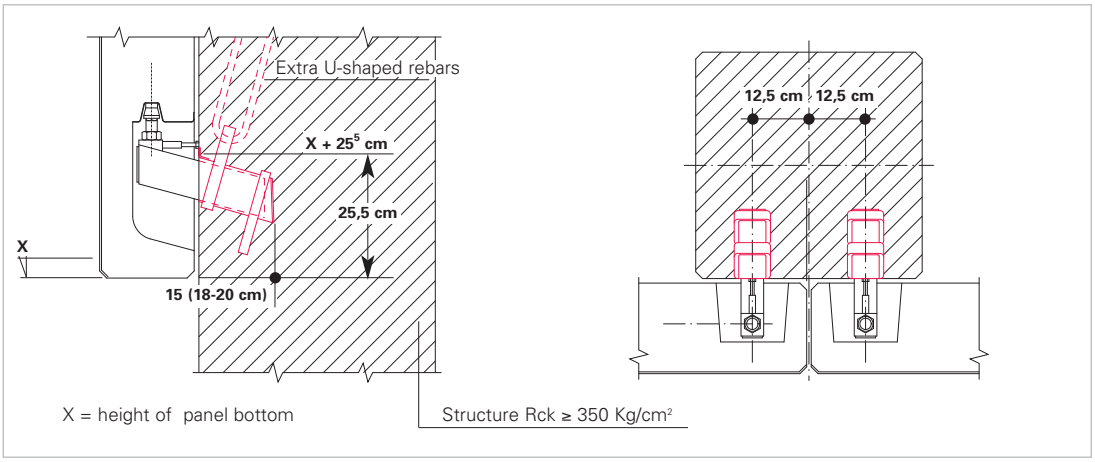
Fix the S.T. Case Tube to the reinforcement in the structure using nails for a wooden form or the Jolly Magnet (code 1210-00.F) - a recyclable magnet - if using iron forms.
The Jolly Magnet is suitable only for a 5 ton Case Tube.



The Jolly Magnet can also be used with
Half-stirruped S.T. (page 22)
Upturned S.T. (page 38)

POSITIONING AND ADDITIONAL REINFORCEMENT OF THE S.T. CASE TUBE

The S.T. Case Tube measures X + 25,5 cm.



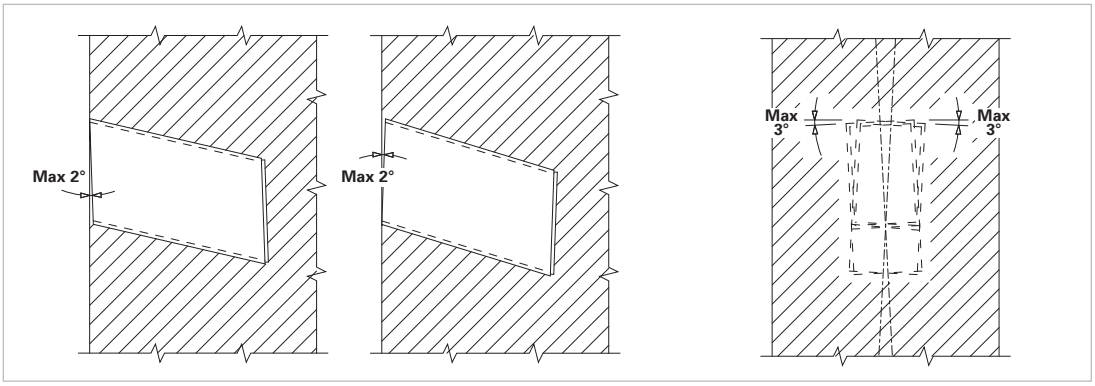
Additional reinforcement for the S. T. Case Tube is **mandatory** with 10 and 15 ton loads.

	U-shaped rebars		
Case Tube	n° U-shaped rebars	Ø	Season
S.T. 10 ton	2	14	800
S.T. 15 ton	2	16	800

Valid for
Half-stirruped S.T. (page 22)
Upturned S.T. (page 38)

TOLERANCES WHEN INSERTING S.T. CASE TUBES

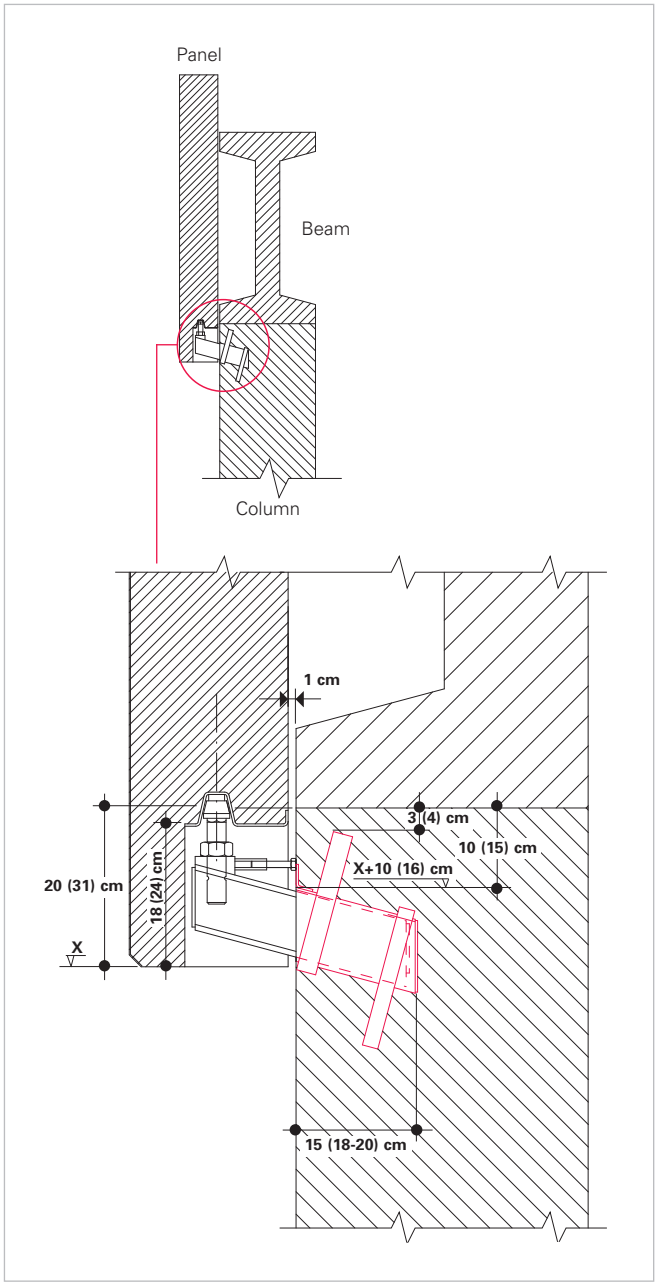
When positioning the Case Tube, you need to bear in mind the tolerances with respect to the vertical axis of the structure.



N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

MINIMUM POSITIONING OF THE CASE TUBE FOR PANEL/COLUMN

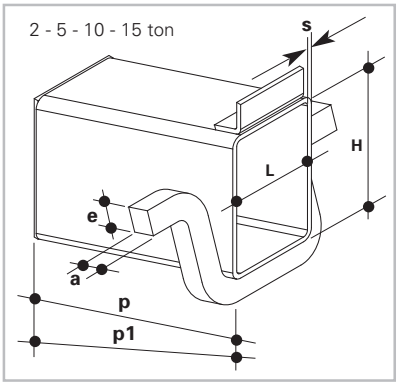
Also valid for
M.E.T. (page 27)
M.E.S. (page 30)
M.E. for S.V.O. (page 33)



N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

HALF-STIRRUPED S.T. CASE TUBE FOR M.E.

Dimensions in mm



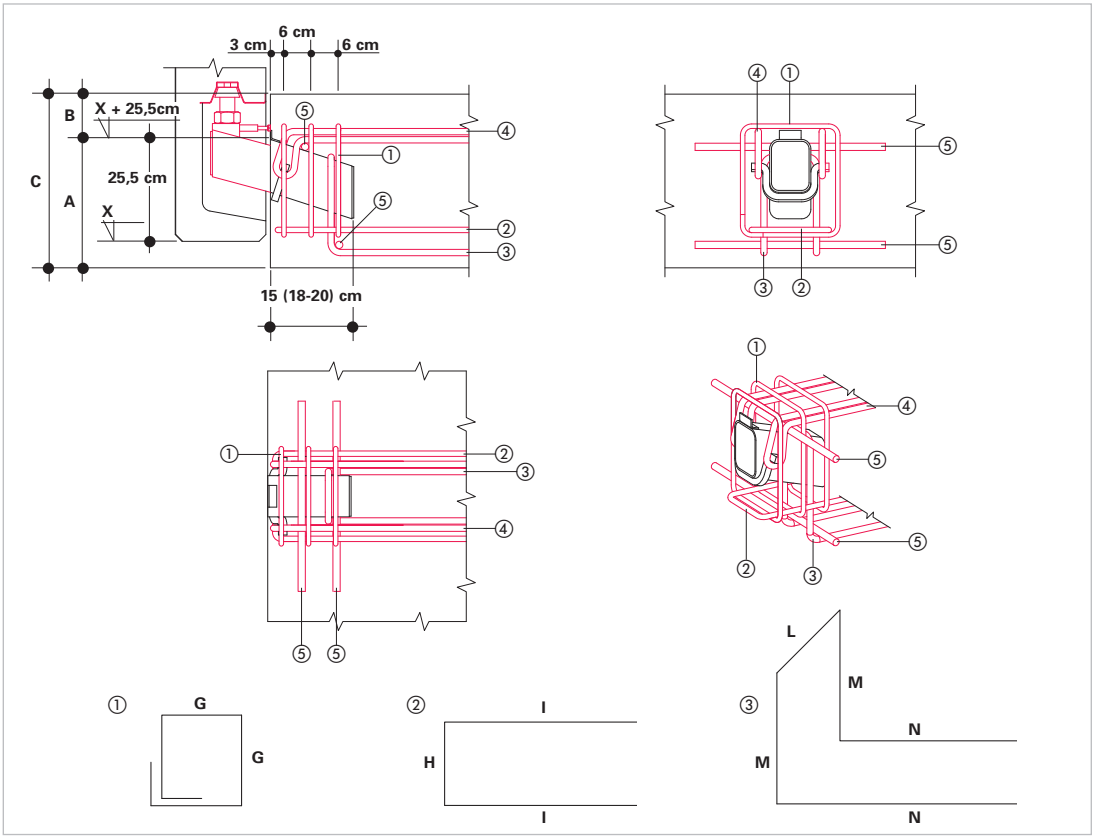
When it is impossible to position a full S.T. Case Tube in the structure due to a lack of space, a Half-stirruped S.T. Case Tube can be used thanks to its reduced stirrups.

Code	C. Tube	H	L	p1*	p*	s	a	e
1001-2.0	S.T. 2 ton	54	54	150	157,7	3	10	10
1001-5.0	S.T. 5 ton	84	54	150	157,7	3	25	8
1001-10.	S.T. 10 ton	103	83	180	189,3	4	30	12
1001-15.	S.T. 15 ton	143	83	200	210,3	5	40	12

*p = inclined measure
*p1 = horizontal measure

POSITIONING AND ADDITIONAL REINFORCEMENT OF THE HALF-STIRRUPED S.T. CASE TUBE

Fix the Half-stirruped S. T. Case Tube to the reinforcement in the structure using nails for a wooden form or the Jolly Magnet - a recyclable magnet - if using iron forms.



HALF-STIRRUPED S.T. CASE TUBE FOR M.E.

	2 ton	5 ton	10 ton	15 ton
A	20 cm	24 cm	26 cm	30 cm
B	8 cm	8 cm	10 cm	10 cm
C	28 cm	32 cm	36 cm	40 cm
①	N° 3 U-shaped rebars S.T. Ø 8 / 6 cm S.V. 90 cm	N° 3 U-shaped rebars S.T. Ø 10 / 6 cm S.V. 98 cm	N° 3 U-shaped rebars S.T. Ø 10 / 6 cm S.V. 98 cm	N° 4 U-shaped rebars S.T. Ø 10 / 5 cm S.V. 110 cm
G	20 cm	22 cm	22 cm	25 cm
②	N° 1 U-shaped rebar S.T. Ø 8 - S.V. 118 cm	N° 1 U-shaped rebar S.T. Ø 10 - S.V. 120 cm	N° 1 U-shaped rebar S.T. Ø 12 - S.V. 120 cm	N° 1 U-shaped rebar S.T. Ø 12 - S.V. 123 cm
H	18 cm	20 cm	20 cm	23 cm
I	50 cm	50 cm	50 cm	50 cm
③	N° 1 U-shaped rebar S.T. Ø 10 - S.V. 120 cm	N° 1 U-shaped rebar S.T. Ø 12 - S.V. 150 cm	N° 1 U-shaped rebar S.T. Ø 14 - S.V. 150 cm	N° 1 U-shaped rebar S.T. Ø 14 - S.V. 150 cm
L	8 cm	9 cm	12 cm	13 cm
M	16 cm	20 cm	19 cm	25 cm
N	40 cm	50,5 cm	50 cm	43,5 cm
④	N° 2 U-shaped rebars S.T. Ø 10 - S.V. 100 cm	N° 2 U-shaped rebars S.T. Ø 12 - S.V. 120 cm	N° 2 U-shaped rebars S.T. Ø 14 - S.V. 120 cm	N° 2 U-shaped rebars S.T. Ø 16 - S.V. 120 cm
⑤	N° 2 rebars S.T. Ø 14 - S.V. 60 cm	N° 2 rebars S.T. Ø 16 - S.V. 80 cm	N° 2 rebars S.T. Ø 16 - S.V. 80 cm	N° 2 rebars S.T. Ø 18 - S.V. 80 cm

N.B.: A - B - C rebars measures are to be considered minimum

The additional reinforcement for a Half-stirruped S.T. Case Tube is mandatory for all loads, having assessed the threaded reinforcement.

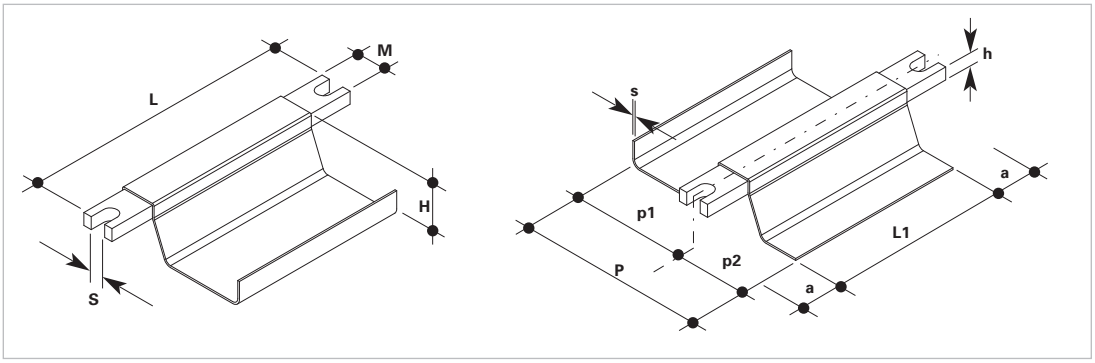
Positioning of a Half-stirruped S.T. Case Tube is the same as for the S.T. Case Tube: X + 25.5 cm, where X is the height of the panel bottom.

TOLERANCES FOR INSERTING HALF-STIRRUPED S.T. CASE TUBES

Tolerances for the Half- stirruped S.T. Case Tube are identical to those for the S.T. Case Tube (see page 20).

S.V. SCREW BOX FOR M.E. for panels 16 to 30 cm thick

Dimensions in mm



Use the polystyrene or metal forms to position the S.V. Screw Box.

