

TECHNICAL DATA SHEET

DS 051

NON CONTROLLED UNLESS STATED OTHERWISE

PAGE	1 of 3
ISSUE	7
DATE	17 May 2019
APPROVED	A.N.M

TITLE.	Installation instructions for Combined Spring and Damper Units type CSD/3 and Damper Units type D/3.
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Client: Thomas Broadbent Ltd
Machine Type: ACT 60 - 100

1. The isolators should be examined to ensure they are of the correct size and type, if appropriate, the positions for different sizes/ types should be located in accordance with our recommendations or drawings. Before installation the clearance of the outer wall and the inner vessel and the inner wall of the outer casing should be checked and if found to be less than 8mm at any point, the details should be reported to Christie and Grey who will advise whether corrective action is required.
2. Either bolt the type CSD/3 isolators to the underside of the machine base or position them upon the prepared seating before lowering the machine into position. (Do not install the type D/3 Damper Units at this stage). If the surface is concrete, this must be floated level over the area of installation, with surface imperfections not greater than 3 mm (1/8") where isolator/damper base plates are positioned. Alternatively, steel soleplates can be used with a resin grout to level, as detailed in Figure 4.
3. Jacks or bolts should be used to support the machine in a level state with a small clearance above or below each type CSD/3 isolator. The base plates of the units should be level to +/-1mm on the long axis and +/- 0.75mm on the short axis. The clearances must be measured and if they vary by more than 1mm, then steel or other rigid packing pieces should be fitted before transferring the machine weight onto the isolators. These packing pieces may be fitted above or below the isolators and should be of adequate size.
4. The CSD hold down bolts can then be secured, these bolts should be either 'cement in socket's or 'four way expansion bolt' type. The installation of hold down bolts must not strain the isolators in any direction. The isolators are not designed to accommodate angular misalignment or variations in level.
5. The machine at this stage will be supported on 4 No. Type CSD/3 isolators, in its static/empty condition, with the isolators deflecting down to an overall average height of 315mm. Damper units type D/3 must now be installed in accordance with the following procedure.
6. Position the D3 Damper Units beneath the machine baseframe, do not remove the transit brackets at this stage. If the isolators have deflected correctly in accordance with our calculations there should be a gap of approximately 6mm plus any shims added, between the Damper top and underside of machine frame (See Figure 1).

