

Gear Solutions: Transit Escalators



→ Transportation

Gear Solutions: Transit Escalators



Traditional drive incorporating flange-mounted motor including coupling and cooling fan.

Traditional Escalator Drives are a Reliable Solution for Safety-critical, Heavy-traffic Locations

Traditional baseplate escalator drive packages, designed to our customers' exact specifications are relied on by transit authorities worldwide to provide efficient, safe and reliable performance at heavy-duty locations such as London Underground, Washington Metro and New York Subway.

As the leading supplier of heavy-duty escalator drive packages Renold Gears' experienced application engineers work closely with escalator manufacturers, end users and transit authorities to provide bespoke solutions and the optimum design for each application.

We can design and manufacture drive packages for new installations, or alternatively we can design drop-in replacements for other manufacturers' products on modernisation projects, even if the old drive is obsolete and no longer supported. When replacing old drives we provide a complete service and full customer support that includes a site survey to determine the critical dimensions of the old drive, including the baseplate, the shaft height and the space envelope into which the unit fits.

The new drive package is fully load tested before it leaves the factory, in accordance with the transit authority's specifications, and our engineers can be present to assist with installation and commissioning of the new drive to ensure the whole process runs smoothly, and on time. We even provide training for our customers' engineers to ensure the new drive package is maintained correctly to provide optimum performance and maximum service life.

With over 50 years' experience of providing escalator drive packages Renold Gears' range of solutions also includes compact drives, direct drives, double drives and replacement drives for obsolete designs, which involves re-engineering from sample parts or customer's drawings.



Renold escalator drives ensure efficient people flow.



Drop-in replacements for other manufacturers' products on modernisation projects.

Inside:

Innovative Escalator Drives 3-4

Direct Drives 5



Traditional drive installation at London Underground.

Benefits at a Glance

- Compact design reduces weight and height by 50%
- Designed for low maintenance
- Single and double brake option together with encoder and remote monitoring ports
- Complies with LUL, APTA and NYCTA transit escalator drive specification
- Gearing combination provides low noise and vibration

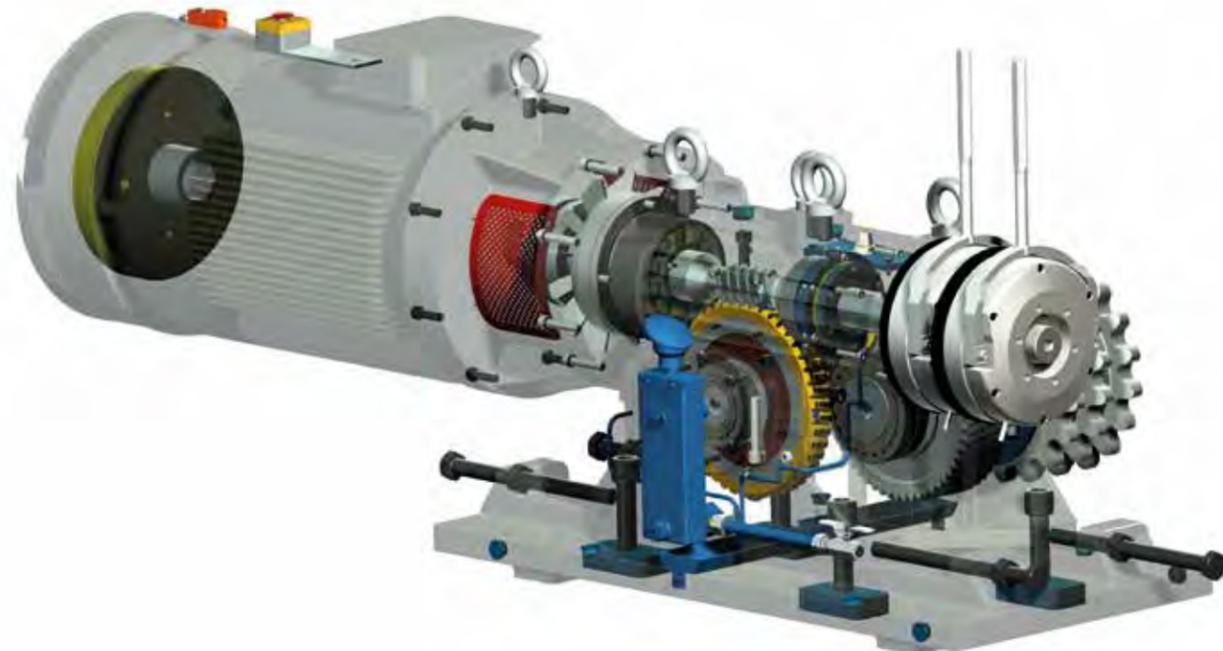
Innovative, New Escalator Drives are a Compact Solution

Modern escalator design, particularly for heavy-duty operation at mass transit sites, like underground stations, will always benefit from early consultation with an experienced escalator drives manufacturer like Renold Gears.