Code	Screw Box	H	L	M	S
1004-5.0F	S.V. 5 ton	51,5	212	30	12
1004-15.F	S.V. 15 ton	46,5	230	45	14

Code	Screw Box	L1	P	p1	p2	a	s	h
1004-5.0F	S.V. 5 ton	140	145	90	55	36	1,5	10
1004-15.F	S.V. 15 ton	140	145	85	60	45	1,5	10

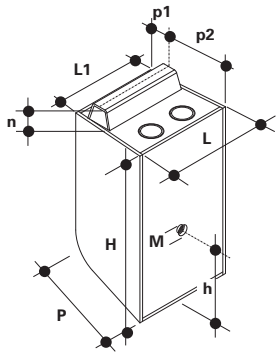
S.V. can be used with
M.E.E. (page 52)
2 ton M.S. (page 56)
Welded M.E. (page 61)

S.V. SCREW BOX FOR M.E. for panels 16 to 30 cm thick

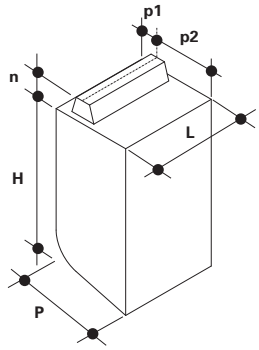
Dimensions in mm

S.V. can be used with
M.E.E. (page 52)
2 ton M.S. (page 56)
Welded M.E.
(page 61)

Reusable metal form for S.V.



Disposable polystyrene form for S.V.



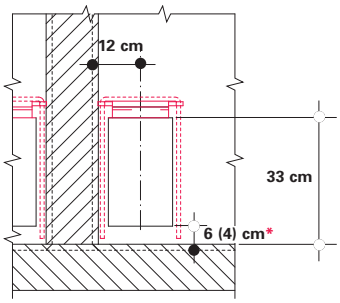
Code	Form	H	L	L1	P	p1	p2	h	n	M
1100-05.V	S.V. 5 ton	270	160	140	130	40	90	110	38	M12
1100-15.V	S.V. 15 ton	290	190	170	140	55	85	110	33	M12

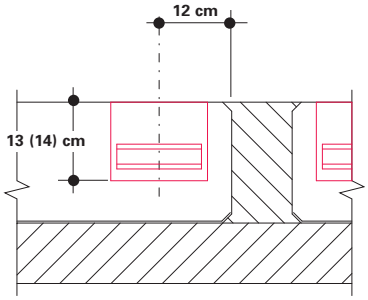
Code	Form	H	n	L	P	p1	p2
1100-05.P	S.V. 5 ton	270	38	160	130	40	90
1100-15.P	S.V. 15 ton	290	33	180	140	55	85

.V metal form - .P polystyrene form

POSITIONING AND REINFORCEMENT OF S.V. SCREW BOX

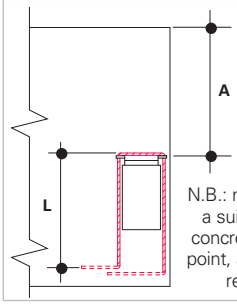
Positioning of the S.V. Screw Box for M.E. bracket



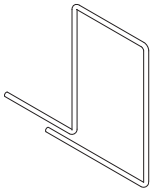


*B.S.Italia can supply 33 cm polystyrene forms on request, with complete stripping of the bottom part (in this case the 6 - 4 cm measure is reset).

N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.



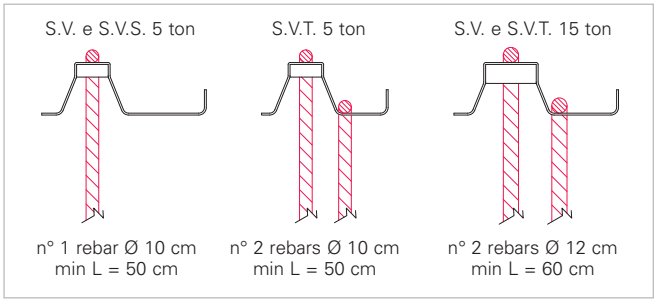
N.B.: make sure there is a suitable area of full concrete at the support point, as well as suitable reinforcement.



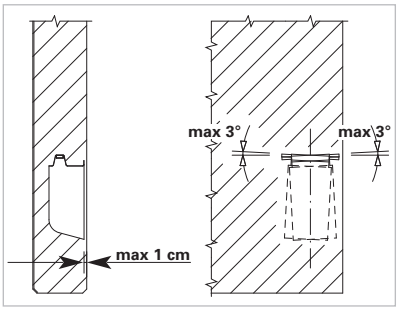
Bend the rebar if L < min L.

Reinforcement for the S.V. Screw Box is mandatory when distance **A** between Screw Box S.V. and the end of the panel is less than 80 cm; it is recommended when this distance is more than 80 cm.

* When distance **A** is > 80 cm, the length of the stimp must be reduced to 30 cm. In any case, distance **A** must never be less than 20 cm.



For S.V.T. and S.V.S. Screw Boxes, reiforcement is always mandatory.

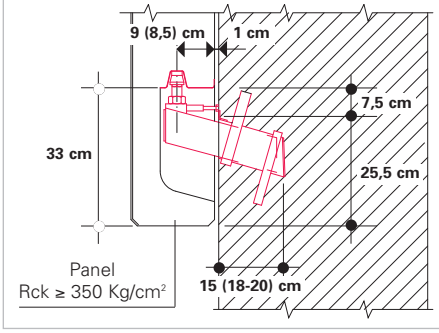


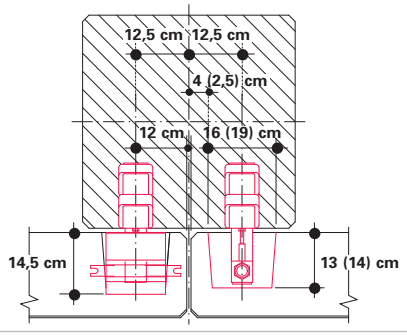
TOLERANCES FOR INSERTING S.V. SCREW BOX

S. V. Screw Box can be sunk max 1 cm from the edge of their panel.

Valid for
S.V.T. (page 23)
S.V.S. (page 31)
S.V.O. (page 35)

POSITION OF THE M.E. SYSTEM

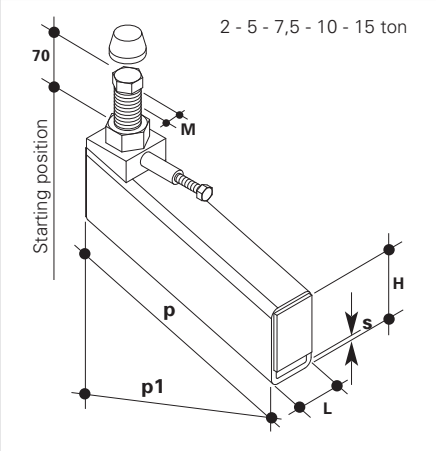




N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

HERCULES M.E.T. BRACKET for panels 14 to 16 cm thick

Dimensions in mm



Code	Bracket	H	L	s	M	p*	p1*
1300-2.0	M.E.T. 2 ton	50	50	5	20	250	241,5
1300-5.0	M.E.T. 5 ton	80	50	8	24	250	241,5
1300-7.5	M.E.T. 7,5 ton	100	80	8	33	281	271,4
1300-10.	M.E.T. 10 ton	100	80	10	33	281	271,4
1300-15.	M.E.T. 15 ton	140	80	10	36	298,2	288

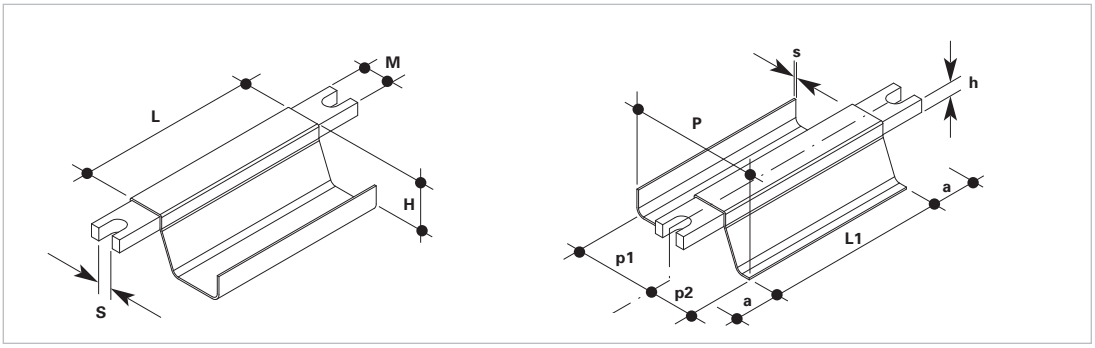
*p = inclined measure
*p1 = horizontal measure

S.T. AND HALF-STIRRUPED S.T. CASE TUBE FOR M.E.T.

See pages 20 - 23 for details of positioning, reinforcement and tolerances for the S.T. and Half- stirruped S.T. Case Tube.

S.V.T. SCREW BOX FOR M.E.T. for panels 14 to 16 cm thick

Dimensions in mm

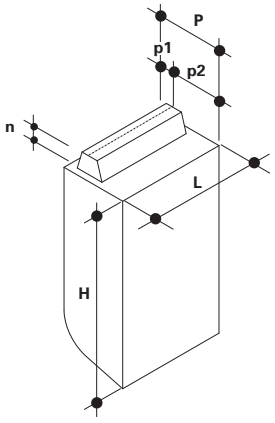


Use the polystyrene reinforcement to fix the S.V.T. Screw Box.

Code	Screw Box	H	L	M	S
1302-5.0F	S.V.T. 5 ton	51,5	212	30	12
1302-15.F	S.V.T. 15 ton	46,5	230	45	14

Code	Screw Box	L1	P	p1	p2	a	s	h
1302-5.0F	S.V.T. 5 ton	140	100	65	35	36	1,5	10
1302-15.F	S.V.T. 15 ton	140	100	60	40	45	1,5	10

Disposable polystyrene form for S.V.T.



S.V.T can be used with
2 ton M.S. (page 56)
Welded M.E. (page 61)

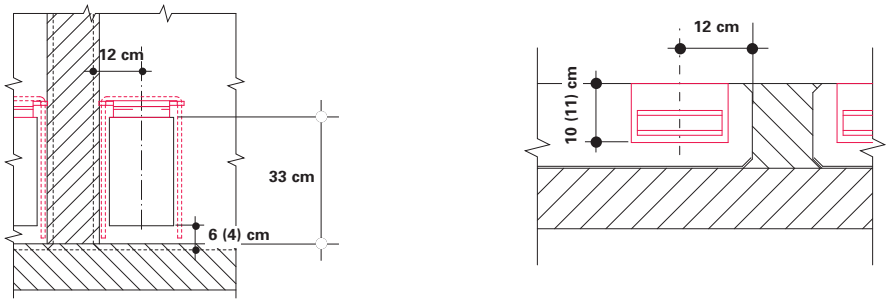
.P polyustyrene form

Code	Form	H	n	L	P	p1	p2
1101-05.P	S.V.T. 5 ton	270	38	160	100	35	65
1101-15.P	S.V.T. 15 ton	290	33	180	110	50	60

Dimensions in mm

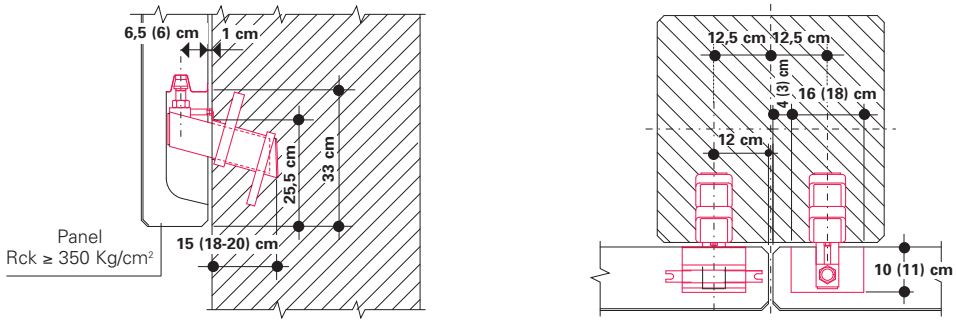
POSITIONING AND REINFORCEMENT OF THE S.V.T. SCREW BOX

Positioning of the S.V.T. Screw Box for M.E.T. bracket



Reinforcement of the S.V.T. Screw Box is identical to that for the S.V. Screw Box (see page 26).

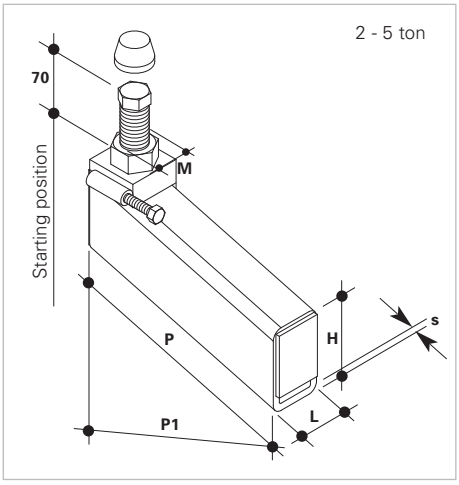
POSITIONING OF THE M.E.T. SYSTEM



N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

HERCULES M.E.S. BRACKET for panels 10 to 14 cm thick

Dimensions in mm



Code	Bracket	H	L	s	M	P	p1
1200-2.0	M.E.S. 2 ton	50	50	5	20	220	212,5
1200-5.0	M.E.S. 5 ton	80	50	8	24	220	212,5

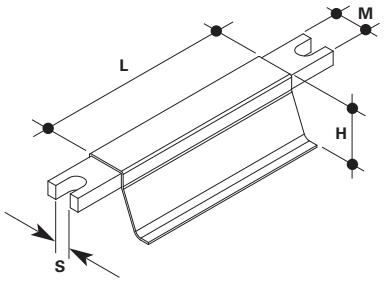
*p = inclined measure
*p1 = horizontal measure

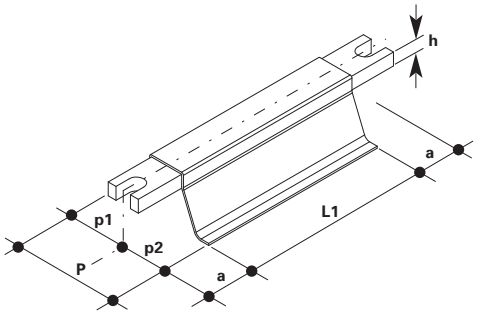
S.T. AND HALF-STIRRUPED S.T. CASE TUBE FOR M.E.S.

See pages 20 - 23 for details of positioning, reinforcement and tolerances for the S.T. and Half-stirruped S.T. Case Tube.

S.V.S. SCREW BOX FOR M.E.S. for panels 10 to 14 cm thick

Dimensions in mm



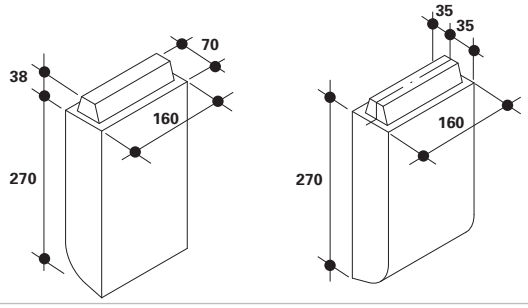


Use the polystyrene reinforcement to fix the S.V.T. Screw Box.

