YOUR POWER CONVERSION SOLUTION

TWIN DISC

TWIN DISC HAS MORE WAYS TO CONVERT POWER TO PRODUCTIVITY

For nearly a century, we've been putting horsepower to work by designing, engineering and manufacturing rugged-duty industrial products. Our products and our reputation are bolted to the most renowned engine manufacturers and equipment OEMs in the world. Our mission is to make your machines and vehicles more productive, more durable, more operator friendly and more cost effective.

Twin Disc sells industrial products such as power take-offs, mechanical, hydraulic and modulating clutches and control systems to the agricultural, environmental and energy and natural resources markets.

And, our off-highway transmission products are used in agricultural, all-terrain specialty vehicle and military applications. We have built a world-wide reputation on our ability to engineer and manufacture products that offer incomparable effectiveness and efficiency under the most grueling conditions.

WE PUT HORSEPOWER TO WORK™





INDUSTRIAL PRODUCTS

While there are varying demands for particular applications, each application has a constant set of criteria that must be met — speed, agility and reliability.

Twin Disc industrial products are critical links in the powertrain of a machine or vehicle as well as overall performance and value. Therefore, our products must deliver the right amount of power on command, under all conditions, time and time again.

Mechanical Power Take-Offs

Twin Disc offers more mechanical PTOs in more capacities than any other manufacturer. Available in sizes up to 533 mm (21 in), these reliable devices are ideal for a high percentage of basic actuation installations.

Where operator access is complicated by machinery configuration, Twin Disc also offers a line of remotely actuated mechanical PTOs, offering safer, easier operation and greater equipment design flexibility.

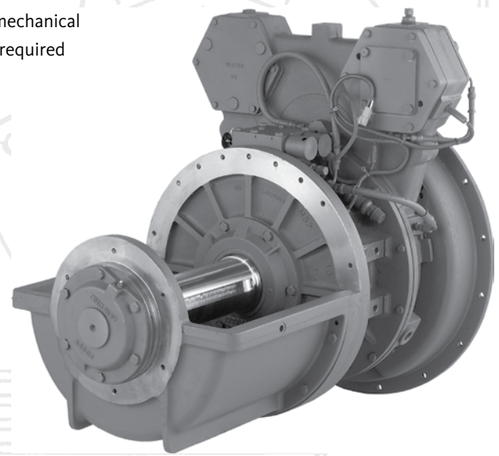
Hydraulic Power Take-Offs

The latest addition to the Twin Disc industrial products line is hydraulic PTOs. These units are available in side-load straddle-bearing clutched models, inline clutched models and non-clutched models.

Applications for hydraulic clutches are similar to those for the mechanical PTOs. Hydraulic clutches can be used wherever a disconnect is required between the driven equipment and the prime mover.

Typical applications include:

- Centrifugal Pumps
- Waterjets
- Propellers
- Generators
- Hydraulic Pumps
- Agitators
- Bow Thrusters
- Winches
- Horizontal Grinders
- Blowers
- Compressors
- Conveyors
- Rock Crushers
- Mud Pumps
- Piston Pumps
- Hammer Mills
- Tub Grinders
- Fans



Pump Drives

Twin Disc's line of pump drives meets a broad range of hydraulic system set-ups and application needs. These drives are available in a wide variety of gear ratios, including both speed increasing and reducing configurations.

The modular design of these pump drives enables you to choose from several input options, including a rubber block drive or clutch to match your SAE engine flywheel dimensions. Independent mounting is also an option, both direct and with a clutch.

For your pump mounting requirements, Twin Disc offers standard SAE adaptor kits as well as a wide variety of non-SAE adaptations for your special needs.

Features:

- Cast iron housings
- Case hardened and ground spur gears, except select models where gears are shaved
- Ball bearings
- Case hardened shafts
- Viton seals on input shaft
- Output rotation opposite the direction of input rotation
- Gear ratios identical on all outputs for each model

Air Clutches

Twin Disc PO Air Clutches, available in sizes up to 1067 mm (42 in), are designed to give the user maximum dependability and lowest possible installation and operating costs. They are used extensively by leading manufacturers of drilling rigs, draw works, rock crushers, tractor winches, pipe-extruding machines, machine tools, pug mills and other industrial equipment. Twin Disc PO Air Clutches are available in triple-plate, double-plate and single-plate construction.

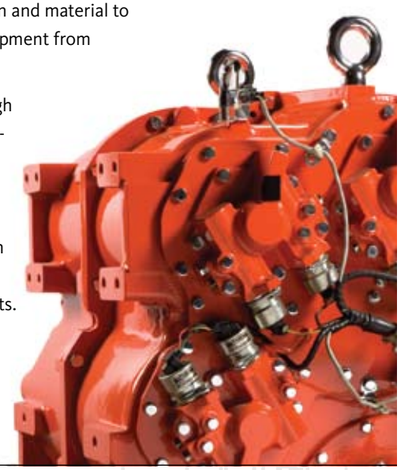
TRANSMISSION PRODUCTS

Twin Disc offers a comprehensive array of sophisticated automatic transmission systems for heavy-duty applications requiring precise propulsion control, power-splitting options or a combination of the two. With their extraordinary ease of operation, these transmission systems, available in sizes up to 2300 kW (3000 hp), expedite and simplify getting vehicles on-mission, even in the most demanding situations.