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Figure 1

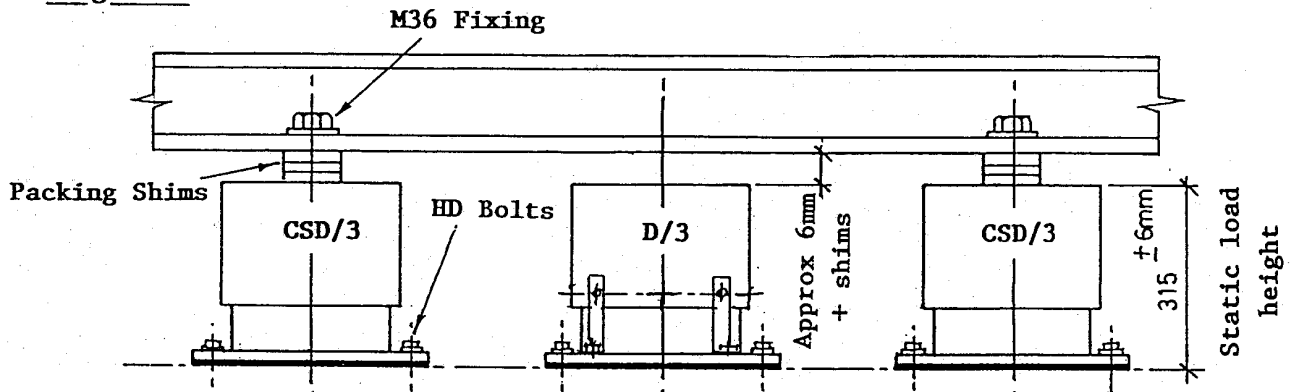


Figure 2

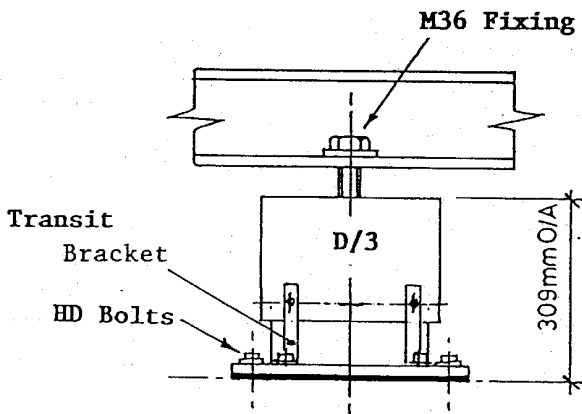


Figure 3

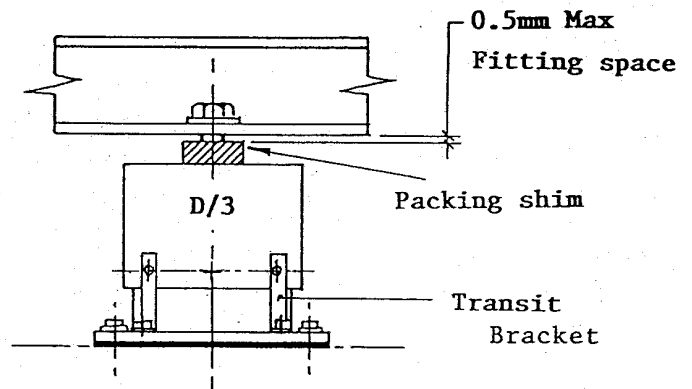
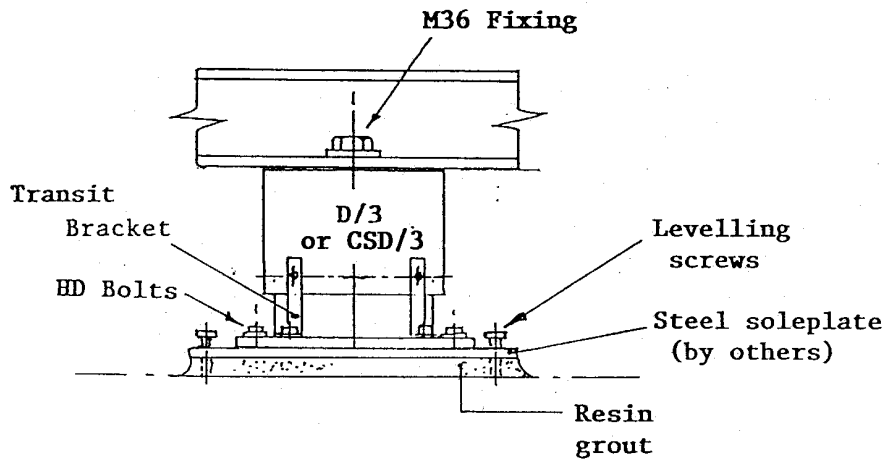


Figure 4



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7. Locate M36 fixing bolt through frame into Damper top cover. This will ensure alignment of damp-er piston is maintained during installation (See Figure 2) and then secure damper hold down bolts (cement in socket or expansion type not Ragbolts).
8. Steel or other rigid packing pieces should now be fitted between Damper top and underside of machine frame. Slotted versions are recommended to avoid removal of the M36 fixing bolt.
9. Once suitable packing has been sized and installed with a fitting space of less than 0.5mm, the Damper transit brackets must then be removed and the M36 top fixing bolt fully tightened, ensuring the Damper top cover does not rotate (See Figure 3).
10. If there is a variation in the calculated machine static load the corresponding deflected CSD overall height and installation gap for the Damper type D/3 will vary.
- i) CSD isolators deflecting more than an overall average height of 309mm (not including any shims) will require further packing, in accordance with instructions 2 and 3 to enable the installation of the Damper type D/3 units.
- ii) CSD isolators deflecting more than an overall average height of 303mm (not including any shims) would indicate a large increase in the static load of the machine, and we would recommend further investigation and that our Applications Department be consulted before further work or machine operation is carried out.
- iii) CSD isolators deflecting less than an overall average height of 321 mm (not including any shims) would indicate a light static machine load and again we would recommend further investigations as per above.
11. Once the machine has been installed correctly in accordance with the above instructions to meet the static load conditions - loading and operating can commence.
- Overall average height (not including any shims) of CSD/3 isolators under loaded machine condition (10800kg) = 301mm.
12. It is recommended that all isolator/damper fixing and HD bolts be tightened to their correct torque values.
13. The D/3 damper transit brackets must be removed once the units have been installed in order that the system can operate correctly.



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