Code	Screw Box	H	L	L1	M	S	P	h	a	p1 - p2
1202-5.0F	S.V.S. 5 ton	51,5	212	140	30	12	70	10	36	35

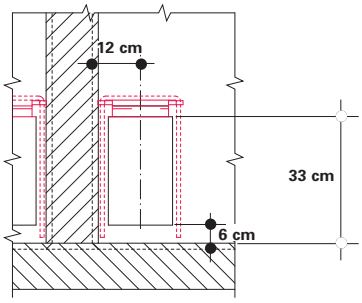
S.V.S. can be used with
2 ton M.S. (page 56)
Welded M.E. (page 61)

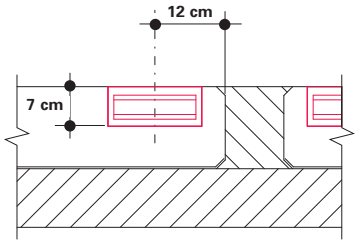
Disposable polystyrene form for S.V.S. code 1102-05.P



POSITIONING AND REINFORCEMENT OF THE S.V.S. SCREW BOX

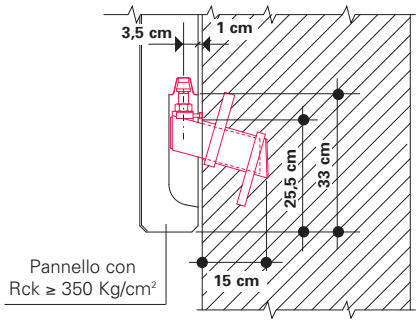
Positioning of the S.V.S. Screw Box for M.E.S. bracket

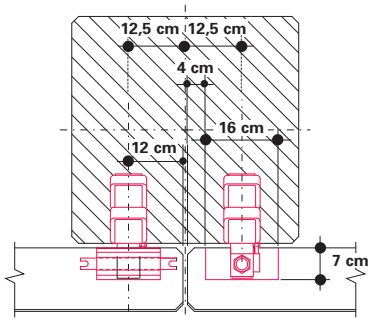




POSITIONING OF THE M.E.S. SYSTEM

Reinforcement and tolerances for the S.V.S. Screw Box are identical to that for the S.V. Screw Box (see page 26).

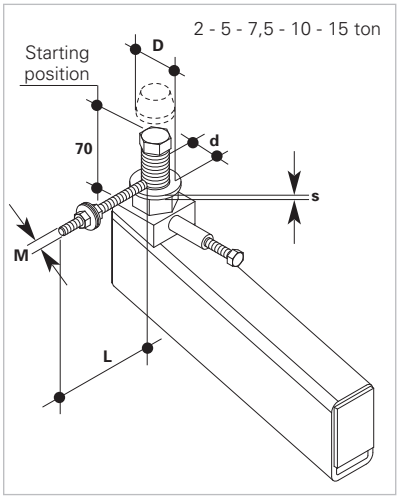




S.V.S. can be used with
2 ton M.S. (page 56)
Welded M.E. (page 61)

HERCULES M.E. BRACKET FOR S.V.O.

Dimensions in mm

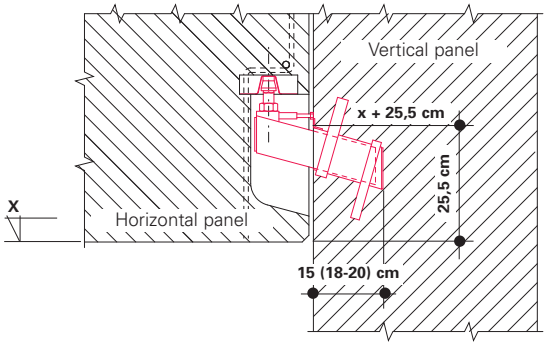


The M.E. bracket for S.V.O. is identical to the M.E. except for a threaded rod to secure the bracket to the S.V.O. Screw Box.

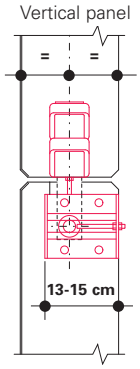
Code	Bracket	d	D	s	M	L
1700-2.0	M.E. for S.V.O. 2 ton	21	37	3	8	95
1700-5.0	M.E. for S.V.O. 5 ton	25	44	4	8	95
1700-7.5	M.E. for S.V.O. 7,5 ton	34	60	5	10	100
1700-10.	M.E. for S.V.O. 10 ton	34	60	5	10	100
1700-15.	M.E. for S.V.O. 15 ton	37	66	5	10	100

See pages 20 - 23 for details of the S.T. and Half-stirruped S.T. Case Tube.

POSITIONING AND EXTRA REINFORCEMENT S.T. AND HALF-STIRRUPED S.T. CASE TUBE



The vertical load-bearing panel acts as a column and therefore must be reinforced and constrained.
RCK has to be = 350 Kg/cm²

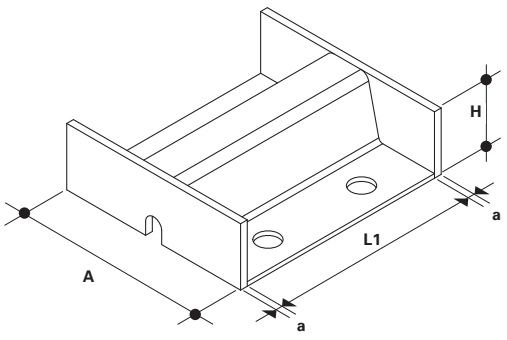


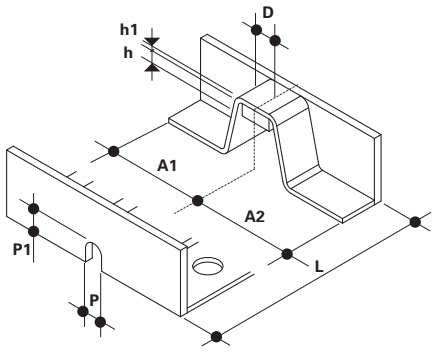
Horizontal panel

See pages 20 - 23 for details of the reinforcement and insertion the S.T. tolerances and Half-stirruped S.T. Case Tube.

S.V.O. SCREW BOX FOR M.E. FOR S.V.O.

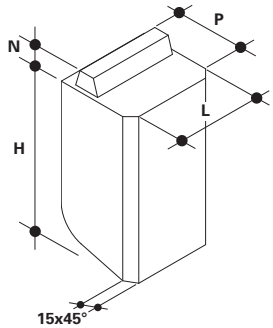
Dimensions in mm

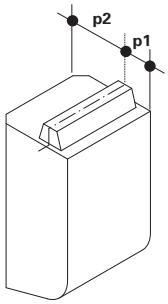




Code	Screw box	A	L	L1	A1	A2	H	a	P	P1	h	h1	D
1702-5.0	S.V.O. 5t-L 120	140	130	120	70	70	51,5	5	12	15	10	1,5	30
1705-5.0	S.V.O. 5t-L 140	140	150	140	70	70	51,5	5	12	15	10	1,5	30
1702-15	S.V.O. 15t-L 120	130	130	120	65	65	46,5	5	12	15	10	1,5	45
1705-15	S.V.O. 15t-L 140	130	150	140	65	65	46,5	5	12	15	10	1,5	45

Disposable polystyrene form for S.V.O.





Code	Screw Box	Panel thickness (cm)
1702-5.0	S.V.O. 5 ton L = 120	≤ 16
1705-5.0	S.V.O. 5 ton L = 140	> 16
1702-15	S.V.O. 15 ton L = 120	≤ 16
1705-15	S.V.O. 15 ton L = 140	> 16

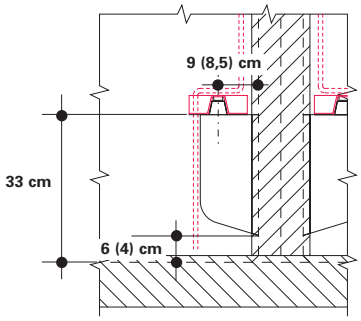
Code	Form	N	P	L	H	p1	p2
1101-05.P	S.V.O. 5 ton	38	130	135-155	270	40	90
1101-15.P	S.V.O. 5 ton	33	130	135-155	290	45	85

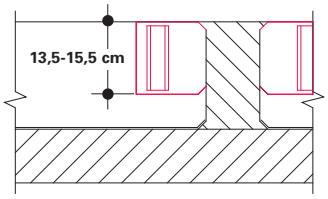
POSITIONING AND REINFORCEMENT OF THE S.V.O. SCREW BOX

A polystyrene form must be used when positioning the S.V.O. Screw Box.

S.V.O. Screw Box	Polystyrene form
for S.V.O. 5 ton L = 120	1105-05.P
for S.V.O. 5 ton L = 140	1104-05.P
for S.V.O. 15 ton L = 120	1105-15.P
for S.V.O. 15 ton L = 140	1104-15.P

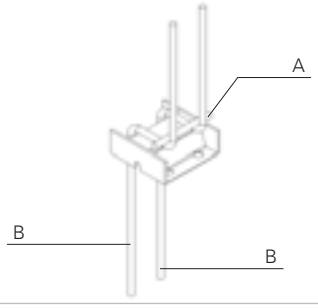
Positioning of the S.V.O. Screw Box for M.E. bracket for S.V.O. (Rck panel ≥ 350 Kg/cm²)





The vertical load-bearing panel acts as a column and therefore must be reinforced and stirruped with 2 identical U-rebars (B) passing through the holes in the S.V.O. and a straight connecting rod (A).

Reinforcement for S.V.O. Screw Box

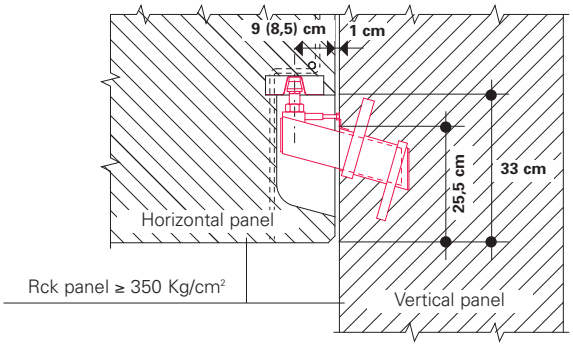


Screw Box	N° U-rebars		Ø	Season
S.V.O. 5 ton	A	1	10	150 - 130
	A	2	10	700
S.V.O. 15 ton	B	1	12	150 - 130
	B	2	12	700

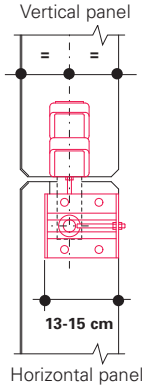
TOLERANCES FOR INSERTING S.V.O. SCREW BOX

The tolerances for inserting the S.V.O. Screw Box are identical to those for the S.V. (see page 26).

POSITIONING OF THE M.E. SYSTEM FOR S.V.O.



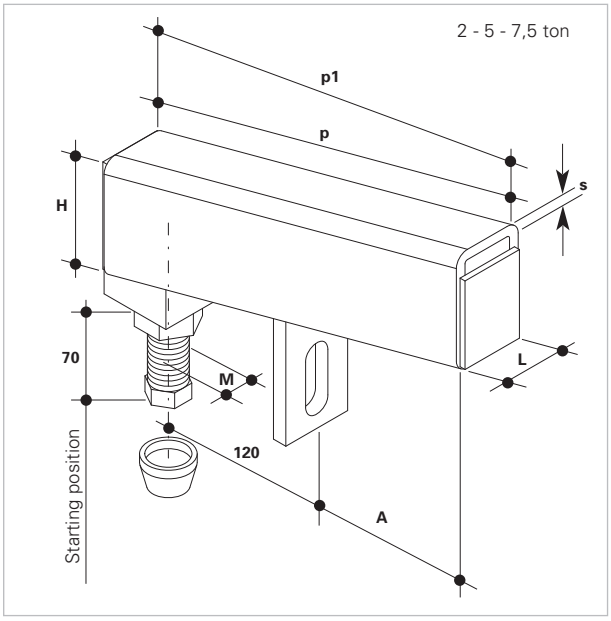
To improve the look, it can be filled with cement or hidden with a metal cover.



N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

UPTURNED HERCULES M.E. BRACKET

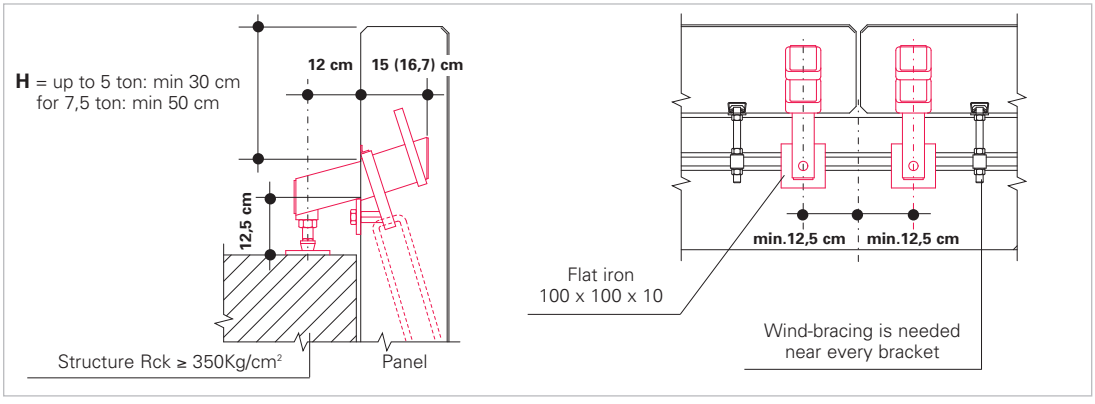
Dimensions in mm



*p = inclined measure
*p1 = horizontal measure

code	bracket	H	L	s	M	p*	p1*	A
1900-2.0	2 ton Upturned M.E.	50	50	5	20	295	285	142
1900-5.0	5 ton Upturned M.E.	80	50	8	24	295	285	142
1900-7.5	7,5 ton Upturned M.E.	100	80	8	33	305	294,6	146

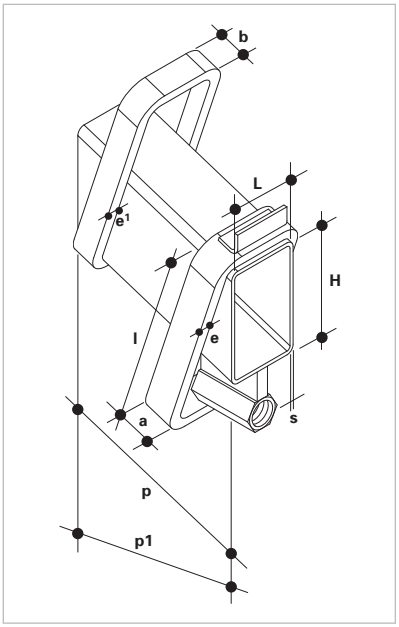
MINIMUM POSITIONING OF SCREW ON BEAM



The upturned M.E. bracket has to be fixed to the case tube S.T. using a bolt with 80 Nm tightening torque.

UPTURNED S.T. CASE TUBE FOR UPTURNED M.E.

Dimensions in mm



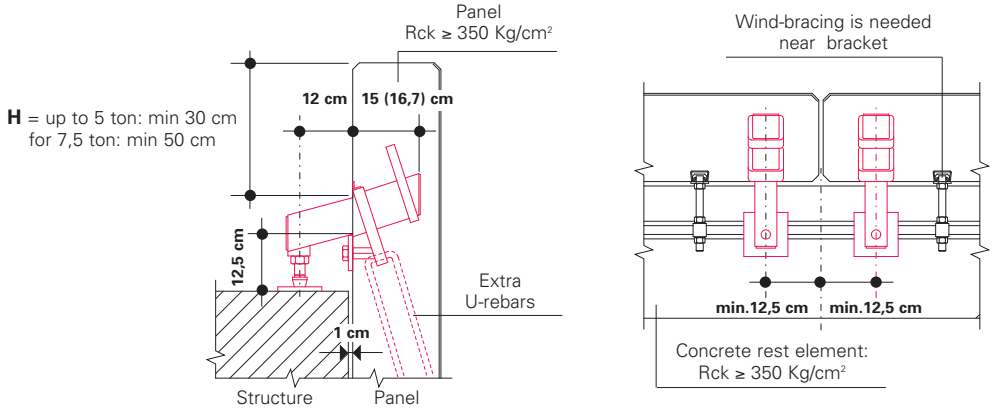
UPTURNED S.T. CASE TUBE

Fix the Upturned S.T. Case Tube in the reinforcement of the structure. See page 19 for details of how to use the Jolly Magnet.

