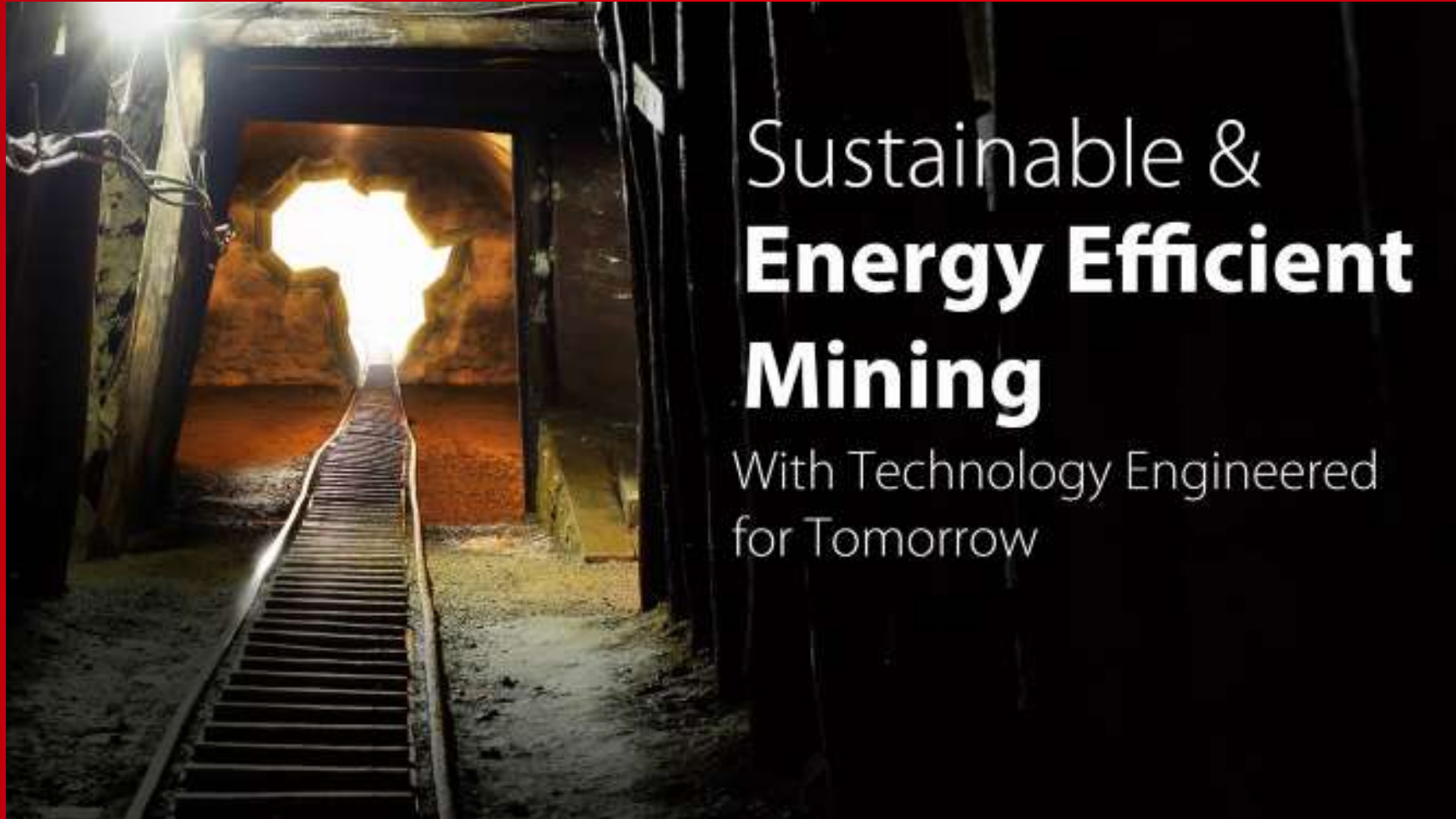


AIMEX 05 to 07 Sep 2023
Sydney, Australia



Sustainable & **Energy Efficient Mining**

With Technology Engineered
for Tomorrow

Danfoss helps you experience **robust performance** above and below the ground

Danfoss Power Solutions

- Innovation drives success
- Customers in more than 175 countries supported by over 42,200 employees
- Sales of \$ 4 billion*
- 53 production sites globally

