Clamps for Thyristor and Diode
Press Pack Assemblies
CLAMPS M-TYPE

CLAMP WITH SPRING WASHERS

- Insulation through grommets
- Pressure from 300 to 4500 daN
- Clamped thickness from 10 to 300 mm
- Dielectric strength:
  - 2500 V with single insulation
  - 6000 V with double insulation
- Large range with various fixing centres
  78.6 – 102 - 118 – 140 – 180
  other : consult us

Our technology:

- A regular pressure: a ball inserted under the multiaxial clamp enables to apply a regular force according to the axis of the component.
- A precise clamping: a test washer is released when the force is reached.
- The variation of the force applied to the component and due to the thermic expansion, is controlled by stacking elastics elements like spring washers.
- The standard clamps are defined for a variation of the force of 10% maximum, when correctly used on a power stack.
CASE

CLAMP : TYPE M
INSULATION THROUGH GROMMETS

Nominal clamping force of 4500 daN

Dimensions:
A – Fixing centre
B – Clamped thickness
CM – Maximum breadth of the head
D – Over all length
E – Maximum height of the head
F – Ø of straps
FM – Ø of grommets
FC – Ø insulating tubes
H – Back plate height
I – Back plate breadth

Description:
1 – Autoblocking nut
2 – Test washer (2)
3 – Cotter for test washer positioning
4 – Clamp
5 – Spring washers
6 – Ball link
7 – Strap
8 – Back plate
10 – Grommets

(1) : Standard grommets made of polyamide resin and reinforced with glass fibre
(2) : Test washers by stages is replaceable by a round test washer
## DIMENSIONS

<table>
<thead>
<tr>
<th>max. ø component mm</th>
<th>Nominal clamping force daN</th>
<th>A mm</th>
<th>B mm</th>
<th>CM mm</th>
<th>D mm</th>
<th>E mm</th>
<th>F mm</th>
<th>FM mm</th>
<th>G mm</th>
<th>H mm</th>
<th>I mm</th>
<th>J mm</th>
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</thead>
<tbody>
<tr>
<td>40 – 42</td>
<td>300 à 1500</td>
<td>78,6</td>
<td>25</td>
<td>110</td>
<td>8</td>
<td>11,1</td>
<td>25</td>
<td>15</td>
<td>25</td>
<td>50</td>
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</tr>
<tr>
<td>57 – 60</td>
<td>700 à 2200</td>
<td>102</td>
<td>25</td>
<td>135</td>
<td>8</td>
<td>11,1</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>50</td>
<td></td>
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</tr>
<tr>
<td>74 – 76</td>
<td>1500 à 2600</td>
<td>118</td>
<td>40</td>
<td>145</td>
<td>10</td>
<td>14,1</td>
<td>40</td>
<td>25</td>
<td>25</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>74 – 76</td>
<td>2500 à 3500</td>
<td></td>
<td></td>
<td>10 à 300 mm</td>
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<td></td>
<td>10</td>
<td>14,1</td>
<td>40</td>
<td>25</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>102 - 110</td>
<td>2500 à 4500</td>
<td>140</td>
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<td>180</td>
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<td>14,1</td>
<td>40</td>
<td>25</td>
<td>40</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120 - 150</td>
<td>4000 à 6000</td>
<td>180</td>
<td>60*</td>
<td>225</td>
<td>12</td>
<td>16,1*</td>
<td>60</td>
<td>30</td>
<td>40</td>
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</tbody>
</table>

* : Values given for a nominal clamping force of 4500 daN

## INSULATION CHARACTERISTICS

<table>
<thead>
<tr>
<th>Mains voltage</th>
<th>Insulation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1000 V</td>
<td>single</td>
<td>steel straps</td>
</tr>
<tr>
<td>1000 V – 1500 V</td>
<td>double</td>
<td>steel straps + tubes of thickness 1 mm + insulating washer under the barrel</td>
</tr>
</tbody>
</table>
CLAMPS FOR THYRISTOR AND DIODE
PRESS PACK ASSEMBLIES

CLAMPS S-TYPE
CLAMP WITH SPRING WASHERS

✓ Insulation through grommets
✓ Pressure from 300 to 4500 daN
✓ Clamped thickness from 10 to 300 mm
✓ Dielectric strength :
  - 4500 V with single insulation
  - 6000 V with double insulation
✓ Large range with various fixing centres
  78.6 – 102 – 118 – 140 – 180
  other : consult us

Our technology :
✓ A regular pressure: a ball inserted under the multiaxial clamp enables to apply a regular force according to the axis of the component.
✓ A precise clamping : a test washer is released when the force is reached.
✓ The variation of the force applied to the component and due to the thermic expansion, is controlled by stacking elastics elements like spring washers.
✓ The standard clamps are defined for a variation of the force of 10% maximum, when correctly used on a power stack.
Case

Clamp: Type S
Insulation through grommets

Nominal clamping force of 4500 daN

Dimensions:
- A: Fixing centre
- B: Clamped thickness
- CS: Maximum breadth of the head
- D: Over all length
- E: Maximum height of the head
- F: ø of straps
- FS: ø of grommets
- FC: ø of support
- H: Length of thread of straps