Code	Case Tube	H	L	p*	p1*	s	a	e	b	e1	l
1901-2.0	S.T. 2 ton	54	54	157,7	150	3	10	10	10	10	150
1901-5.0	S.T. 5 ton	84	54	157,7	150	3	25	8	20	6	180
1901-7.5	S.T. 7,5 ton	103	83	175,6	167	4	30	12	20	8	250

*p = inclined measure
*p1 = horizontal measure

POSITIONING AND EXTRA REINFORCEMENT FOR UPTURNED S.T. CASE TUBE



Extra reinforcement is always necessary for the 7,5 ton Upturned S.T. Case Tube; it is only needed with 2 ton and 5 ton Case Tubes when distance **H** between the Case Tube and the end of the panel is less than 50 cm.

		U-rebars		
Case Tube	**Mandatory**	**n°**	**Ø**	**Season**
S.T. 2 ton	with H < 50 cm	2	8	800
S.T. 5 ton	with H < 50 cm	2	12	800
S.T. 7,5 ton	always	2	14	800

TOLERANCES FOR INSERTING UPTURNED S.T. CASE TUBE

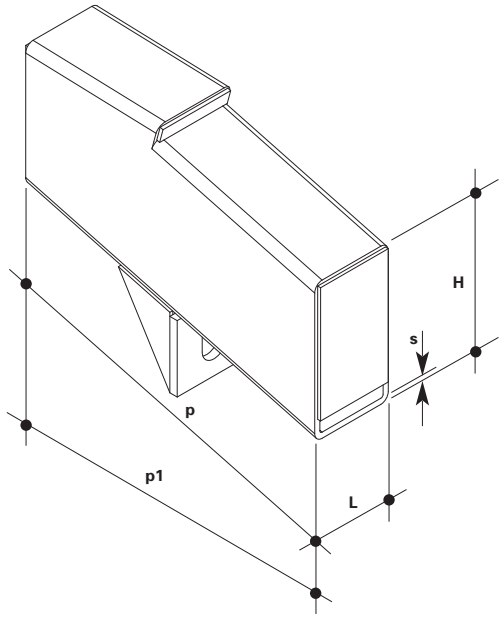
The tolerances for inserting the S.T. Case Tube are identical to those for the S.T. (see page 20).

N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

M.T. BEAM BRACKET

Dimensions in mm

10 - 15 - 20 ton



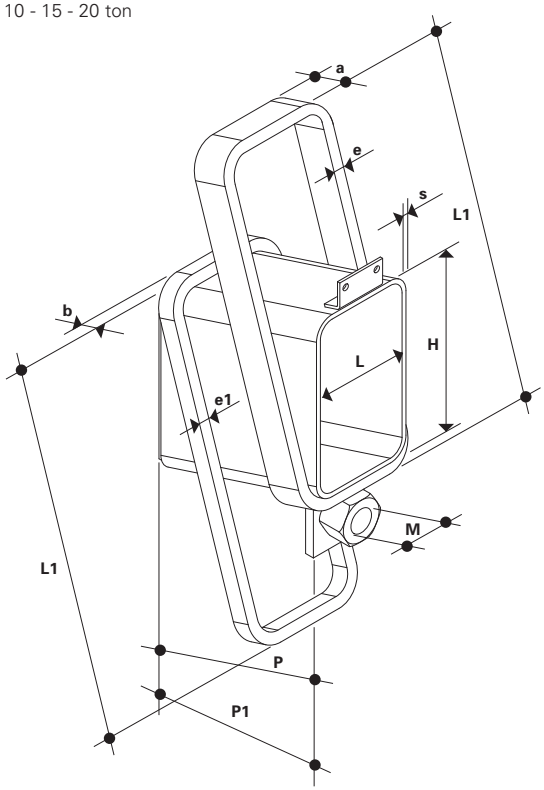
Code	Bracket	H	L	s	p*	p1*
1500-10.	M.T. 10 ton	140	80	10	407	393
1500-15.	M.T. 15 ton	180	100	7	407	393
1500-20.	M.T. 20 ton	200	100	10	407	393

*p = inclined measure
*p1 = horizontal measure

S.T.T. CASE TUBE FOR M.T.

Dimensions in mm

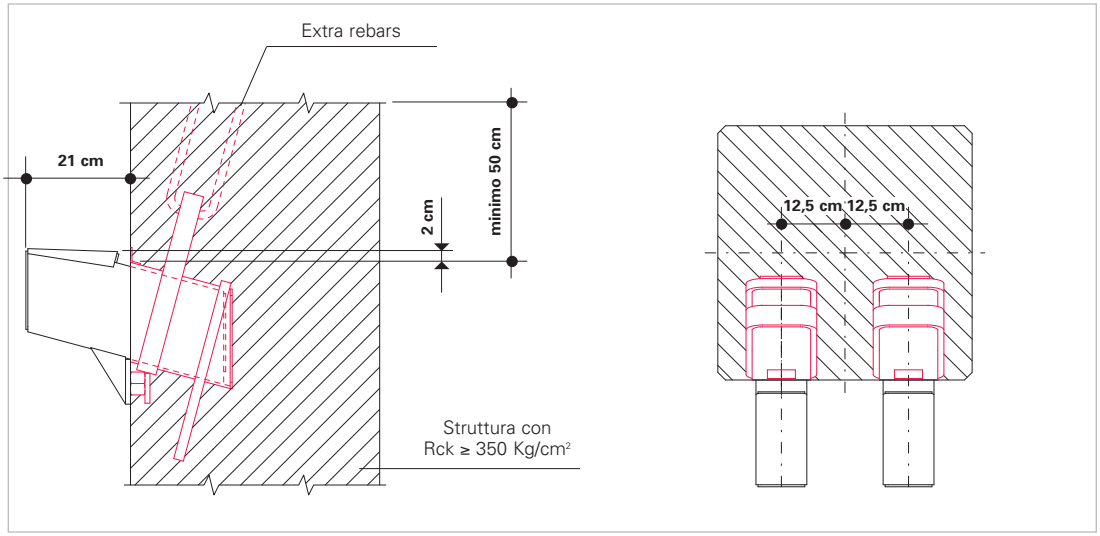
10 - 15 - 20 ton



Code	Case Tube	H	L	s	a	e	b	e1	L1	M	p*	p1*
1501-10.	S.T.T. 10 ton	143	83	5	20	12	15	8	320	20	210	200
1501-15.	S.T.T. 15 ton	183	105	5	40	12	20	12	370	30	210	200
1501-20.	S.T.T. 20 ton	203	105	5	60	15	35	12	420	30	210	200

*p = inclined measure
*p1 = horizontal measure

POSITIONING AND EXTRA REINFORCEMENT FOR S.T.T. CASE TUBE



Extra reinforcement is mandatory for 15 ton and 20 ton S.T.T. Case Tubes.

Case Tube	n° U-rebars	Ø	Season
S.T.T. 15 ton	2	16	800
S.T.T. 20 ton	2	18	800

TOLERANCES FOR INSERTING S.T.T. CASE TUBE

The tolerances for inserting the S.T.T. Case Tube are identical to those for the S.T. (see page 20).

POSITIONING OF THE M.T. SYSTEM

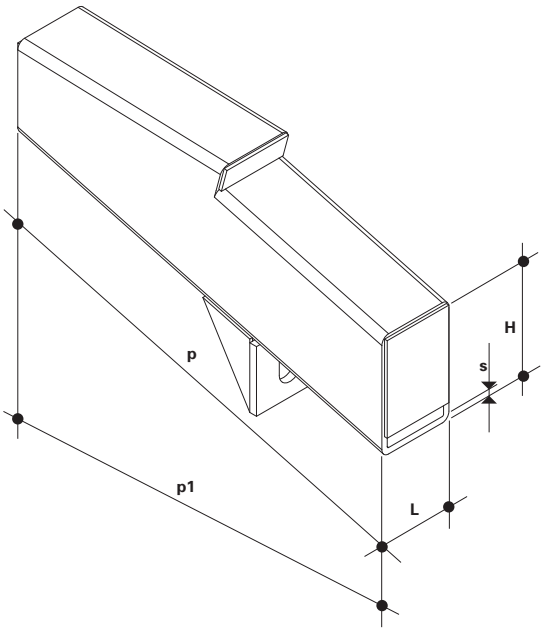
The surface under the bracket must be perfectly flat: any unevenness must be levelled off.
The M.T. bracket has to be fixed to S.T. case tube with bolts using the following tightening torques:

- M20 → 140 Nm
- M30 → 400 Nm

M.T.C BRIDGE CRANE BRACKET

Dimensions in mm

5 - 10 - 15 ton



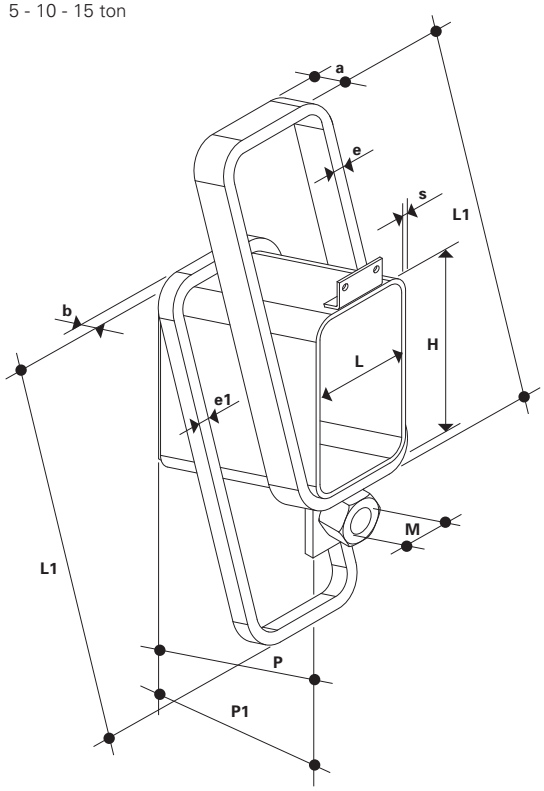
Code	Bracket	H	L	s	p*	p1*
1600-5.0	M.T.C. 5 ton	120	80	6	562	543
1600-10.	M.T.C. 10 ton	150	100	8	562	543
1600-15.	M.T.C. 15 ton	200	100	10	562	543

*p = inclined measure
*p1 = horizontal measure

S.T.C. CASE TUBE FOR M.T.C

Dimensions in mm

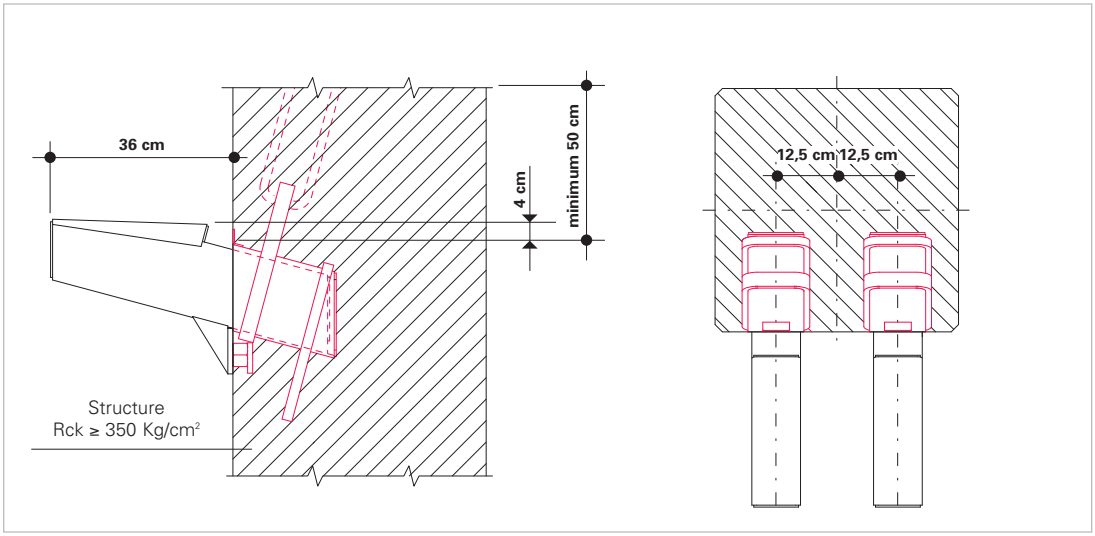
5 - 10 - 15 ton



Code	Case Tube	H	L	s	a	e	b	e1	l	M	p*	p1*
1601-5.0	S.T.C. 5 ton	123	85	4	25	8	15	8	270	20	210	200
1601-10.	S.T.C. 10 ton	155	105	5	30	12	20	12	320	30	210	200
1601-15.	S.T.C. 15 ton	205	107	5	50	15	35	12	400	30	210	200

*p = inclined measure
*p1 = horizontal measure

POSITIONING AND EXTRA REINFORCEMENT FOR S.T.C. CASE TUBE



Extra reinforcement is mandatory for 15 ton and 20 ton S.T.C. Case Tubes.

Case Tube	n° U-rebars	Ø	Season
S.T.C. 15 ton	2	14	800
S.T.C. 20 ton	2	16	800

TOLERANCES FOR INSERTING S.T.C. CASE TUBE

The tolerances for inserting the S.T.C. Case Tube are identical to those for the S.T. (see page 20).

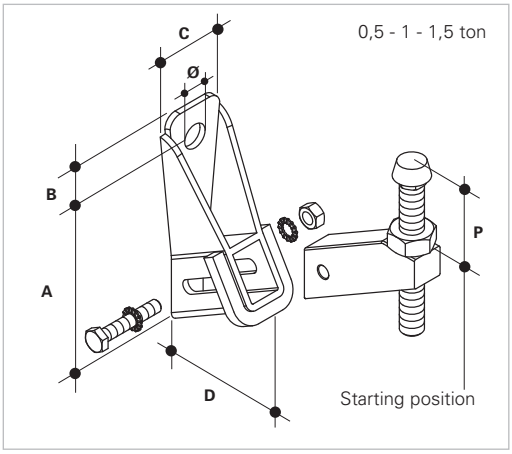
POSITIONING OF THE M.T.C. SYSTEM

The surface under the bracket must be perfectly flat: any unevenness must be levelled off.
The M.T. bracket has to be fixed to the case tube S.T. with bolts using the following tightening torques:

- M20 ⟶ 140 Nm
- M30 ⟶ 400 Nm

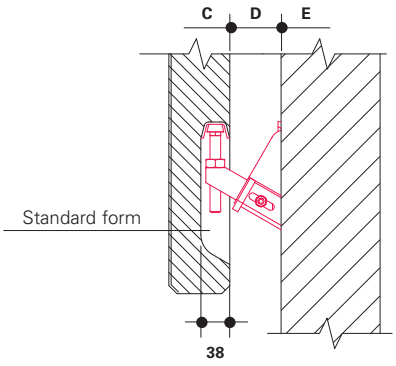
ERCOLINA M.E.E. BRACKET

Dimensions in mm

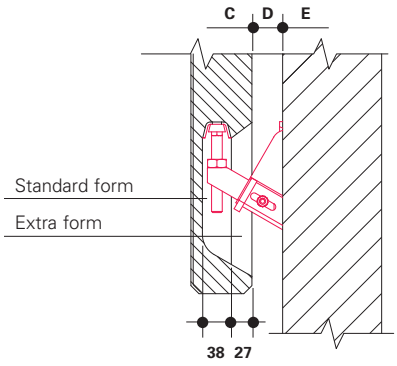


Bracket	Code	A	B	C	Ø	D	P
M.E.E. Ercolina 0,5 ton	1000-0.5E	74,5	16,5	50	13	47	50
M.E.E. Ercolina 1 ton	1000-1.0E	121	21	41	16	64	50
M.E.E. Ercolina 1,5 ton	1000-1.5E	142	25	50	19	76	55

Adjusting the Ercolina M.E.E. bracket with standard form and extra form



Ercolina M.E.E. with standard form



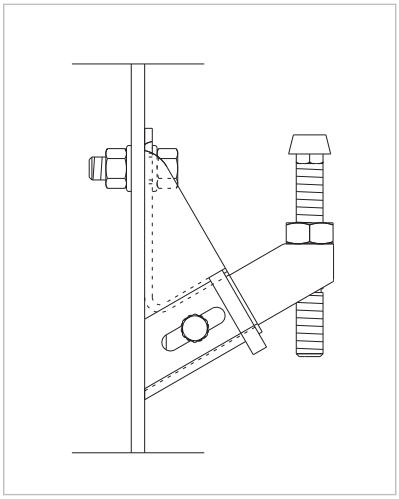
Ercolina M.E.E. with extra form

C = max distance • D = starting distance • E = min distance

Distance of panel from the structure

Bracket	Standard form			Extra format		
	C	D	E	C	D	E
M.E.E. Ercolina 0,5 ton	53	46	37	26	19	10
M.E.E. Ercolina 1 ton	77	67	56	50	40	29
M.E.E. Ercolina 1,5 ton	98	83	68	71	56	41

FIXING THE ERCOLINA M.E.E. BRACKET TO THE STRUCTURE



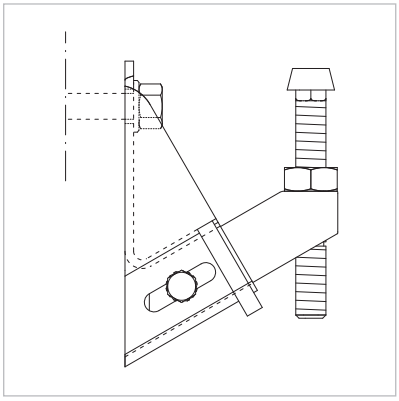
The Ercolina M.E.E. bracket can be fixed to the structure by bolts, and wall plugs or welding. The surface under the bracket must be perfectly flat: any unevenness must be levelled off.

a) Bolting (for iron elements).