The bigger the challenge, the stronger our innovative solutions

Innovation above and below ground

Market leadership

Innovative products keep mines running reliably in all corners of the world

Global network of hydraulic and electrical application engineers

Proven track record with mining's most recognized names

Heritage of innovation

Aeroquip

Synflex

Boston

Winner

Vickers

Plus One

Axis Pro

Hydrokraft

Mining value chain

Stage one:
Exploration

Stage two:
Drill and blast

Stage three:
Cut, load and haul

Stage four:
Crush and screen

Stage five:
Material handling

Stage six:
Processing

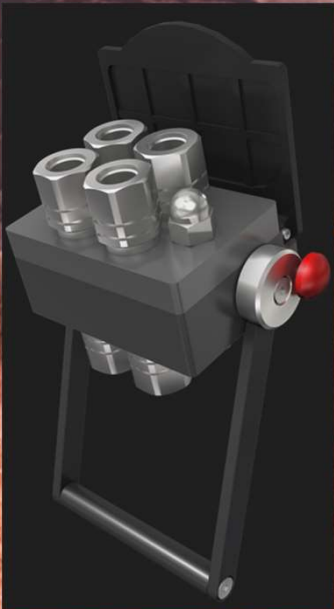


Technologies and service: Across every stage

Danfoss, hydraulic and fluid conveyancing solutions meet your needs across the chain

Mobile applications

Rugged products, innovative designs and solutions deliver performance



- **Fluid conveyance and management**, including hydraulic and industrial hose and monitoring systems
- **Motion control and positioning systems**, including valves, cylinders, and motors
- **Control and instrumentation**, including inching drives





Fluctuating mineral prices
can crush a mine's profitability.

Every day, you face higher breakeven points and soaring costs, increased risk and even more strict regulations.

Our solutions enable you to:

- Improve cost and energy efficiency
- Increase uptime in critical operations
- Protect people, property and the environment