Description:
1. Autoblocking nut
2. Test washer (2)
3. Cotter for test washer positioning
4. Clamp
5. Spring washers
6. Ball link
7. Strap
8. Grommets (1)

(3): Standard grommets made of polyamide resin and reinforced with glass fibre
(4): Test washers by stages is replaceable by a round test washer
### DIMENSIONS

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<thead>
<tr>
<th>max. ø component mm</th>
<th>Nominal clamping force daN</th>
<th>A mm</th>
<th>B mm</th>
<th>CS mm</th>
<th>D mm</th>
<th>E mm</th>
<th>F mm</th>
<th>FS mm</th>
<th>G mm</th>
<th>H mm</th>
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<td>300 à 1500</td>
<td>78.6</td>
<td>25</td>
<td>110</td>
<td>8</td>
<td>11.1</td>
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</tr>
<tr>
<td>57 – 60 74 – 76</td>
<td>700 à 2200 1500 à 2300</td>
<td>102</td>
<td>25</td>
<td>135</td>
<td>8</td>
<td>11.1</td>
<td>25</td>
<td>10</td>
<td></td>
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<tr>
<td>74 – 76 102</td>
<td>1500 à 2600 2500 à 3500</td>
<td>118</td>
<td>40</td>
<td>145</td>
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<td>120 - 150</td>
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* : Values given for a nominal clamping force of 4500 daN

### INSULATION CHARACTERISTICS

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<tr>
<td>&lt; 1000 V</td>
<td>single</td>
<td>Barrels</td>
</tr>
<tr>
<td>1000 V – 1500 V</td>
<td>double</td>
<td>barrel + insulating tubes of thickness 1 mm + insulating washer under the barrel</td>
</tr>
</tbody>
</table>
CLAMPS W-TYPE
CLAMP WITH SPRING WASHERS

- Insulation by epoxy layers
- Pressure from 300 to 4500 daN
- Clamped thickness from 10 to 300 mm
- Dielectric strength:
  - 4000 V with single insulation
  - 6000 V with double insulation
- Large range with various fixing centres
  - 78.6 – 102 - 118 – 140 – 180
  - other : consult us

Our technology:

- A regular pressure: a ball inserted under the multiaxial clamp enables to apply a regular force according to the axis of the component.
- A precise clamping: a test washer is released when the force is reached.
- The variation of the force applied to the component and due to the thermic expansion, is controlled by stacking elastics elements like spring washers.
- The standard clamps are defined for a variation of the force of 10% maximum, when correctly used on a power stack.
CASE

**CLAMP : TYPE W : EPOXY COAT**
INSULATION ON THE BACK PLATE SIDE

Max. nominal clamping force of 4500 daN

Dimensions:
- A – Fixing centres
- B – Clamped thickness
- CW – Maximum breadth of the head
- D – Overall length
- E – Maximum height of the head
- FW – ø of coated straps
- G – ø of grommets
- HW – Back plate height
- IW – Back plate breadth

Description:
1 – Autoblocking nut
2 – Test washer (1)
3 – Cotter for test washer positioning
4 – Clamp
5 – Spring washers
6 – Ball link
7 – Strap
8 – Back plate
9 – Epoxy coat

(5) : Test washers by stages is replaceable by a round test washer
### DIMENSIONS

<table>
<thead>
<tr>
<th>max. Ø component mm</th>
<th>Nominal clamping force daN</th>
<th>A mm</th>
<th>B mm</th>
<th>CW mm</th>
<th>D mm</th>
<th>E mm</th>
<th>FW mm</th>
<th>G mm</th>
<th>HW mm</th>
<th>IW mm</th>
<th>J mm</th>
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<td>110</td>
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<td>10,5</td>
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<td>27,5</td>
<td>50</td>
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<td>57 – 60</td>
<td>700 à 2200</td>
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<td>26</td>
<td>135</td>
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<td></td>
<td>10,5</td>
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<td>23</td>
<td>27,5</td>
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<tr>
<td>102</td>
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<tr>
<td>&lt; 500 V</td>
<td>single</td>
<td>epoxy coated steel straps</td>
</tr>
<tr>
<td>1000 V – 1500 V</td>
<td>double</td>
<td>epoxy coated steel straps + back plate of thickness 5 mm + insulating tubes of thickness 1 mm</td>
</tr>
</tbody>
</table>
CODIFICATION

<table>
<thead>
<tr>
<th>Clamp</th>
<th>78,6</th>
<th>5</th>
<th>56</th>
<th>25</th>
<th>R.T.E. Ø</th>
</tr>
</thead>
</table>

Type of clamp
Fixing centre
Force in kN
Clamped thickness in mm
Ø of contact the heatsink

Description test washer:
R.T.R = round
R.T.E = stage layer
CAUTION:
ADELSER reserves the right to make modifications to its technical data and product specifications at any time without prior notice.
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For more information:

ADELSER, INC
2200 Gateway Centre Blvd
Suite 213
Morrisville, NC 27560

☎ +1 (919) 481-6895
Fax: +1 (919) 481-6910
Email: info@adelser.com

NOTES