	M.E.E. Ercolina 0,5 - 1 ton	M.E.E. Ercolina 1,5 ton
Bolts	M12 Classe 8.8	M14 Classe 8.8
Bolt tightening torque	90 Nm	140 Nm

Use a torque wrench

b) Welding

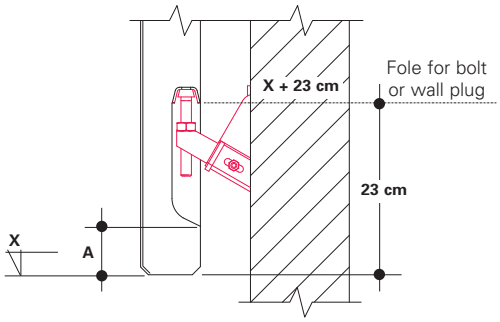


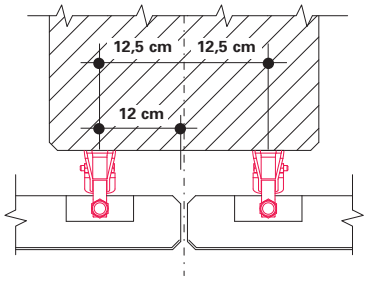
c) Wall plugs (for concrete elements)

	M.E.E. Ercolina 0,5 ton	M.E.E. Ercolina 1 ton	M.E.E. Ercolina 1,5 ton
1 Hilti wall plug	HSL M8/20	HSL M10/20	HSL M12/25
Diameter of hole in concrete (must be perfectly clean)	12 mm	15 mm	18 mm
Min distance from edge	100 mm	100 mm	120 mm
Min thickness of concrete	150 mm	150 mm	200 mm
Bolt tightening torque	25 Nm	50 Nm	80 Nm

Use a torque wrench
Concrete Rck > 350 Kg/cm^2

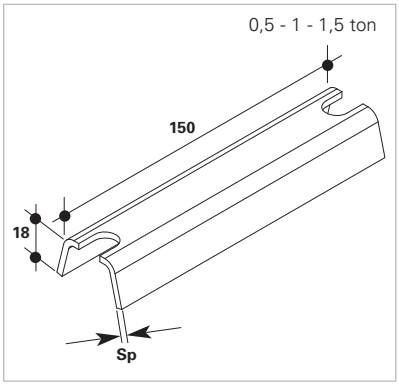
Positioning of the Ercolina M.E.E. bracket





X = lower panel edge

	A	
Bracket	**with Standard form**	**with total form**
M.E.E. Ercolina 0,5 ton	8 cm	6,5 cm
M.E.E. Ercolina 1 ton	6,5 cm	5 cm
M.E.E. Ercolina 1,5 ton	5 cm	3,5 cm

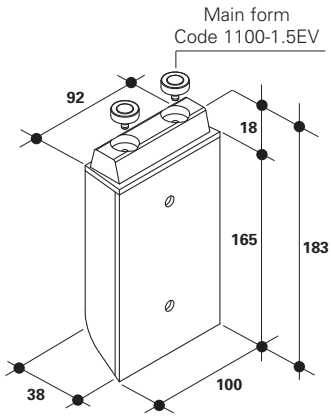


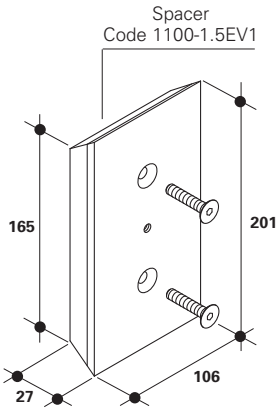
Screw Box	Code	Thickness
for S.V. 0,5 - 1 ton	1004-1.OF	3
for S.V. 1,5 ton	1004-1.5F	4

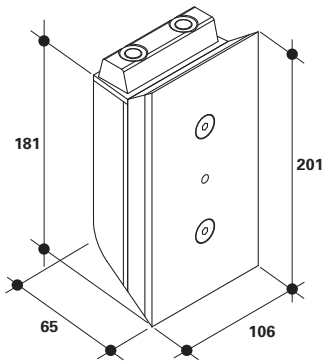
For positioning S.V. screw box Use either a disposable polystyrene form or a reusable metal form with or without spacer. Use of the spacer depends on the thickness of the panel and the size of the gap, to suit customer requirements.

POSITIONING AND REINFORCEMENT OF THE SCREW BOX

Reusable metal form for S.V.



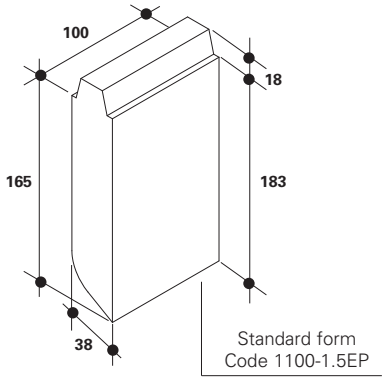


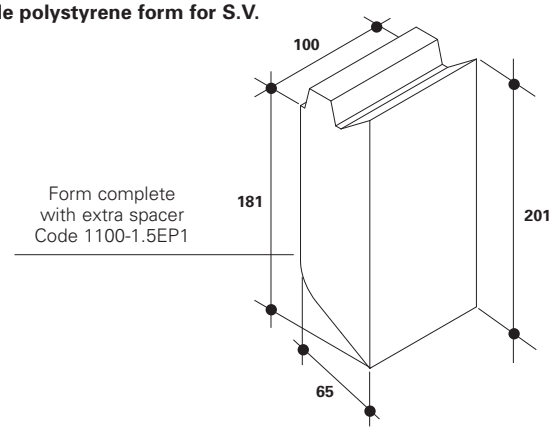


Form	Code
for S.V. 0,5 - 1 and S.V. 1,5 ton	1100-1.5EV
spacer for S.V. 0,5 - 1 and S.V. 1,5 ton	1100-1.5EV1

.EV metal form

Disposable polystyrene form for S.V.



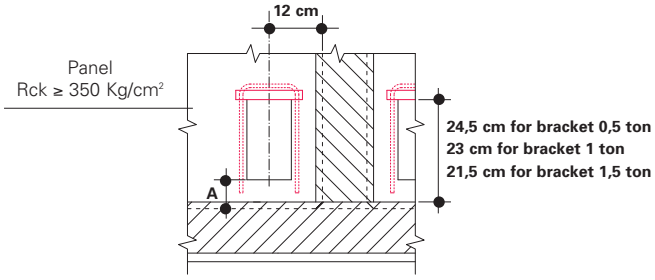


Form	Code
for S.V. 0,5 - 1 and S.V. 1,5 ton	1100-1.5EP
spacer for S.V. 0,5 - 1 and S.V. 1,5 ton	1100-1.5EP1

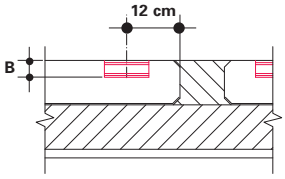
.EP polystyrene form

POSITIONING OF THE S.V. SCREW BOX FOR ERCOLINA M.E.E. BRACKET

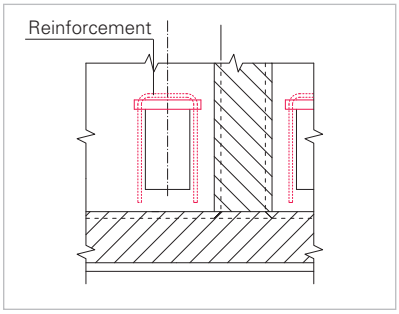
With polystyrene and metal form



With polystyrene and metal form

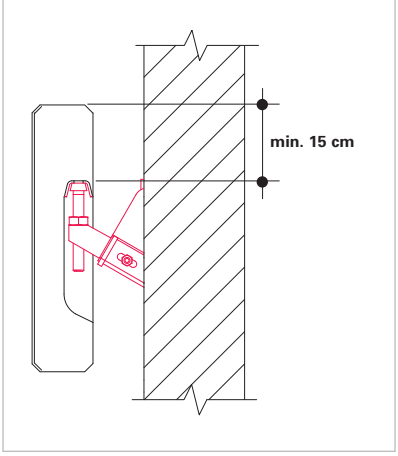


	A		B	
Bracket	**standard form**	**complete form**	**standard form**	**complete form**
M.E.E. Ercolina 0,5 ton	8	6,5	38	65
M.E.E. Ercolina 1 ton	6,5	5	38	65
M.E.E. Ercolina 1,5 ton	5	3,5	38	65



Reinforcement for S.V. Screw Boxes for Ercolina M.E.E. brackets is always mandatory.

Screw Box	N° U-rebars	Ø	Season
S.V. 0,5 - 1 and S.V. 1,5 ton	1	8	55



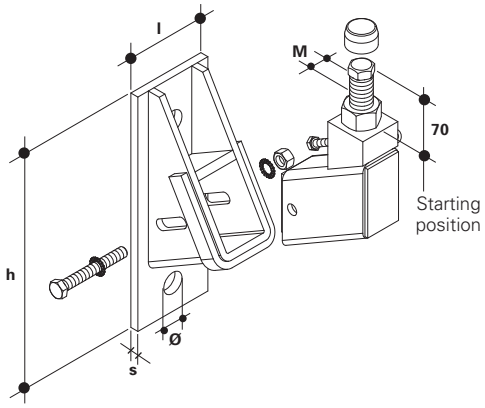
MINIMUM ERCOLINA POSITIONING

For any distance reducement of the standard measure. The user must carefully consider it and anyhow accept full responsibility for the same.

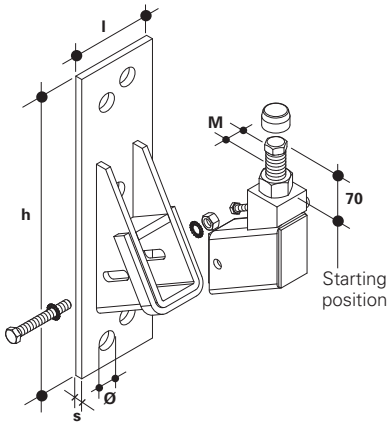
EXTERNAL ERCOLINA M.E.E. BRACKET for panels 16 to 30 cm thick

Dimensions in mm

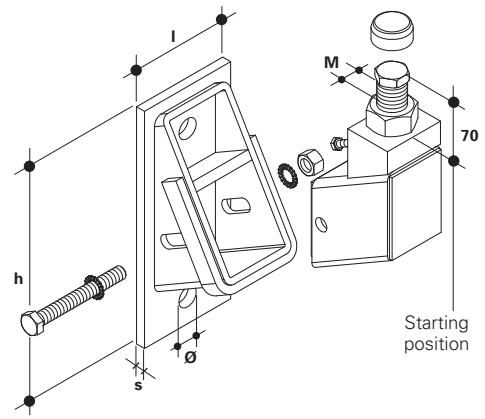
5 ton external M.E.E. for welding



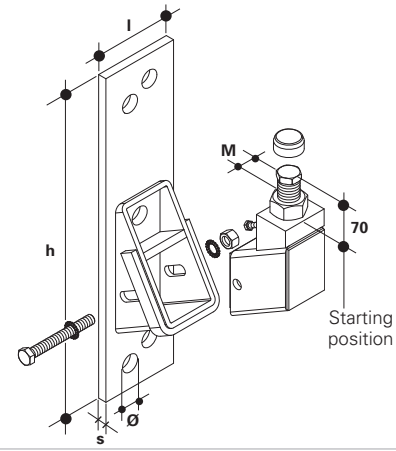
5 ton external M.E.E. for wall plugs



10 ton external M.E.E. for welding



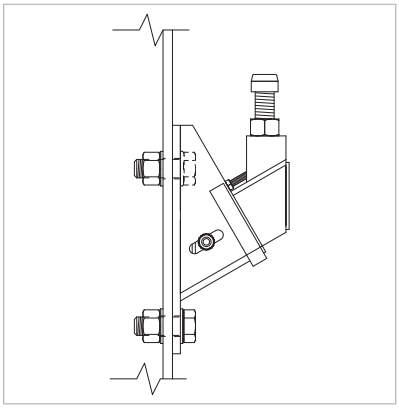
10 ton external M.E.E. for wall plugs



Codes	Bracket	h	l	s	Ø	M
1000-5.E_	5 ton external M.E.E. for welding	290	100	10	26	24
1000-10.E_	10 ton external M.E.E. for welding	310	130	12	26	33
1000-5.ET_	5 ton external M.E.E. for wall plugs	440	120	10	26	24
1000-10.ET_	10 ton external M.E.E. for wall plugs	580	140	15	31	33

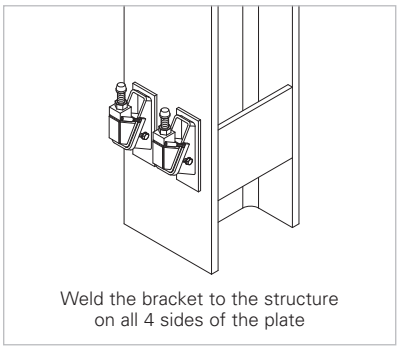
FIXING THE M.E.E. BRACKET TO THE STRUCTURE

Dimensions in mm



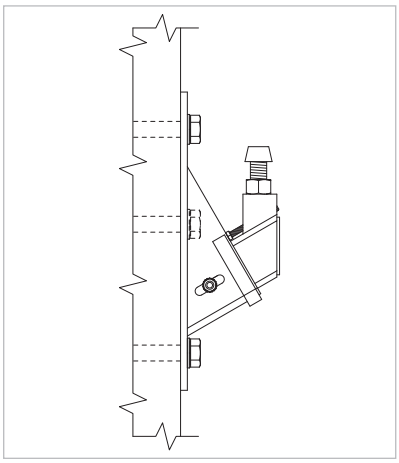
The M.E.E. bracket can be fixed to the structure by bolts, and wall plugs or welding. The surface under the bracket must be perfectly flat: any unevenness must be levelled off.

a) Bolts (for iron elements). Fix 2 M24 class 8.8 bolts using a torque wrench (tightening torque: 750 Nm).