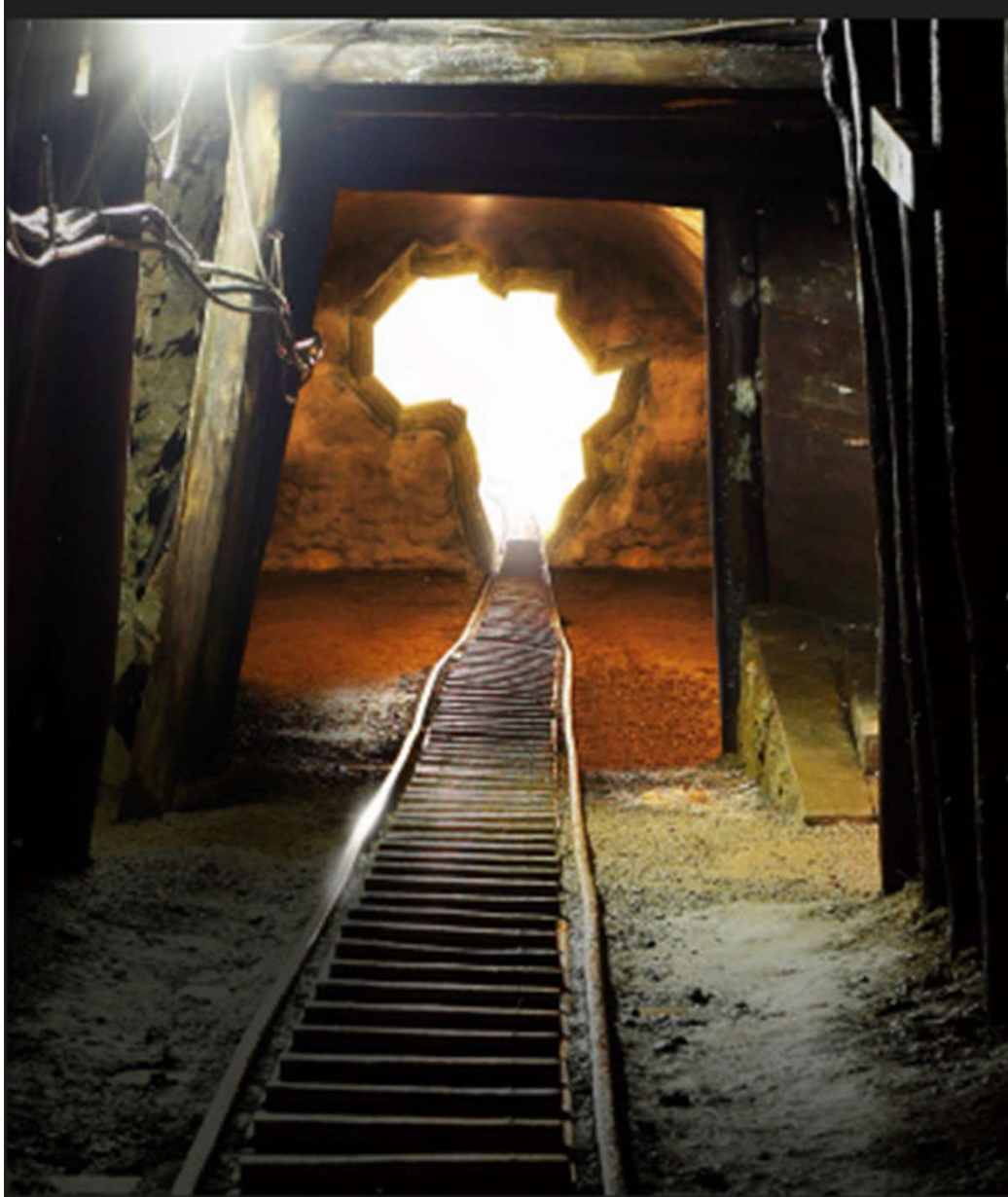
Improve cost and energy efficiency

- Design for productivity, fuel efficiency and improved operating and ownership costs
- Application and domain knowledge with technical support experts engineering turnkey solutions
- Efficiently access and distribute information, fluids and electrical power
- Services and audit offerings reduce consumption and optimize operations

Improve cost and energy efficiency

Increase uptime in critical operations

Protect people, property and environment



Increase uptime in critical operations

- Innovative designs and solutions for performance and maximized uptime
- Intelligent predictive diagnostics offer on-line monitoring, forecast failure
- On-site service reduces downtime
- Turnkey service ensures compliance with project schedule
- Reliable, durable products make operations more efficient

Improve cost and energy efficiency

Increase uptime in critical operations

Protect people, property and environment



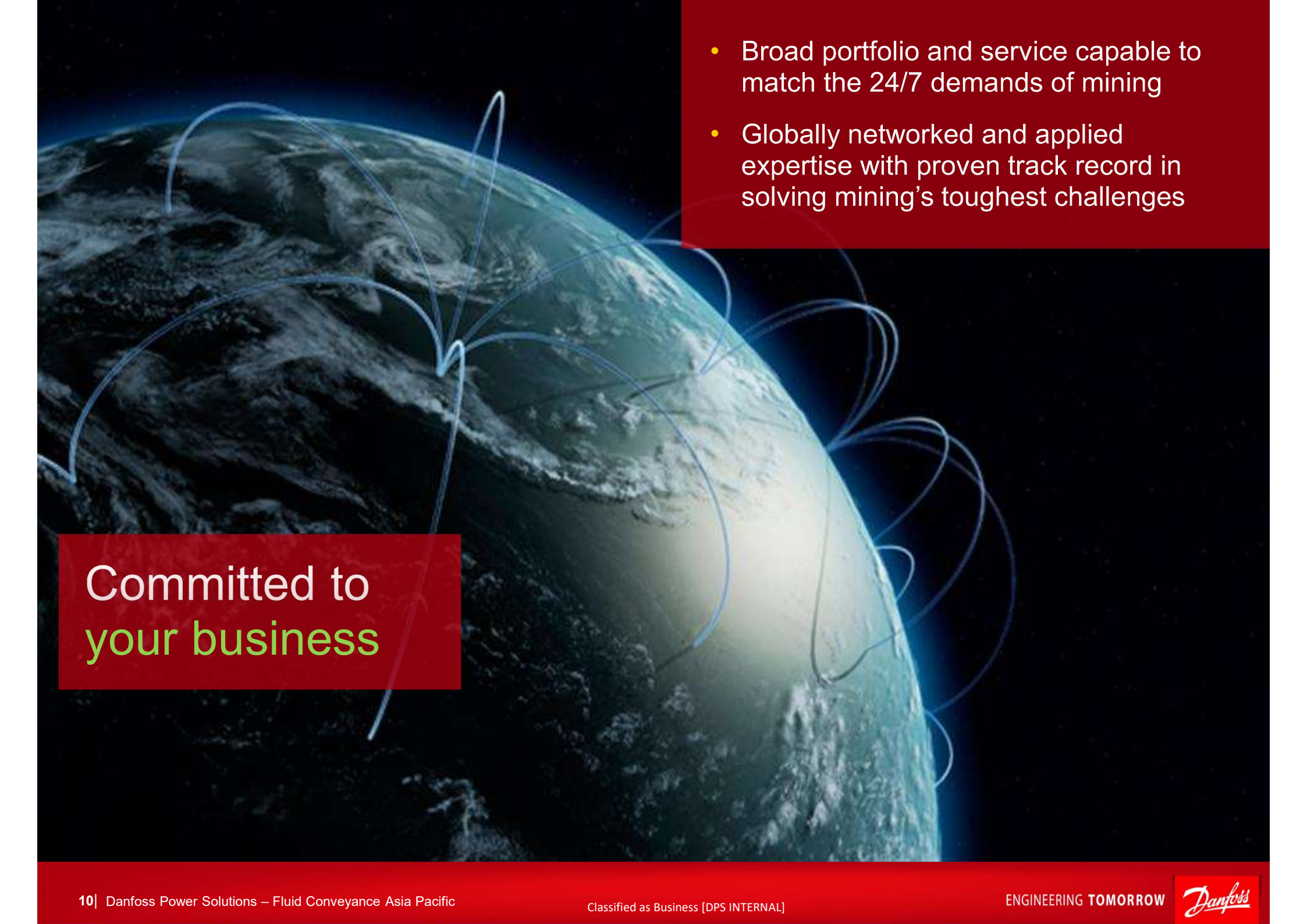
Protect people, property and the environment

