

AW10 BARREL DRIVE AUTOWIND UNIT

Turret clock conversion to automatic winding

UK patent 2290155 and patent applications 0517104.6 & 0426345.5

THE EXPERT SOLUTION

The AW10 is the latest development of a product that has been manufactured by Smith of Derby for over 100 years. It applies electrically wound weight power to the main barrel, thus replicating the original weight power source and ensuring regular speed of striking and chiming.

This patented system eliminates the hard work of regular hand winding of tower clocks. It is safe, reliable and fully heritage compliant. It uses new weights which are lighter than the originals thus helping to preserve the mechanics of your tower clock mechanism. By eliminating the need to wind the heavy weights, it also helps to preserve the clock custodian.

BENEFITS SUMMARY

Eliminates the need for regular hand winding, giving time and cost savings.

Addresses the health and safety issues of access and heavy winding weights.

Reduces driving weight requirement.

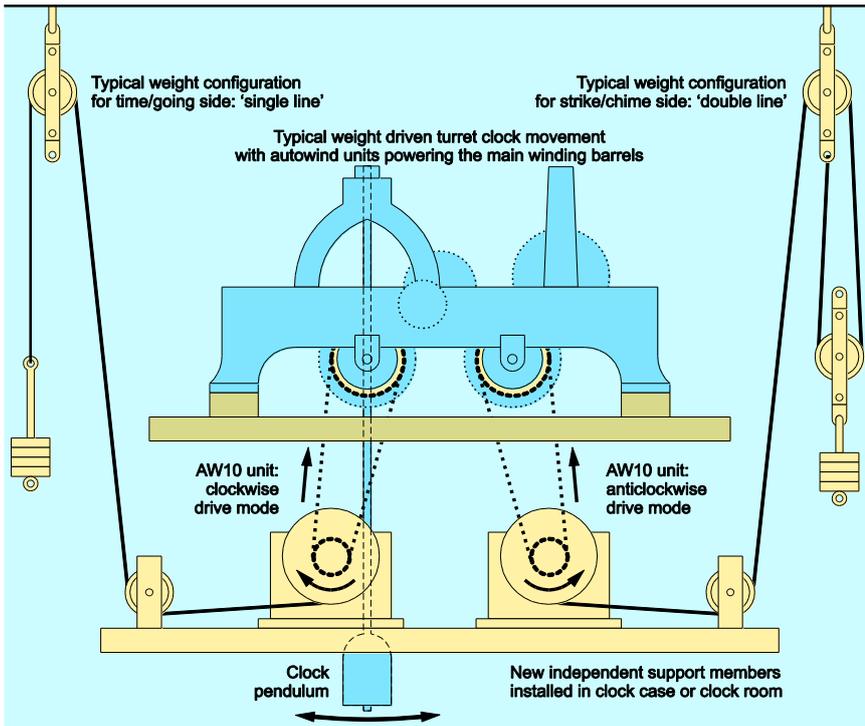
Significantly reduces weightfall height requirement.

Low voltage, fail safe system

Operates through power failures

Conservation approved

Patented



HOW THE SYSTEM WORKS

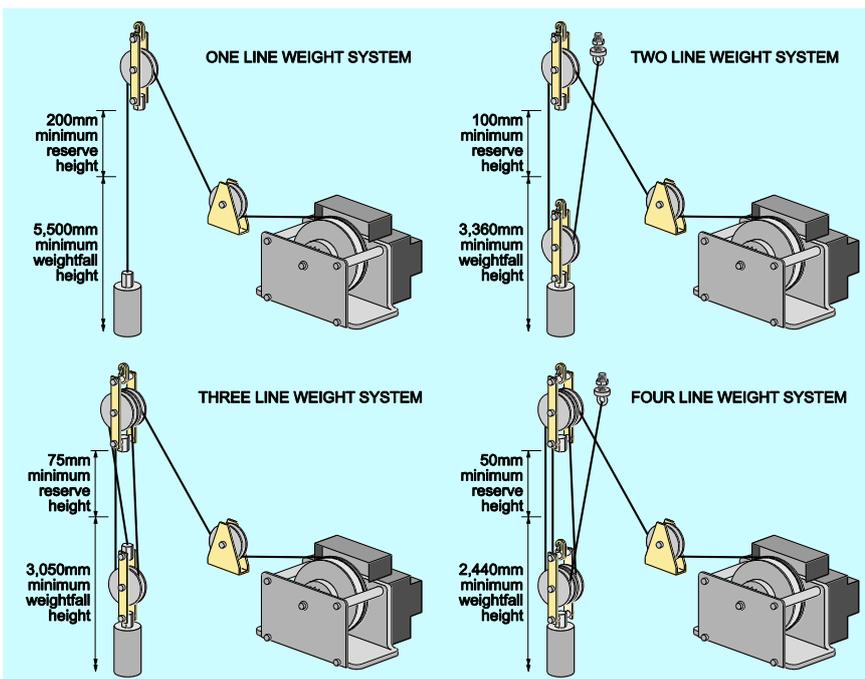
Each separate train of the clock, eg timekeeping or hour striking has an AW10 Autowind Unit linked to the barrel in place of the original weight and weight line. A sprocket fitted to the barrel is turned via a chain link from the AW10, which has its own barrel and weight which it re-winds as often as required to keep the clock ticking and the bells chiming.