Weld the bracket to the structure on all 4 sides of the plate

b) Welding, for metal structures or iron plates sunk into the concrete elements.



c) Wall plugs, for concrete elements.

	M.E.E. 5 ton	M.E.E. 10 ton
3 Hilti wall plugs	HSL M16/25	HSL M20/30
Diameter of hole in concrete (must be perfectly clean)	24	28
Min distance from edge	150	320
Min thickness of concrete	250	300
Bolt tightening torque	120 Nm	220 Nm

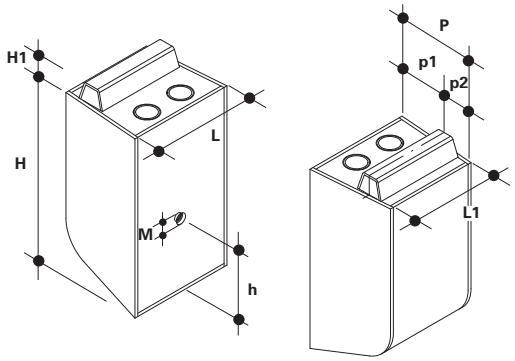
Use a torque wrench
concrete Rck ≥ 350 Kg/cm^2

N.B.: B.S.Italia cannot be held liable for the use of bolts, wall plugs or welding. The wall plug information here has no value as a design calculation.

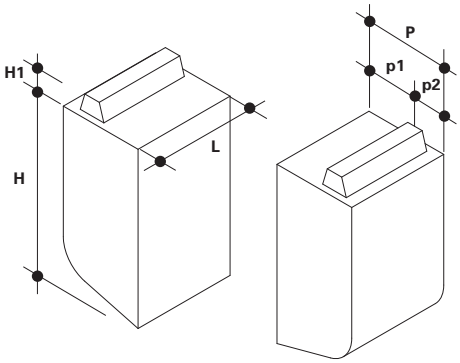
See page 25 for details of the shape and size of the 5 ton S.V. Screw Box and the 15 ton S.V.

Use a disposable polystyrene form or a reusable metal form to position the S.V. Screw Box.

Reusable metal form for S.V.



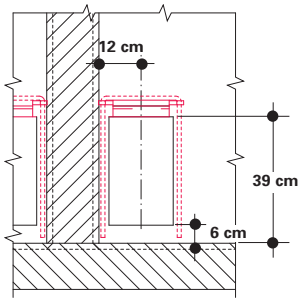
Disposable polystyrene form for S.V.

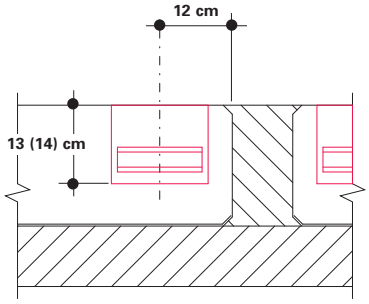


Code	Form	H	H1	L	L1	h	M	p1	p2	P
1100-05.EV	for S.V. 5 ton	330	38	160	140	110	12	90	40	130
1100-15.EV	for S.V. 15 ton	330	33	190	170	110	12	85	55	140
1100-05.EP	for S.V. 5 ton	330	38	160				90	40	130
1100-15.EP.	for S.V. 15 ton	330	33	180				85	55	140

.EV metal form
.EP polystyrene form

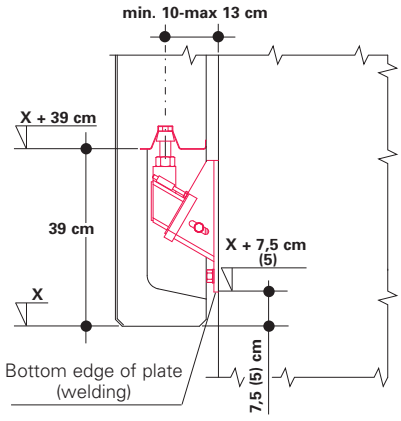
Positioning the S.V. Screw Box for the M.E.E. bracket



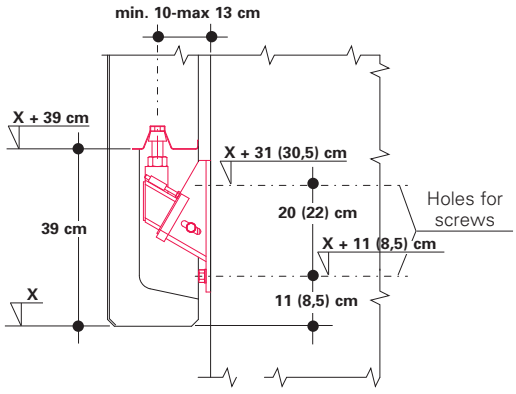


POSITIONING THE M.E.E. SYSTEM

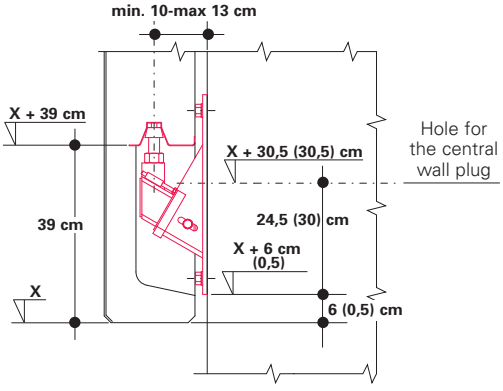
M.E.E. to be welded

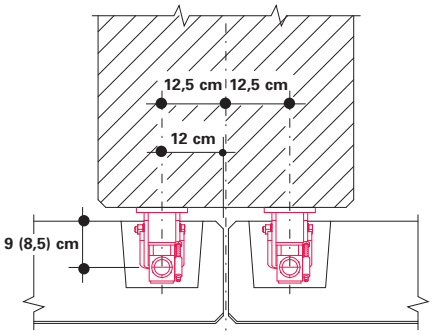


M.E.E. to be bolted



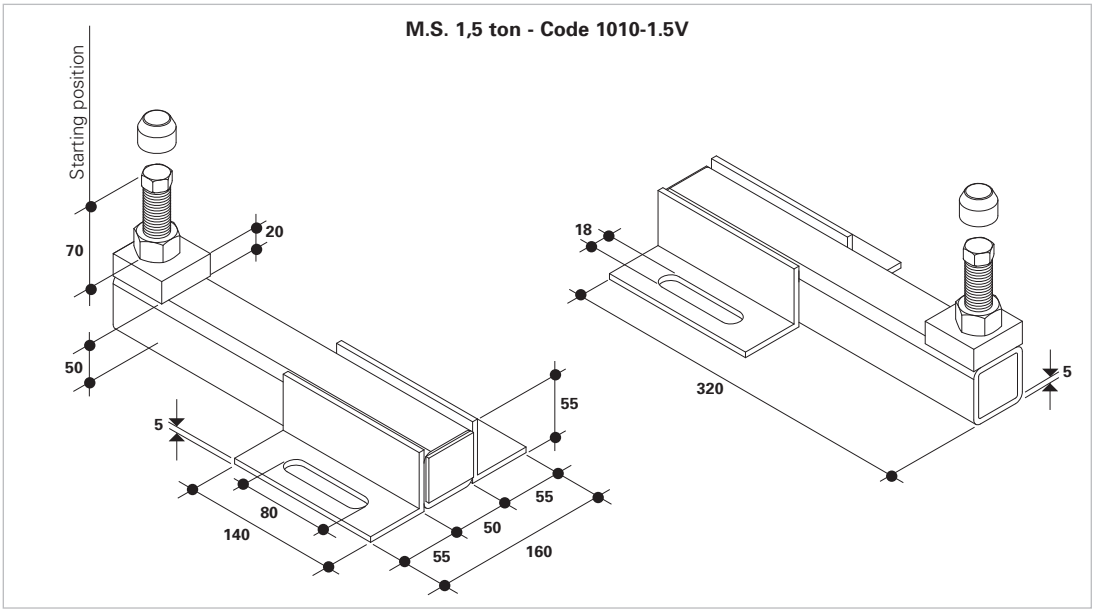
M.E.E. with wall plugs



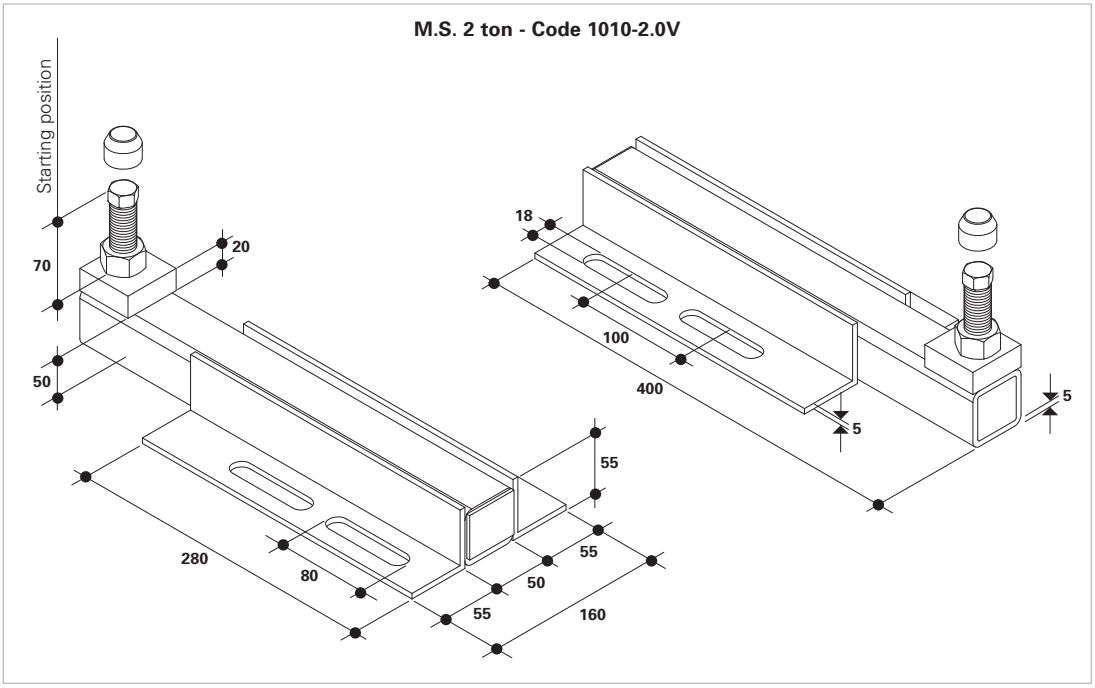


N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

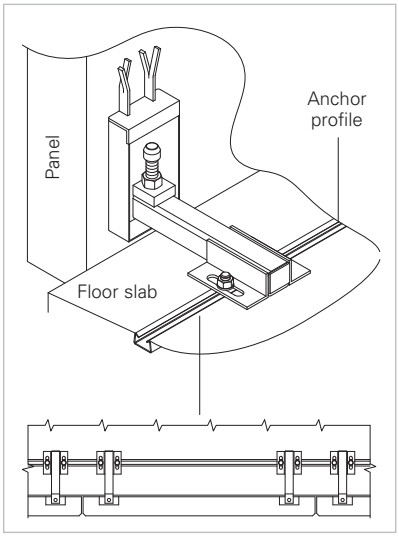
M.S. 1,5 ton - Code 1010-1.5V



M.S. 2 ton - Code 1010-2.0V

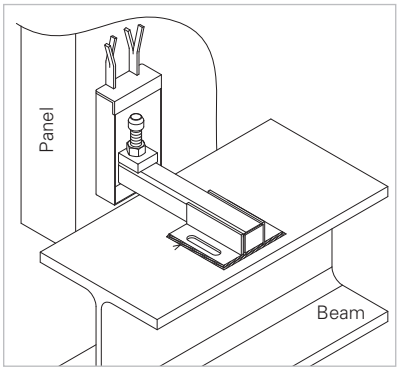


FIXING THE M.S. BRACKET TO THE STRUCTURE



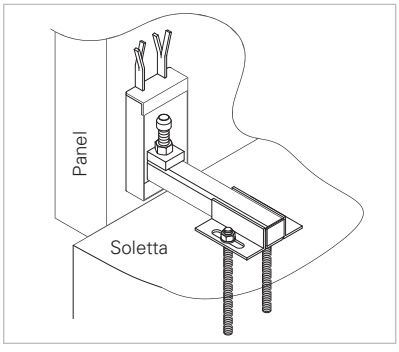
The M.S. bracket can be fixed to the structure by bolts, and wall plugs or welding. The surface under the bracket must be perfectly flat: any unevenness must be levelled off using shims (e.g. Neophrene shims).

a) Bolting with anchor heads to anchor profiles sunk in the structure.



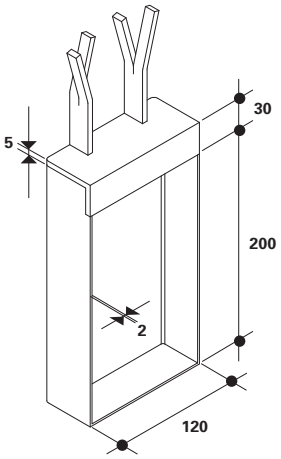
b) Bolts: use an anchor profile for metal structures. Tighten M16 bolts with a torque wrench (tightening torque: 100 Nm).

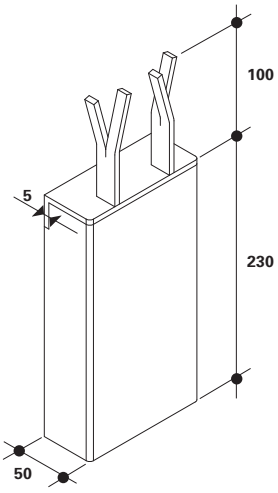
c) Welding, for metal structures or concrete elements with iron plates sunk into them.



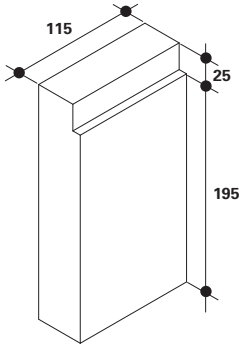
d) Wall plugs, for cast-in-place concrete elements.