All-wheel-drive on/off-highway vehicles such as Aircraft Rescue and Fire Fighting (ARFF) vehicles benefit from fast, smooth acceleration and pump-and-roll capability. Oil and gas operations enjoy the reduced stress on drivers and drivelines when their servicing and fracturing rigs traverse rugged territory. And they know they can count on Twin Disc durability to keep productivity high at the well site.

Military vehicles utilize Twin Disc automatic transmissions to confidently deliver men and material to and extract disabled equipment from the battlefield.

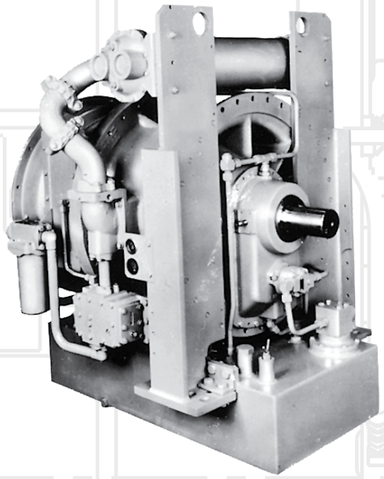
If you have a grueling, high horsepower, productivity-critical application, Twin Disc has the experience, the products and the engineering brain trust to solve your transmission requirements.



Hydraulic Torque Converters

Twin Disc torque converters minimize engine lugging and stalling and permit engines to operate within their most efficient speed range, producing rated horsepower regardless of load demand. By transmitting torque entirely through fluid mass in motion, mechanical connection is eliminated. Twin Disc torque converters minimize or eliminate entirely the need for shifting, clutching or declutching. The result is more accurate control.

To meet the requirements of diesel installations from 22 to 2610 kW (30 to 3500 hp), Twin Disc has a complete line of single-stage hydraulic torque converters, both stationary and rotating housing, as well as three-stage hydraulic torque converters in a wide range of types, sizes and capacities with a broad variety of input and output combinations.



Universal Control Drives

Used primarily to drive centrifugal pumps and fans, Twin Disc Universal Control Drives (UCDs) are regarded by the industry as an effective method of accurately and efficiently controlling various processes. Twin Disc UCDs provide precise control of flow, pressure, speed, torque or power. Twin Disc UCDs are available for power up to 3000 kW (4000 hp), at speeds up to 3000 RPM.

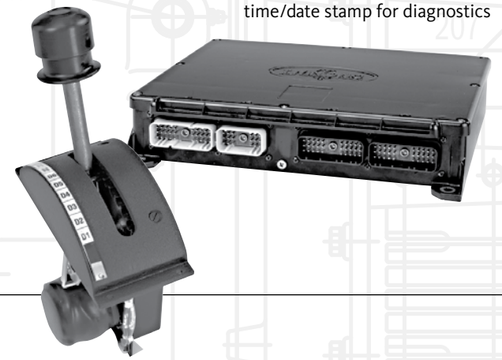
Electronic Shift Control

The TDEC-400 is the latest state-of-the-art full authority microprocessor-based electronic control system for Twin Disc automatic transmission systems used in heavy duty, off-highway applications including military vehicles, ADTs, oil field rigs, heavy-duty off-road vehicles and ARFF vehicles.

More than just a shift control, the TDEC-400 integrates the transmission, engine and other vehicle systems to provide faster shifts, rapid vehicle acceleration and precise control of vehicle speed. It has the flexibility to tailor features and operation for optimum vehicle performance.

Features:

- Built-in-test (BIT) diagnostics that feature health and trend capability with fault isolation via user accessible fault and status codes for all operational modes
- Interactive command console and display
- SAE J1939, J1708 CAN Bus and RS232 communication
- Environmentally robust
- Non-volatile memory with real time clock giving time/date stamp for diagnostics



Gearboxes

Our gearboxes are built to withstand the most rigorous applications on the planet. Their modular design features cast iron housings, shaved helical gears and case hardened shafts. Twin Disc gearboxes are available with reduction and increaser gear ratios on outputs, along with output rotation options.

GO WITH WHO YOU KNOW.

With our vast network of locations around the world, Twin Disc offers you unprecedented sales and service support. We can put engineering and service expertise on location virtually anywhere. We'll work with you on your particular application and product to ensure optimum results. We're more than just a name you know, Twin Disc is a name you can trust.

For more information, visit www.twindisc.com

TWIN DISC

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