BATTERY POWER UNIT

A power/battery pack cabinet feeds current at a safe 24V to each AW10 unit. When the AW10 weight has fallen by a pre-set distance, a microswitch triggers the motor which rewinds the weight through epicyclic gears, so maintaining constant power to the clock. Double safety switches guard against overwinding.

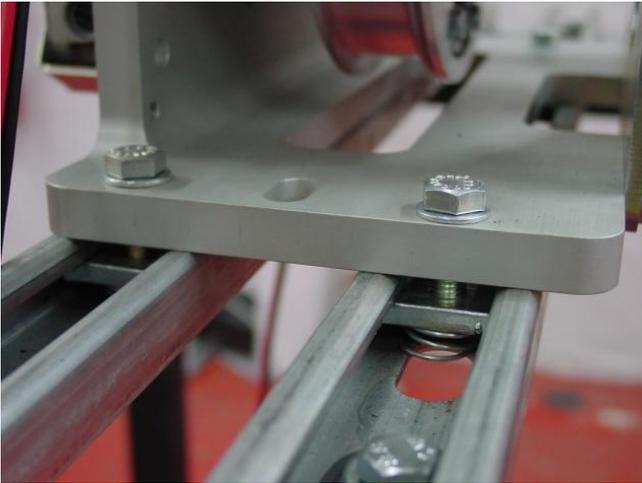
As the power is supplied through a battery, there is sufficient reserve to keep the AW10s operating and the clock going through a power failure. If the mains power supply is interrupted for a lengthy period the system will eventually stop to preserve the battery and the weights will come to rest safely on the floor.



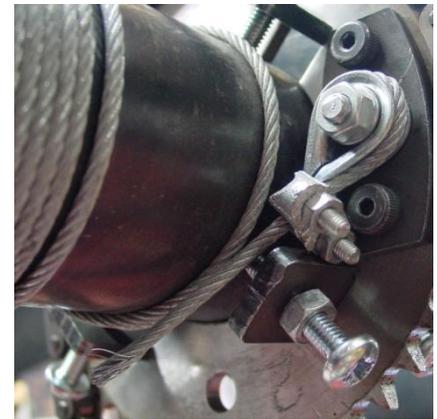
HOW THE SYSTEM FITS IN AN EXISTING CLOCK TOWER

Each AW10 unit has its own weight and weight line, which can often utilise the original pulleys in the clock room.

As the AW10 units are electrically powered, they wind the clock frequently, so eliminating the need for the long weightfall height often required in church and clock towers. Heavy and potentially hazardous weights can therefore be set aside and stored safely.

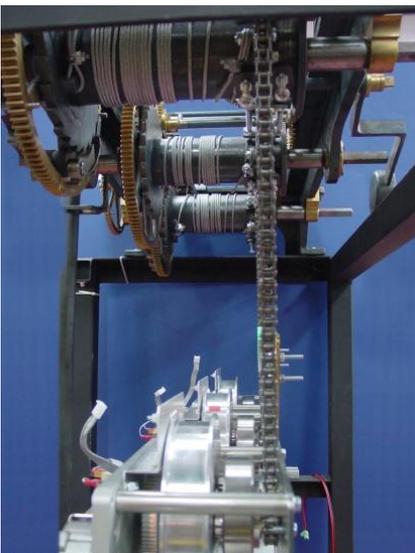


The AW10 units are installed on a separate frame which can be located above or below the clock mechanism. The split barrel sprockets have a special method of clamping to the clock barrel.



The securing pads and clamps require no holes to be drilled, and a new cable is incorporated and tensioned to stabilise the sprocket and prevent slippage.

The historical integrity of your clock is therefore not compromised in any way. This system is so heritage compliant that your clock could be converted back to its exact manual winding condition.



HERITAGE COMPLIANCE

We work in consultation with clock conservation bodies such as the Council for the Care of Churches and Diocesan Clock Advisors. Resulting from this partnership is a system which is fully heritage compliant, and will keep your clock going for many years, just like the systems we have fitted to landmark clocks in the UK including Horse Guards, Westminster Abbey, Windsor Castle, St Pauls Cathedral, Lincoln's Inn, Chester Eastgate as well as many parish churches, stations, town halls and cathedrals.