- Keep machines, processes and operations safe and secure
- Extensive R&D and industry-first solutions in critical operations and safety systems
- Detect process and security problems before they occur, while also monitoring for fire
- Minimize impact on the environment, reduce emissions of fleets
- Reduce energy consumed per ton produced

Improve cost and energy efficiency

Increase uptime in critical operations

Protect people, property and environment

- 
- Broad portfolio and service capable to match the 24/7 demands of mining
 - Globally networked and applied expertise with proven track record in solving mining's toughest challenges

Committed to
your business



Robust performance above and below ground

Fueling continuous
improvement

- Ready to help you strengthen your operation's efficiency, safety and uptime

Offering a robust portfolio

- Make the most of our broad portfolio and access to technology that matches your unique needs

NSW, Australia, Major copper mine

Challenge - Reduce labor costs, shorten equipment lead-times, reduce safety concerns

Solution - Leveraged manufacturing sites across Asia to pre-configure designs to reduce both design times and labor needed on site

Business benefit - 17% reduction in total installed cost reduction



Swing Drive



Aeroquip EC850 Dynamax four/six wire spiral hose



Aeroquip EC600 X-Flex four/six wire spiral hose

Work Cycle



Waltech Walform tube connectors



Aeroquip EC881 Dynamax two-wire braided hose



Danfoss Hansen Flat Face (FF) quick disconnect couplings



Danfoss Hansen H15000 and IA Series general-purpose interchange couplings



Danfoss Hansen W36000 Series screw-to-connect quick disconnect coupling



Danfoss Hansen Multi-FF Quick Disconnect Multiplate Couplings

Work Cycle



Winner WH004 hydraulic suction and return hose



Waltech tube fittings



Aeroquip hydraulic high pressure special multi bended tube assembly



Danfoss steel adapters

Pilotline



Winner WH006 textile reinforced hydraulic hoses

Air Conditioning



Danfoss EC007 Type C EverCool air conditioning hose



Danfoss GH001 Type E EverCool air conditioning veneer hose

Engine



Aeroquip FC699 elevated temperature engine hose



Danfoss GH100 braided textile bio-diesel hose



Winner PTFE high performance Teflon hoses

Track Drive



Winner EC426 four-spiral hose

Work Cycle



Waltech Walform tube connectors



Danfoss Hansen Flat Face (FF) quick disconnect couplings



Danfoss Hansen H15000 and IA Series general-purpose interchange couplings



Danfoss Hansen W36000 Series screw-to-connect quick disconnect coupling



Danfoss Hansen Multi-FF Quick Disconnect Multiplate Couplings

Work Cycle

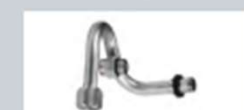


Winner WH004 hydraulic suction and return hose

Work Cycle



Waltech tube fittings



Aeroquip hydraulic high pressure special multi bended tube assembly



Danfoss steel adapters

Pilotline



Winner WH006 textile reinforced hydraulic hoses

Engine



Aeroquip FC699 elevated temperature engine hose

Air Conditioning



Danfoss EC007 Type C EverCool air conditioning hose



Danfoss GH001 Type E EverCool air conditioning veneer hose



Danfoss Rubber Hydraulic Hose & Fittings - 2023.pdf

Winner[®] by Danfoss hose and fittings



Winner Catalog APAC.pdf



Synflex Thermoplastic Hose and Fittings pct_3742549.pdf



Danfoss Multiplate Connector (CUP) pct_4268675.pdf



EZ Clip by Danfoss.pdf



General Purpose Danfoss crimp machines.pdf



Find the right fit for your needs

All three Waltech tube fitting systems can meet the most demanding application requirements