The correct specification and sizing of the drive components is absolutely critical to achieve the lowest lifetime costs whilst meeting the demands of the projected traffic flow, especially at the busiest times.

The gearbox, for instance, has to be designed and sized correctly to meet all the requirements of the system. It needs to be large enough to meet the peak load at the projected busiest times and combine low maintenance with reliability and energy efficiency. Too big and it will compromise efficiency targets and be more difficult to maintain; not big enough and it will require increased maintenance resulting in higher operating costs.

There are now even greater demands on escalator manufacturers in the heavy-duty mass transit sector as modern new stations are designed and constructed with significantly less space available for the escalator's drive system and its associated components. The technical solutions to meet the requirements of transit authorities and building designers is coming from a close working relationship between the escalator and the drive manufacturers, beginning with the earliest consultation.



WH Series compact drive.



WH Series provides lowest lifetime costs.



WH Series compact drive with intermediate direct drive.

It was the close working relationship, coupled with the early consultation process between design engineers at the OEM escalator manufacturer and Renold Gears that led to the development of an entirely new escalator drive package. The new WH Series was designed to meet requirements for escalators at a new train station, part of a major public works project, under construction below New York.

The 17 escalators for the new station required a significantly more compact drive solution, than was available at the time, to reduce the height of the gearbox due to limited available headroom. The units also had to be narrow enough so that two drives could be mounted side-by-side within the truss of the escalator.

Renold's solution, the new WH Series escalator drives are approximately half the height and weight of a comparable unit from the company's traditional TU range, as illustrated below.

The new compact drives combine the benefits of two-stage worm and helical gearing, and are low noise, minimal maintenance units with a range of features to make maintenance as quick and easy as possible when required.

The new WH Series drives meet LUL, APTA and NYCTA specifications and demonstrate what can be achieved when escalator manufacturers and experienced escalator drive manufacturers engage in consultation at the earliest stages of the design process.



Gear Solutions: Transit Escalators



Direct drives significantly reduce maintenance.

Direct Drives Reduce Components and Cut Maintenance

Innovative slimline gearboxes, that measure just 160 mm wide, are the perfect solution for escalator designers and maintenance engineers as an alternative to traditional chain drive systems. .

The units are mounted directly to the main head shaft of the elevator and completely replace the need for transmission chain, its associated components and any automated lubrication system. They reduce the overall space required for the drive system and are suitable for new installations or they can be retrofitted onto existing escalators.

Direct drives significantly reduce maintenance as they eliminate the need for chain that would require regular adjustments as it wears and eventual replacement when it reaches the end of its life. They also eliminate the need for lubrication that could contaminate other components and get onto the elevator steps resulting in a safety issue.

Not only do the direct drives reduce the need for maintenance they also simplify it. This is due to the fact that the units are easily accessible and maintenance can usually be conducted in the pit without the need for removing the elevator steps. What's more, because no transmission chain is required in the direct drive system, it completely eliminates the risk of chain failure.

Renold Gears' direct drives are suitable for escalators in heavy use situations such as at busy underground stations. They can accommodate a variety of primary drive inputs from a stand-alone foot-mounted drive with coupling to multiple direct mounted inputs.



A direct drive with single input.



A single-input direct drive installation.



Double direct drives with double inputs.

Gear Solutions: Transit Escalators

Renold is a global engineering group with over 130 years of experience in the design and manufacture of high-quality power transmission products and application-specific solutions.

Application knowledge and engineering expertise, together with global manufacturing and service, ensures that Renold is your ideal partner – whatever your industry need. It is this unique industry experience gained in demanding global environments that makes the vital difference.

Our skilled engineers work closely with customers to provide a wide range of solutions for critical, real-life applications. Solutions that are proven to stand the test of time – that is why we believe in the principle: 'Engineering for Life'.

RENOLD

A global power transmission group serving global markets through an international network.

For your local Renold sales and service location visit www.renold.com

Superior Technology. Global Expertise.

www.renold.com

gear.sales@renold.com



REN78/IB:GST/1215/E
A Business of Renold Power Transmission Ltd.

RENOLD
Engineering for Life