INSTALLATION

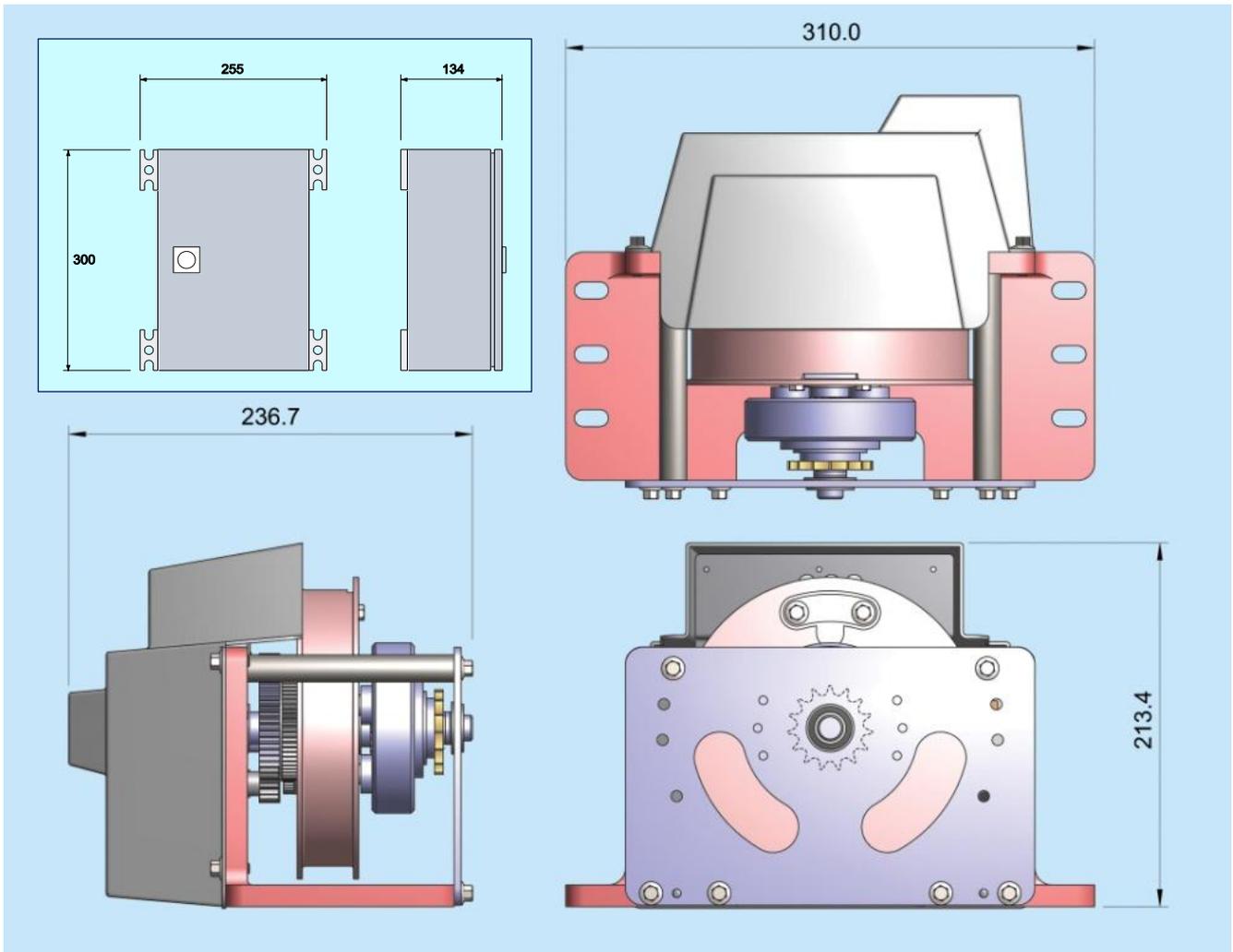
AW10 autowind units are suitable for virtually any tower clock mechanism and are individually adjusted for the differing requirements of timekeeping and chiming drive trains. Each unit includes a full fitting kit and an installation manual. We strongly recommend that installation is done by our specialist clockmaker engineer team.

CARE AND MAINTENANCE

All weight driven clocks are subject to slight timekeeping variations due to temperature and humidity fluctuations and the pressure of wind on external hands. Timekeeping of your clock will still require regulation and summer/winter alterations just as it did before autowinding was fitted. However this can also be automated with the Smith of Derby Pendulum Regulator and Pendulum Arrester units. Please contact us for details.

Regular servicing of the AW10 units should be carried out for which we provide an annual service contract.

DIMENSIONS



Above: AW10 autowind unit overall dimensions

Maximum weight capacity, single line, on AW10 barrel: 80kg

Weight of unit: 9.8kg

Above (inset): AW10 power/battery pack cabinet overall dimensions

Power supply: 230V AC fused at 5-A

Weight: 8.2kg

GUARANTEE

12 months warranty against failure through faulty workmanship or materials.

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AWU data 0711