Walpro

METALLIC
SEAL CUTTING
RING



WalringPlus

SOFT SEAL
CUTTING
RING



Walform

RESHAPING
SYSTEM



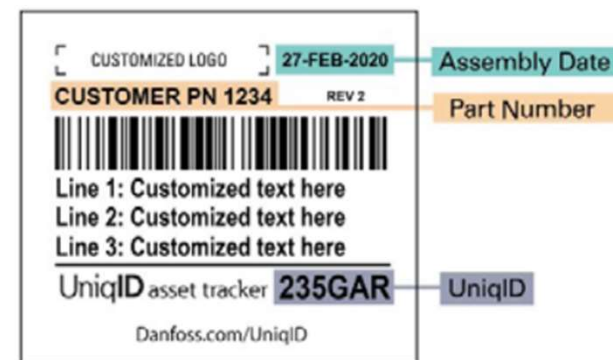
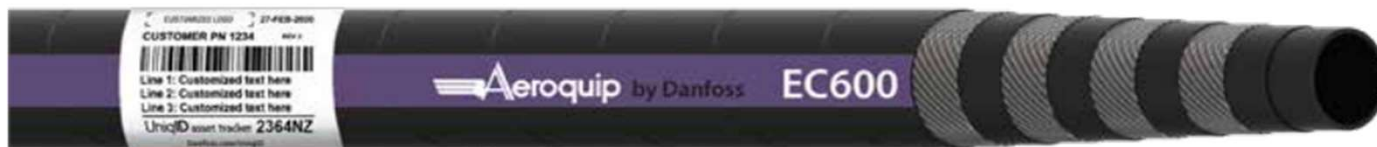
Danfoss-WALTECH-new-trilogy-brochure-EN.pdf

Walform® tube forming and the production processes



Danfoss WalformConnect catalogue.pdf

Product spotlight – UniqID™ Asset Tracker Small label. Big Impact



Label

Drive aftermarket sales

Via the UniqID code or label branding

Grow your business

Offer services to set yourself apart from the competition

Prevent attrition

Provide shared asset management information with key accounts



Track

Eliminate paper

With a web-based platform

Proactive inspection and replacement

Cyclical approach to maintenance, increasing sales potential

Improve decision making

With product lifecycle analysis tools

Manage safety certification

With electronic attachment features



Replace

Increase uptime

With proactive maintenance capabilities

Reduce downtime

Order replacements without ever bringing in a hose assembly

Reduce fines

By having critical documentation easy to find electronically



Assemble

Save time

UniqID's bill of material feature takes the guesswork out of hose replacement

Reduce errors

Labels provide critical data at-a-glance

Increase efficiency

Leverage shared attachments; no time wasted searching paper trails

The Danfoss UniqID asset management solution seamlessly drives new efficiencies into every aspect of the asset lifecycle—from asset tracking, to routinized maintenance alerts, replacement orders and more. Through the use of an intuitive six-digit coding system and cloud-based portal—UniqID asset tracker makes it easy to label, track and replace hose assemblies. To get started, contact UniqID@Danfoss.com or visit Danfoss.com/UniqID

ENGINEERING
TOMORROW



Danfoss Power Solutions



New division with a strong legacy

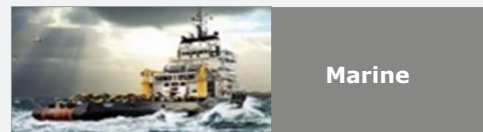


Market segments & application examples



Oil & Gas

- Drilling
- Fracking
- Mooring Systems
- Motion Compensation



Marine

- Winch Systems
- Marine Cranes
- Dredging Systems
- Propulsion



Primary Metals

- Steel/Iron Making
- Casting/Rolling
- Processing
- Material Handling



Civil Hydro

- Gates, Flood/Lock
- Movable Bridges
- Powerhouse



Processing

- Palm Oil
- Pulp and Paper
- Medical/Pharma
- Food and Beverage



Discrete Manufacturing

- Presses
- Metal Cutting
- Metal Forming



Plastic & Rubber

- Plastic Injection
- Blow Molding
- Tire Press
- Rubber Molding



Renewable Energy

- Wind
- Wave/Tidal
- Solar
- Nuclear

Leading with our legacy

For over **100 years**, Vickers has been synonymous with **quality hydraulic products**.

The VICKERS logo is rendered in a bold, white, italicized sans-serif font. The letters are closely spaced, and the 'V' is particularly prominent with a thick, blocky design. The entire logo is set against a solid red rectangular background.