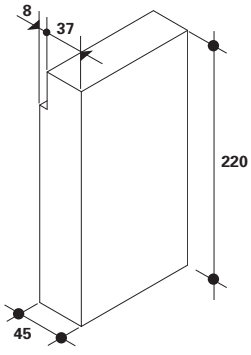
S.M.S. 1,5 ton Code 1005-1.5



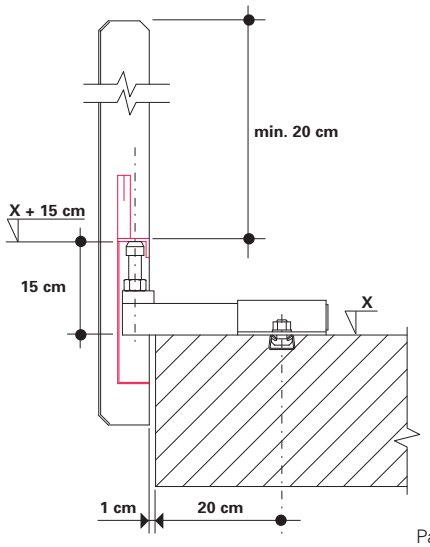


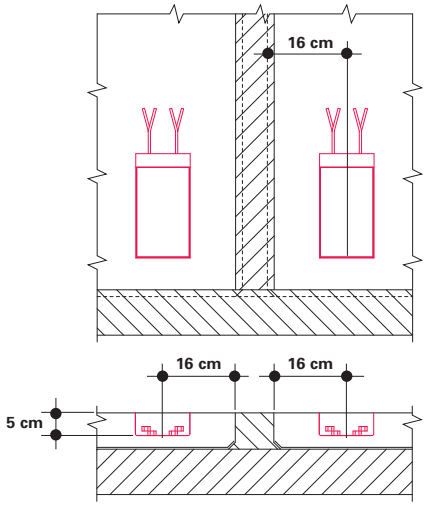
Disposable polystyrene form for 1.5 ton S.M.S. code 1103-00.P





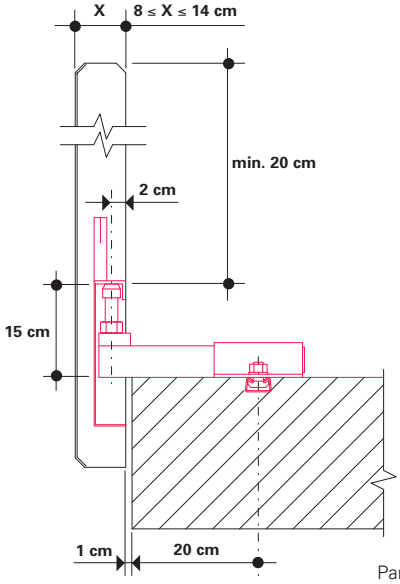
POSITIONING OF THE S.M.S. SCREW BOX FOR 1.5 TON M.S. BRACKET

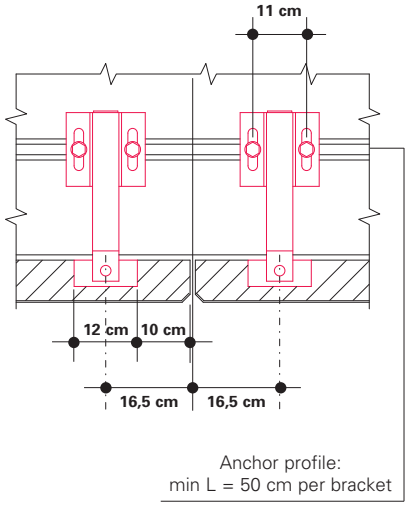




Panel Rck ≥ 350 Kg/cm²

POSITIONING OF THE 1,5 TON M.S. SYSTEM





Panel Rck ≥ 350 Kg/cm²

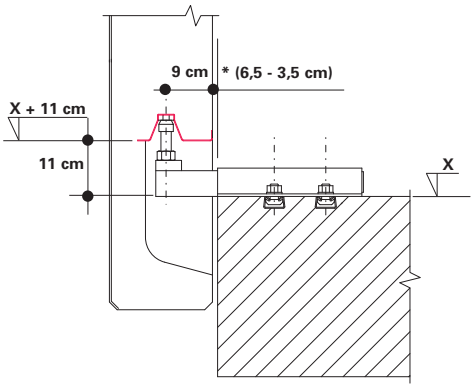
Distance A between the S.M.S. Screw Box and the end of the panel must never be less than 20 cm.

S.C., S.V.T. AND S.V.S. SCREW BOX FOR 2 ton M.S.

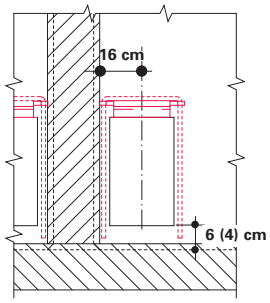
for panels 10 to 30 cm thick

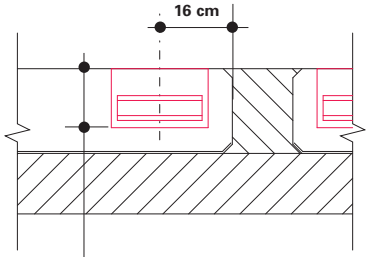
For details of the positioning of the polystyrene form and the shape, dimensions and stimps for the Screw Box, see:
5 ton S.V. page 25 - 5 ton S.V.T. page 28 - 5 ton S.V.S. page 31.

POSITIONING OF THE SCREW BOX



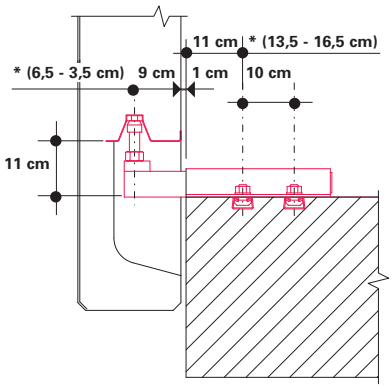
*= values for S.V.T. and S.V.S in brackets



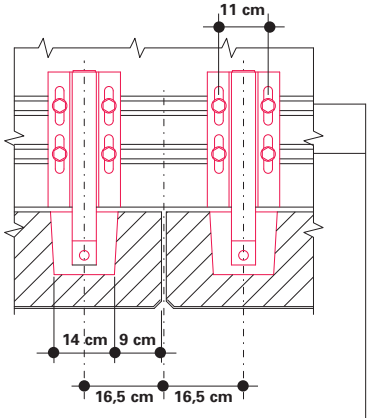


13 cm for S.V.
10 cm for S.V.T.
7 cm for S.V.S.

POSITIONING OF THE 2 TON M.S. SYSTEM



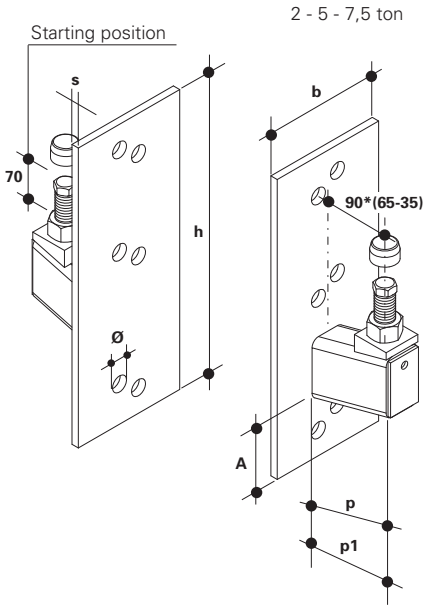
*= values for S.V.T. and S.V.S in brackets.



Anchor profile: min L = 50 cm per bracket

WELDED HERCULES M.E. BRACKET

Dimensions in mm



*= values for S.V.T. and S.V.S in brackets.

Codes	Bracket	h	b	s	Ø	p*	p1*	A
1050-2.0	M.E. welded 2 ton	350	140	8	20	121	117	80
1050-5.0	M.E. welded 5 ton	450	160	12	26	121	117	100
1050-7.5	M.E. welded 7,5 ton	450	160	12	26	122,2	118	80

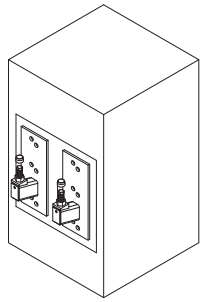
*p = inclined measure
*p1 = horizontal measure

N.B.: the 10 ton M.E. welded bracket is available previous B.S.Italia evaluation of use conditions.

FIXING THE WELDED M.E. BRACKET TO THE STRUCTURE

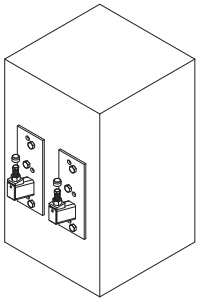
The Welded M.E. bracket can be fixed to the structure by wall plugs. The surface under the bracket must be perfectly flat: any unevenness must be levelled off .

Wall plugs

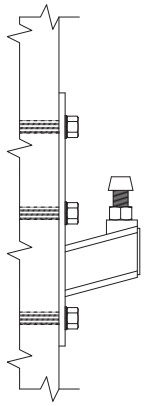


Weld the bracket to the structure along its four edges

Welded



Wall plugs



NB: B.S.Italia cannot be held liable for the use of bolts, wall plugs or welding.

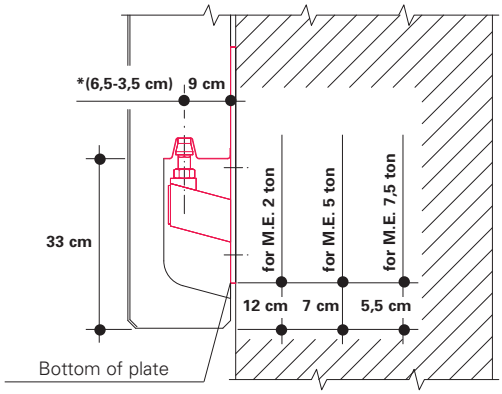
M.E. Welded 2 ton	• Concrete Rck ≥ 350 Kg/cm² • 3 wall plugs Hsl M12/25 • Hole diametre in the concrete = 18 mm to be cleaned carefully • Minimum edge distance = 200 mm* • Minimum concrete thickness = 300 mm • Tihtening torrque = 80 Nm • Use a torque wrench
M.E. Welded 5 ton	• Concrete Rck ≥ 350 Kg/cm² • 3 wall plugs Hsl M16/25 • Hole diametre in the concrete = 22 mm to be cleaned carefully • Minimum edge distance = 250 mm* • Minimum concrete thickness = 300 mm • Tihtening torrque = 120 Nm • Use a torque wrench
M.E. Welded 7,5 ton	• Concrete Rck ≥ 350 Kg/cm² • 3 threaded rods M24 tipo Has L = 290 mm with mastic Hilty Hit-hy 150 • Min anchor depth = 215 mm • Temperature > 6 °C • Tihtening torrque = 240 Nm • Use a torque wrench

* The minimum edge distance can be reduced in case of reinforced concrete(riduction to be evaluated by user)

For details of the positioning of the polystyrene form and the shape, dimensions, rebars and insertion tolerances for the Screw Box, see:
5 ton S.V. page 25
5 ton S.V.T. page 28
5 ton S.V.S. page 31

POSITIONING OF THE WELDED M.E. SYSTEM

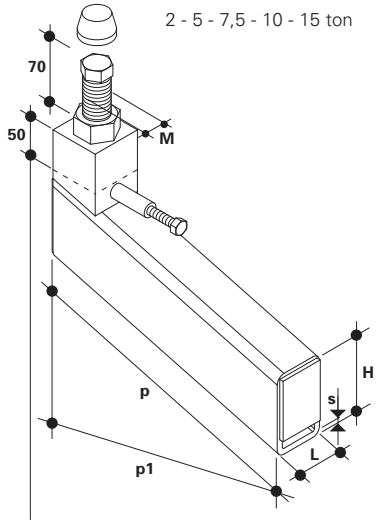
Positioning of the S.C., S.V.T. and S.V.S. Screw Boxes for the Welded M.E. system



*= values for S.V.T. and S.V.S in brackets.

RAISED HERCULES M.E. BRACKET

Dimensions in mm



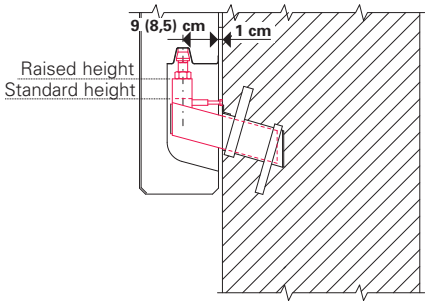
Size depends on specific user requirements

The Raised M.E. bracket can be used instead of the M.E. bracket if there are errors during production.

Code	Bracket	H	L	s	M	p*	p1*
1400-2.0	M.E. Raised 2 ton	50	50	5	20	275	265,6
1400-5.0	M.E. Raised 5 ton	80	50	8	24	275	265,6
1400-7.5	M.E. Raised 7,5 ton	100	80	8	33	306	295,6
1400-10.	M.E. Raised 10 ton	100	80	10	33	306	295,6
1400-15.	M.E. Raised 15 ton	140	80	10	36	324	313

*p = inclined measure
*p1 = horizontal measure

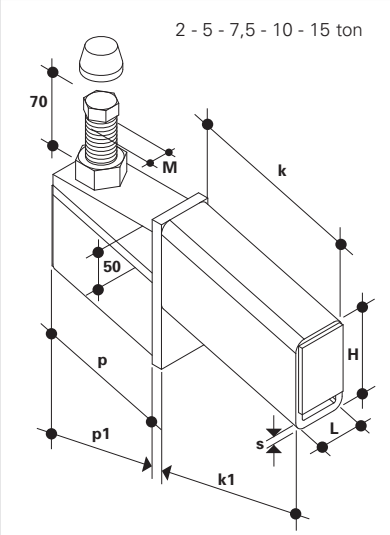
Difference between the standard height of M.E. bracket and the height of the Raised M.E.



N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

LOWERED HERCULES M.E. BRACKET

Dimensions in mm

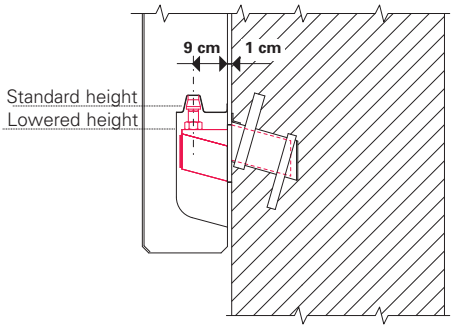


The Lowered M.E. bracket can be used instead of the M.E. bracket if there are errors during production.

Code	Bracket	H	L	s	M	p	p1	k	k1
1800-2.0	M.E. Lowered 2 ton	50	50	5	20	121	117	140	135,2
1800-5.0	M.E. Lowered 5 ton	80	50	8	24	121	117	140	135,2
1800-7.5	M.E. Lowered 7,5 ton	100	80	8	33	122,2	118	171	165,2
1800-10.	M.E. Lowered 10 ton	100	80	10	33	122,2	118	171	165,2
1800-15.	M.E. Lowered 15 ton	140	80	10	36	119	115	192	185,5

*p - *k = inclined measure
*p1 - *k1 = horizontal measure

Difference between the standard height of M.E. bracket and the height of the Lowered M.E

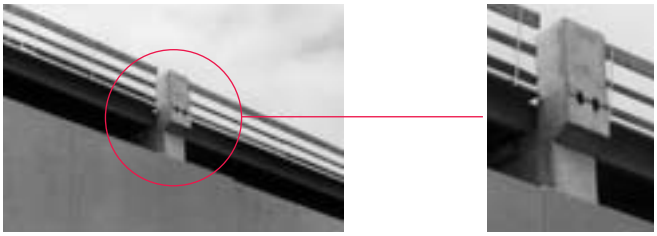


The lower section must adhere to the structure

N.B.: the measures between brackets refer to the 7,5 - 10 - 15 ton.

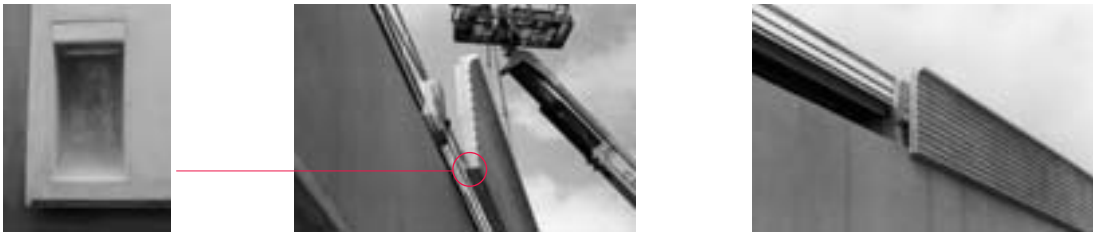
ASSEMBLY SEQUENCE

The HERCULES system is erected dry, quickly and accurately.



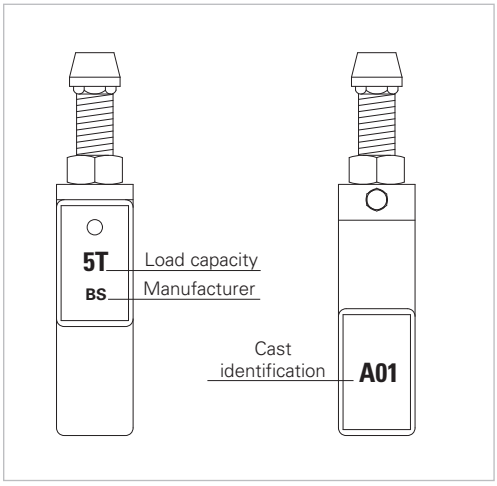
❶ Insertion of the Case Tube in the concrete for erection.

