

The Couplings which you can **Fit and Forget**



+ TCAE-R-2



In its 20-year history, Australian based Thompson Couplings Limited has seen great success with its innovative range of couplings which handle load misalignment and the associated vibration. In stark contrast to the industry-standard method of laser alignment procedures for rotating equipment these couplings with misalignment ability solve many difficult problems involving situations such as soft foot and vibration due to shaft misalignment. Most couplings within the range are **“fit and forget”** requiring no maintenance and take far less time to install and operate compared to traditional shaft couplings.

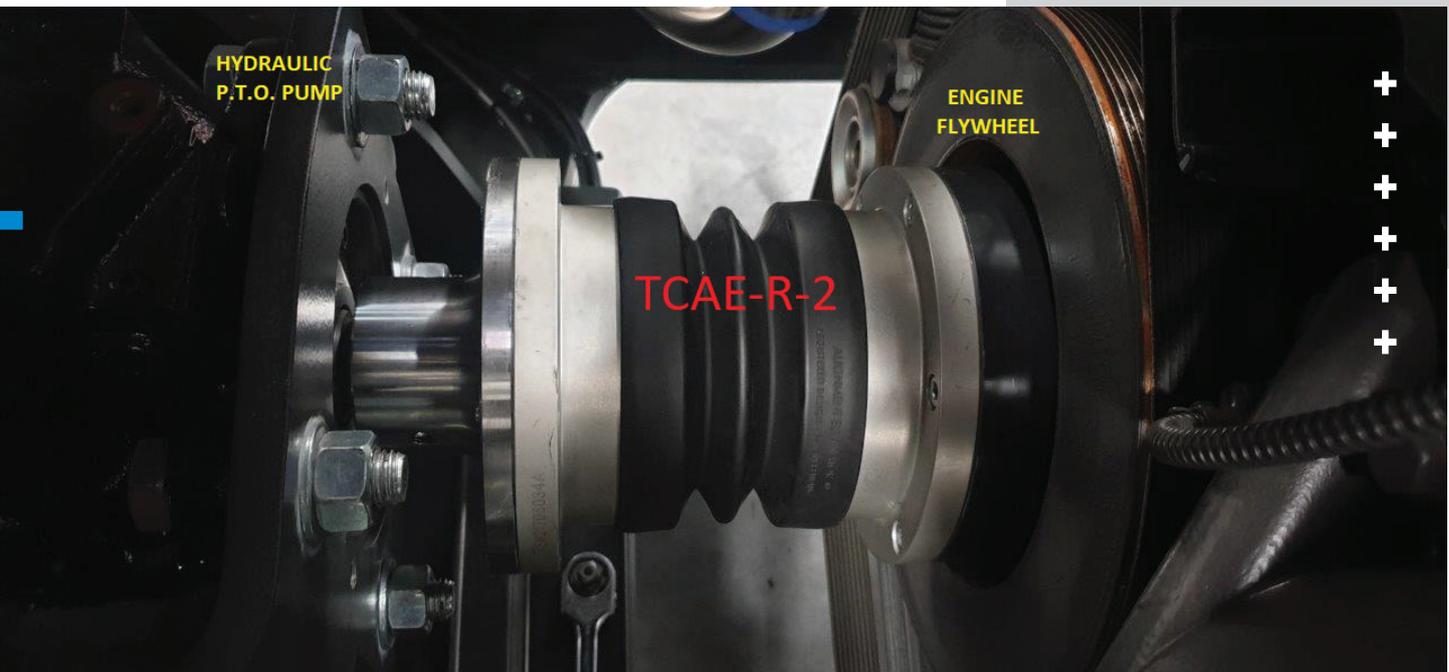
The Thompson “Alignment eliminator” or TCAE coupling has proven successful with companies such as Pulp & Paper Mills, Steel industries, Gearbox drives and more recently Power Take Off units solving a variety of often difficult installations.

The TCAE range of products can manage misalignment

angles up to a total of 10° and the new V series can operate in vertical applications.

Its distinctive double-jointed hinge mechanism provides the TCAE coupling with high radial and axial flexibility thereby reducing damaging side loads to the supporting drive shafts. As a result, the TCAE is far less damaging to pump seals, bearings and other expensive rotating parts compared to traditional “flexible” couplings when operating with some small degree of shaft misalignment.

In process plants, many pumps are rigidly bound by connected pipework and failures frequently occur with traditional couplings from thermal growth, soft foot and other misalignment forces. By contrast, the TCAE can eliminate these damaging loads by allowing the pump to freely move as the pipework “grows” or as the motor flexes on its mounts.



Tests have been conducted by the Australian group to demonstrate the potential greenhouse emission savings from a reduction in wasted energy compared to traditional “flexible” couplings. The more axially and radially compliant nature of the TCAE coupling means there is significantly less energy wasted when shafts are slightly out of alignment compared to the “stiffer” nature of elastomeric or disc type couplings.

The extensive range of models within the TCAE series can handle un-factored loads of up to 7,000 kW. A carefully developed spreadsheet selection method has also been introduced to allow users to easily choose the appropriate TCAE for their unique application. Since it was first introduced in 2009 the TCAE-R series coupling has become the product of choice for Australia’s largest pulp & paper manufacturers now with hundreds in various process pump applications. Similarly, one of Indonesia’s large paper mills has made the TCAE-R coupling the product of choice for their process pumps and gearbox drives.

The benefits these two companies realise is the “**fit and forget**” nature of the coupling as well as the quick installation and worry-free operation. Furthermore, they are seeing the real cost savings in their maintenance budgets from reduced equipment downtime and quicker time return to line. An Australian manufacturer of open cut gold mining vehicles has recently ordered the thirteenth TCAE-R-2 coupling for the power take off (PTO) drive for a hydraulic pump. Due to the demanding

nature and restricted space available in the engine compartment other shaft couplings were unable to cope with the imposed alignment angle between the diesel engine PTO and the hydraulic pump. According to the design engineer Jake Schliebs “*The TCAE-2 has been a dream – the whole process with working with Thompson couplings has been smooth as butter, so thanks for that – we’ll be in contact in the future for further orders then, since it seems like we’ll have more trucks built before we even need to look at them, cheers*”

Along with the “Regular” TCAE -R series the company has newly released the TCAE-V series range for challenging vertical applications including wastewater process pumps and deep well mining plants. The TCAE-V- series will accommodate up to 5 degrees misalignment angles between the vertically mounted motor and pump.

Another unique product in the company’s line is the Thompson Constant Velocity Joint or TCVJ. Its patented design features a double cardan joint with zero length intermediate shaft and distinctive spherical centering mechanism. This coupling is designed to transmit power at angles up to 20 degrees with the highest efficiency and at true constant velocity. Since its commercialisation in 2005 this product has seen great success as a propulsion shaft coupling in the marine industry. *More information about Thompson Coupling solutions can be found at www.thompsoncouplings.com.*