by Danfoss

One leading brand
+
Five product lines

VICKERS
by Danfoss



Dowmax®



Hydrokraft®



AxisPro®



Airflex®

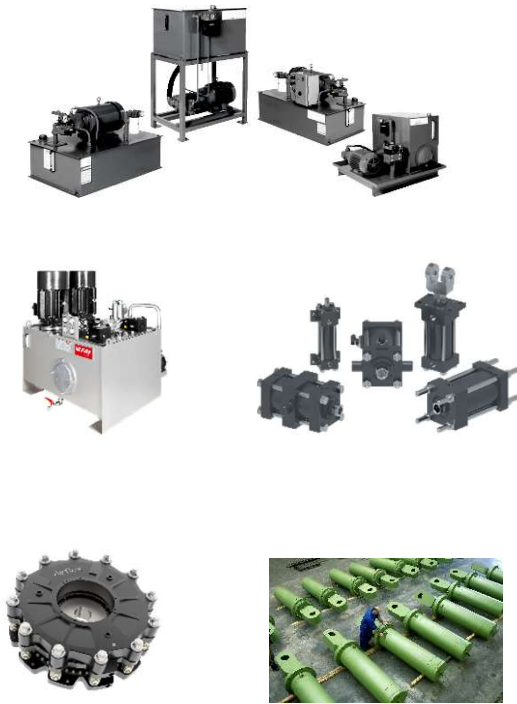


Hydro-Line®

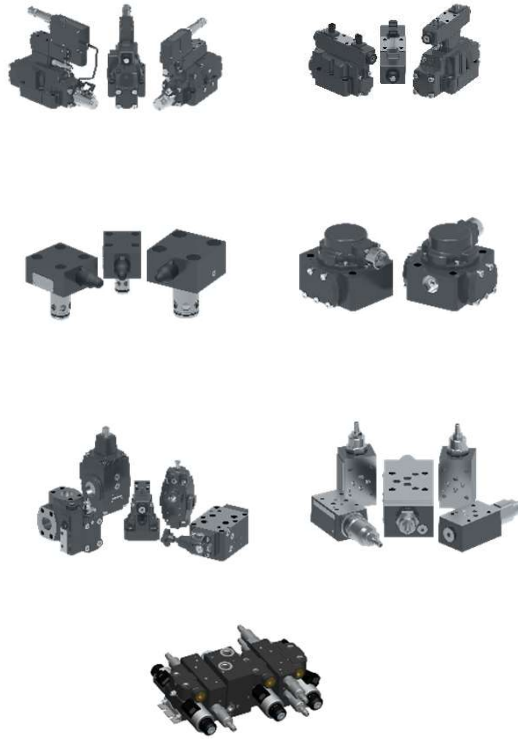
Expansive portfolio of proven solutions



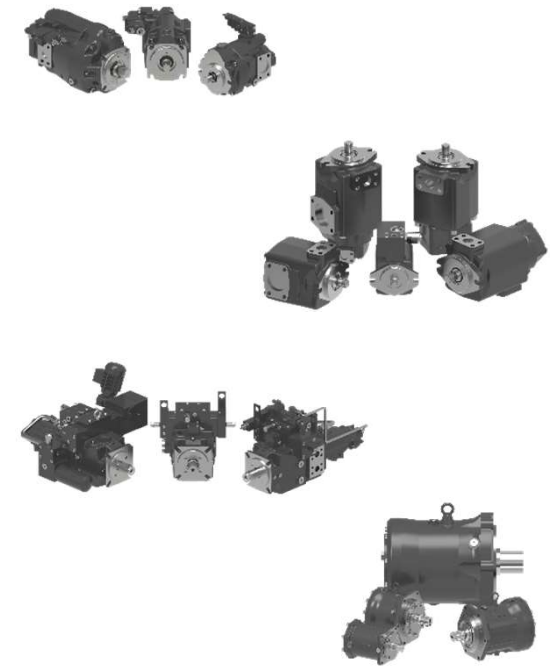
Projects, Systems and Services



Motion Control



Pumps & Motors



Advantages

Comprehensive Supplier • Collaborative • Reliable Products

Danfoss is a market-leading, global supplier of hydraulic solutions for industrial applications. Our expansive portfolio of field-proven, durable products are designed to perform and built to stand the test of time.

The Vickers logo, consisting of the word "VICKERS" in a bold, italicized, sans-serif font, with "by Danfoss" in a smaller, lowercase font below it, all within a red rectangular background.

VICKERS
by Danfoss

Our Advantages | Comprehensive supplier

Supplying a world of projects

A full suite of standard and customizable hydraulic solutions, available around the globe to provide precisely what's needed for your project.



Our Advantages | Collaborative approach

Partners in progress

We're a true partner who is in it with you and your contractors throughout the entire project. Danfoss can adhere precisely to your needs or collaborate with you to define project specifications.



Our Advantages | Uncompromised reliability

Designed to perform. Built to last.

Proven solutions built and optimized to operate safely and sustainably, functioning at the highest levels for decades.