❷ Positioning and fine adjustment of the bracket.

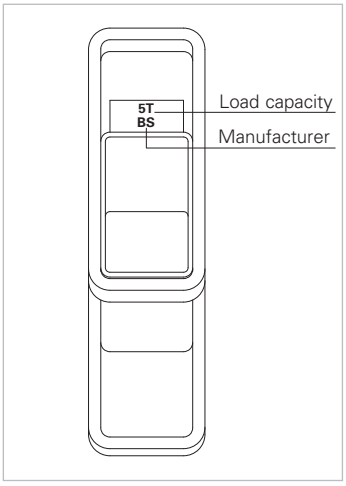


❸ Lifting and positioning of the panel: insertion of the HERCULES bracket in the cavity in the Screw Box.

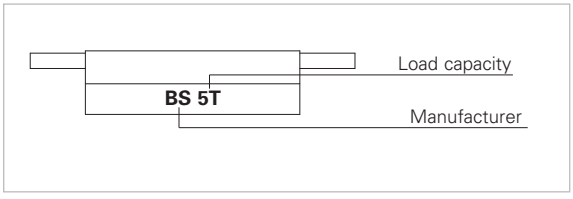
HERCULES bracket



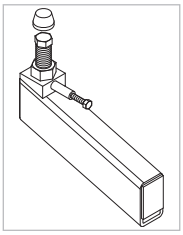
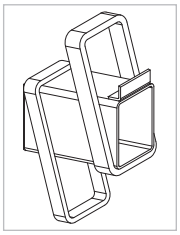
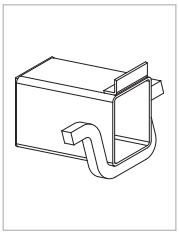
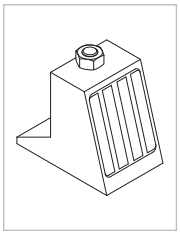
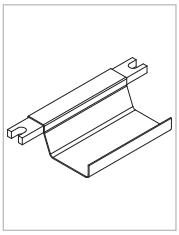
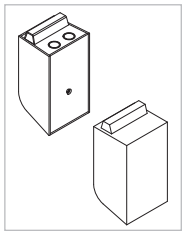
Case Tube



Box screw



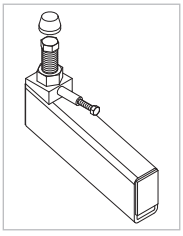
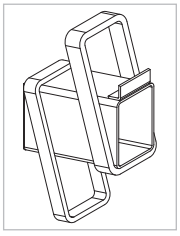
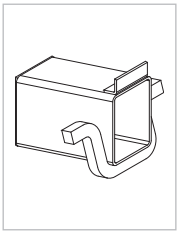
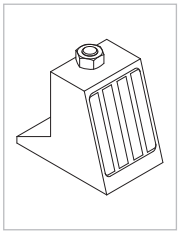
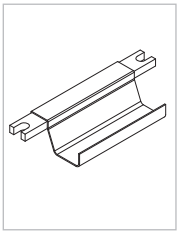
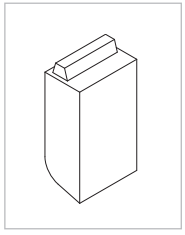
HERCULES M.E. system for panels 16 to 30 cm (V = metal, P = polystyrene)

M.E. bracket*	S.T. Case Tube*	Half-stirruped Case Tube*	Jolly magnet	S.V. Screw Box	Form for S.V. Screw Box
					

Ton	Codes	Ton	Codes	Ton	Codes	Codes	Ton	Codes	Codes
2	1000-2.0	2	1020-2.0	2	1001-2.0		5	1004-5.0F	1100-05.V and 1100-05.P
5	1000-5.0	5	1020-5.0	5	1001-5.0	1210-00.F			
7,5	1000-7.5	10	1020-10.	10	1001-10.		15	1004-15.F	1100-15.V and 1100-15.P
10	1000-10.								
15	1000-15.	15	1020-15.	15	1001-15.				

*Available black (N), painted (V) or hot galvanised (C)

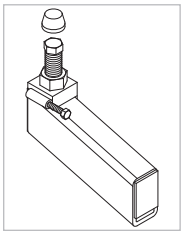
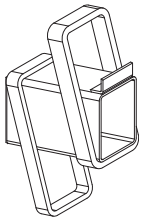
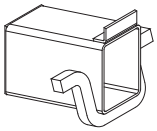
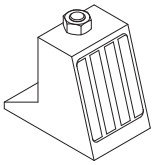
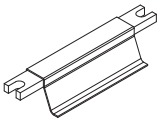
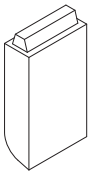
HERCULES M.E.T. system for panels 14 to 16 cm

M.E.T. bracket*	S.T. Case Tube*	Half-stirruped S.T. Case Tube*	Jolly magnet	S.V.T. Screw Box*	Form for S.V.T. Screw Box
					

Ton	Codes	Ton	Codes	Ton	Codes	Codes	Ton	Codes	Codes
2	1300-2.0	2	1020-2.0	2	1001-2.0		5	1302-5.0F	1101-05.P
5	1300-5.0	5	1020-5.0	5	1001-5.0	1210-00.F			
7,5	1300-7.5	10	1020-10.	10	1001-10.		15	1302-15.F	1101-15.P
10	1300-10.								
15	1300-15.	15	1020-15.	15	1001-15.				

*Available black (N), painted (V) or hot galvanised (C)

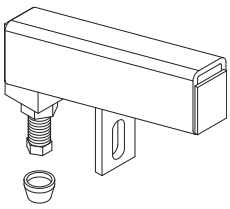
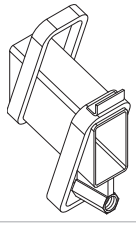
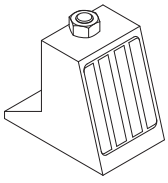
HERCULES M.E.S. system for panels 10 to 14 cm

M.E.S. bracket*	S.T. Case Tube*	Half-stirruped S.T. Case Tube*	Jolly magnet	S.V.S. Screw Box	Form for S.V.S. Screw Box
					

Ton	Codes	Ton	Codes	Ton	Codes	Codes	Ton	Codes	Codes
2	1200-2.0	2	1020-2.0	2	1001-2.0		5	1202-5.0F	1102-05.P
5	1200-5.0	5	1020-5.0	5	1001-5.0	1210-00.F			

*Available black (N), painted (V) or hot galvanised (C)

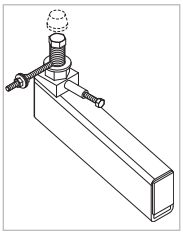
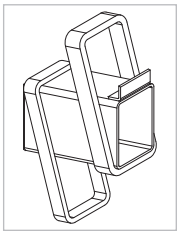
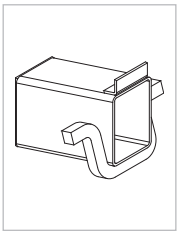
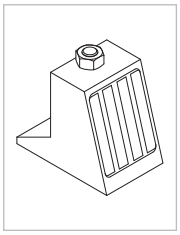
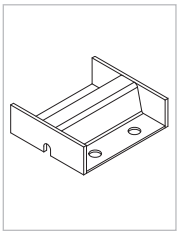
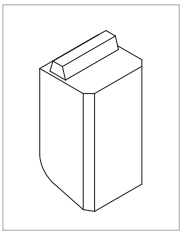
Upturned HERCULES M.E. system

Upturned M.E. bracket*	Upturned S.T. Case Tube*	Jolly magnet
		

Ton	Codes	Ton	Codes	Codes
2	1900-2.0	2	1901-2.0	
5	1900-5.0	5	1901-5.0	1210-00.F
7,5	1900-7.5	10	1901-7.5	

*Available black (N), painted (V) or hot galvanised (C) on request

HERCULES M.E. system for S.V.O.

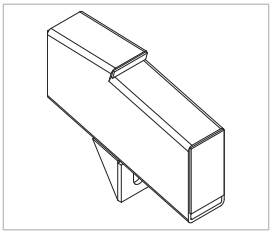
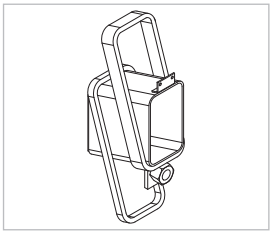
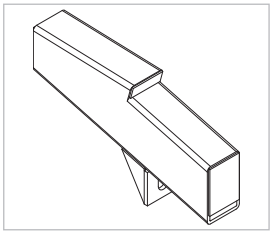
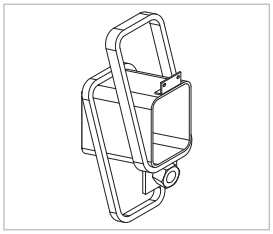
M.E. for S.V.O. bracket*	S.T. Case Tube*	Half-stirruped S.T. Case Tube*	Jolly magnet	S.V.O. Screw Box *	Form for S.V.O. Screw Box
					

Ton	Codes	Ton	Codes	Ton	Codes	Codes	Ton	Codes	Codes
2	1700-2.0	2	1020-2.0	2	1001-2.0		5	1702-5.0 ❶	1105-05.P ❶
5	1700-5.0	5	1020-5.0	5	1001-5.0	1210-00.F		1705-5.0 ❷	1104-05.P ❷
7,5	1700-7.5	10	1020-10.	10	1001-10.		15	1702-15. ❶	1105-15.P ❶
10	1700-10.							1705-15. ❷	1104-15.P ❷
15	1700-15.	15	1020-15.	15	1001-15.				

*Available black (N), painted (V) or hot galvanised (C) on request

❶ L = 120 mm for panels < 16 cm thick
❷ L = 140 mm for panels > 16 cm thick

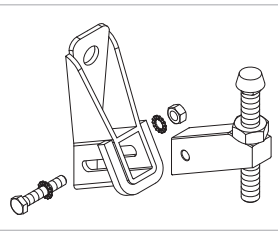
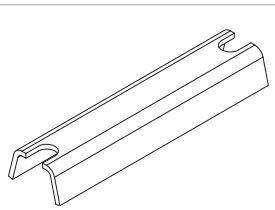
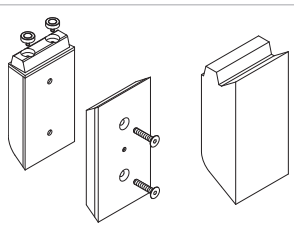
HERCULES M.T. and M.T.C. system

M.T. bracket	S.T.T. for M.T. Case Tube	M.T.C. bracket	S.T.C. for M.T.C. Case Tube
			

Ton	Codes	Ton	Codes	Ton	Codes	Ton	Codes
10	1500-10.	10	1501-10.	5	1600-5.0	5	1601-5.0
15	1500-15.	15	1501-15.	10	1600-10.	10	1601-10.
20	1500-20.	20	1501-20.	15	1600-15.	15	1601-15.

*Available black (N), painted (V) or hot galvanised (C) on request

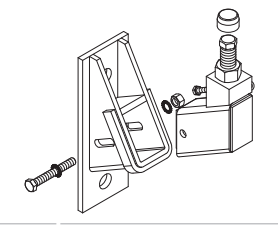
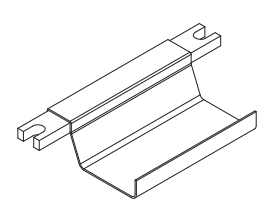
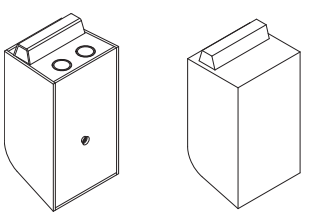
Ercolina system

Ercolina bracket*	S.V. Screw Box	Form for S.V. Screw Box
		

Ton	Codes	Ton	Codes	Codes
0,5	1000-0.5E	**1**	1004-1.0F	1100-1.5EP (standard form) 1100-1.5.EP1 (form with spacer)
1	1000-1.0E			
1,5	1000-1.5E	**1,5**	1004-1.5F	

*Available black (N), cold galvanised (F) and stainless steel (I) on request

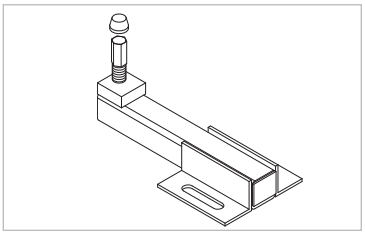
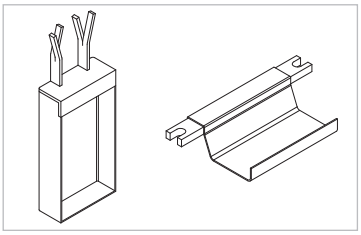
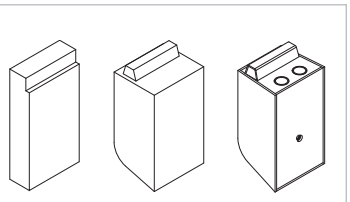
M.E.E. system

M.E.E. bracket	S.V. Screw Box	Form for S.V. Screw Box
		

Ton	Codes	Ton	Codes	Codes
5	1000-5.E (welded or bolted) 1000-5.ET (wall plugs)	**5**	1004-5.0F	1100-05.EV and 1100-05.EP
10	1000-10.E (welded or bolted) 1000-10.ET (wall plugs)	**15**	1004-15.F	1100-15.EV and 1100-15.EP

*Available black (N), painted (V) or hot galvanised (C) on request

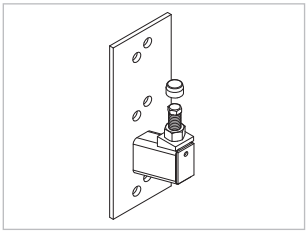
M.S. slab system

M.S. bracket*	S.M.S* S.V.-S.V.T.-S.V.S Screw Box	S.M.S S.V.-S.V.T.-S.V.S Form for Screw Box
		

Ton	Codes	Ton	Codes	Codes
1,5	1010-1.5	1,5	S.M.S. 1005-1.5F	1103-00.P
2	1010-2.0	5	S.V. 1004-5.0F	1100-05.V and 1100-05.P
			S.V.T. 1302-5.0F	1101-05.P
			S.V.S. 1202-5.0F	1102-05.P

*Available black (N), painted (V) or hot galvanised (C) on request

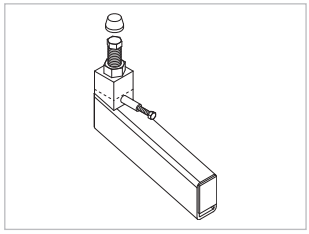
Welded M.E. bracket

Welded M.E. bracket*


Ton	Codes
2	1050-2.0
5	1050-5.0
7,5	1050-7.5

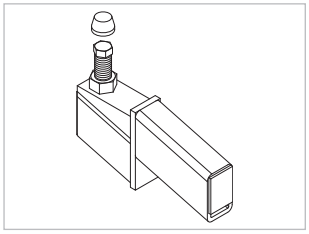
B.S.Italia cam supply the Welded M.E. bracket upon request after carefully consideration of the conditions of use.

Raised M.E. bracket
(to correct errors with M.E.)

Raised M.E. bracket*


Ton	Codes
2	1400-2.0
5	1400-5.0
7,5	1400-7.5
10	1400-10.
15	1400-15.

Lowered M.E. bracket
(to correct errors with M.E.)

Lowered M.E. bracket*


Ton	Codes
2	1800-2.0
5	1800-5.0
7,5	1800-7.5
10	1800-10.
15	1800-15.

*Available black (N), painted (V) or hot galvanised (C)

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