ENGINEERING
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Danfoss

Products and Services

VICKERS
by Danfoss

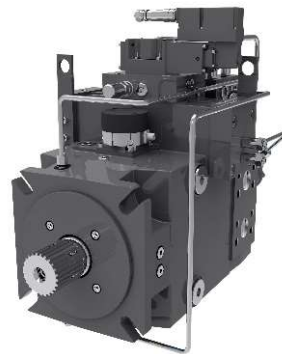
ENGINEERING
TOMORROW

Danfoss

Pumps and Motors

Power on-demand • Distributable power • Energy savings

- Vane pumps and motors
- Piston pumps and motors
- Dowmax motors
- Hydrokraft pumps and motors



Pumped up performance
and availability

PVM Series Open Circuit Piston Pump Design Code B

PVM series open-circuit piston pumps lead the industry in noise reduction, compact size and pressure rating. Engineered to take this renowned performance and reliability to new heights, the Code B design delivers enhanced components and features for maximum life and productivity.



New design enhancements

- High pressure shaft seal - longer life, minimize leakage risk
- New piston material - longer life
- Enlarged case port - better case draining
- Standardized design - better lead times

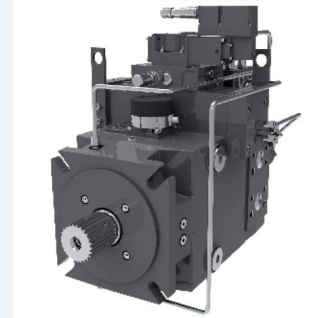


PVM Series Open Circuit Piston Pump

Compact, energy efficient and the quietest pump in their class. Built with premium components, PVM Series pumps perform dependably for years, even in the most demanding applications.



PVM B Design AF448302546603en-000101.pdf



Hydrokraft® Piston Pumps

Engineered to excel in demanding applications, Hydrokraft open and closed- circuit piston pumps feature a swash plate design for reliable operation and a longer life.



PVW Hydrokraft BC442364653254en-000101.pdf



V Series Vane Pump

Designed for medium-pressure industrial applications, Vickers by Danfoss V Series pumps are known for their low noise, durability and efficiency.



Vane Pumps (V10/V20)

Series V10, V20, V2010, and V2020 fixed displacement pumps utilize Vickers "balanced vane type" construction. Double pumps provide a single power source capable of serving two separate hydraulic circuits or providing greater volume through the combined delivery of both sections.



Vane PumpsAV424745235065en-000201.pdf



VMQ Series Vane Pump

The VMQ series vane pump features a unique combination of high-pressure capabilities and outstanding low noise levels.



VQ and VQH Series Vane Pumps

Danfoss VQ and VQH series pumps are specifically designed for higher pressure and higher speed mobile requirements.



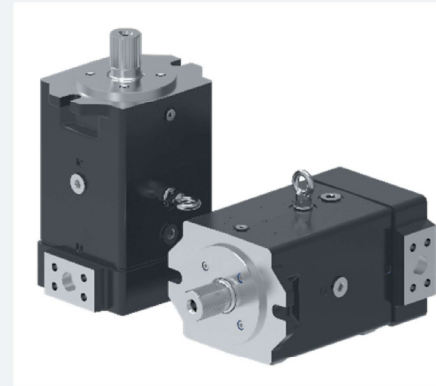


Dowmax® ME Motors

ME Series hydraulic motors provide the consistent, reliable power for applications such as winch reels or crane cable spools. Offering a double swash plate, opposed pistons, and high torque, ME motors operate smoothly at low speed within the maximum rating with very little torque ripple.



Dowmax Industrial Motor BC444081704987en-000102.pdf



Hydrokraft® Axial Piston Motors

Hydrokraft axial piston motors are engineered with the largest shaft bearings available, for full through-drive capability and long life in harsh operating conditions. Hydrokraft products offer total application flexibility, with a wide range of control options.

Motion control

Precision • Consistency • Safety

Valves:

- AxisPro Proportional
- Industrial Proportional
- Directional
- SystemStak
- Slip In
- Servo
- DMV



Improved performance
and expanded options

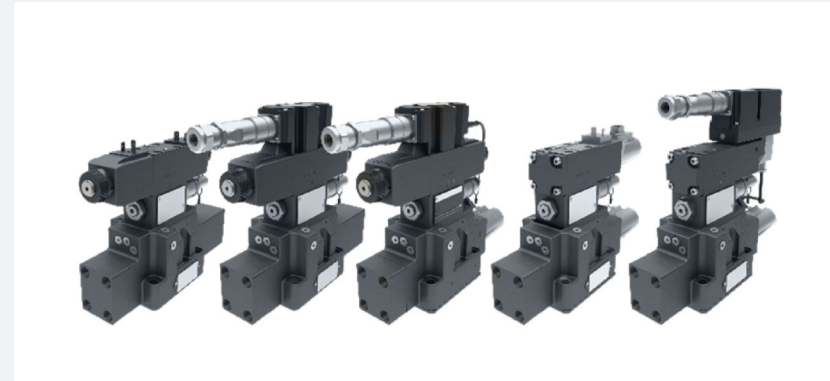
Proportional Valves Size 07 - New design

New body designs deliver significantly improved flow performance and power capacity.

To meet the needs of every application, 24 spool configuration options have been added across the line of size 07 proportional valves, including an all-new 230LPM spool.



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New design enhancements

- Maximum rated flow up to 230LPM (@10bar)
- Higher power capacities with maximum flow @100bar DP
- Twice as many spool configurations
 - Symmetric, asymmetric, low flow and high flow (dual gain spool) combination and closed transient
- KBHDG5V7 offers the fastest response time in the market - Less than 30ms at 230LPM



AxisPro® Proportional Control Valves

AxisPro hydraulic valves innovative design offers intelligent controls and onboard diagnostics built right into the valve. Quick and easy to configure, the valves allow changes to be made in real time.

New advanced features coming soon!

- CANBUS protocol
- Profinet protocol
- Ethernet Protocol
- EtherCAT Protocol
- Cylinder Synchronization



ETHERNET AI444363505328en-000102.pdf



Proportional directional control valves

We offer an incredible depth of proportional valves with and without onboard electronics, a variety of features, flow rates and performance levels to meet customer demands.

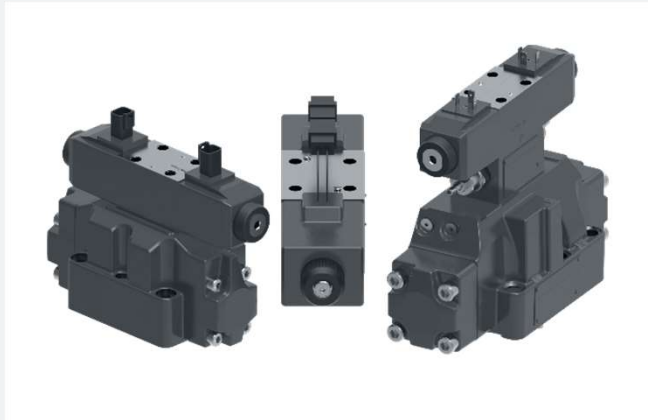
Specs:

- Size - NG 6 to NG 32 (D03 to D10)
- Pressure - Up to 350 bar (5,000 psi)
- Flow - Up to 700 L/min (185 gal/min)



Proportional Brochure pll_2086.pdf





Directional Control Valve

Versatile and powerful, Vickers by Danfoss directional control valves feature three- or four-way directional control. With thousands of models to suit all applications, we can supply a DG series directional valve that's a perfect fit.



Systemstak™ Valve

SystemStak is an innovative system for sandwich-mounting modular valves between a directional control valve and a standard mounting surface. Enjoy a complete range of valve functions, with greater efficiency, a smaller footprint, and lower installation costs.



Slip-in Cartridge Valve

Vickers by Danfoss slip-in cartridge valves excel in high-flow systems, and enable the creation of faster, more efficient, and compact hydraulic systems.

Slip-in cartridge valves are designed to reduce internal leakage and prevent external leaks entirely. You can customize a valve without any piping at all, for completely leak-free operation and increased reliability.





Servo Valve

Precise and reliable, Danfoss Vickers servo valves provide closed-loop control with exact positional accuracy, repeatable velocity profiles, and predictable force or torque regulation, outperforming the competition in even the most demanding applications.

Trade up to Danfoss and save

Visit Danfoss.com to learn about our servo trade-up program, with incentives for replacing competitors' valves.



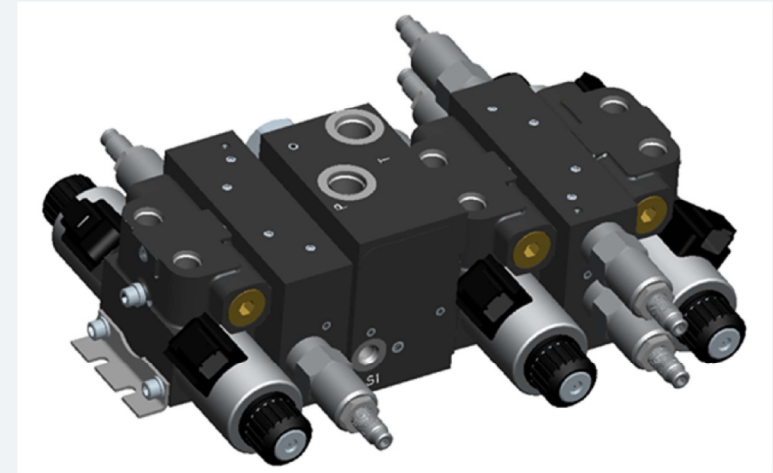
DMV directional control valve

The DMV directional control valve is a sectional mobile valve with direct electric solenoid control for spool position. The DMV has a closed-center, parallel or series circuit design that can also function as an open-center circuit by utilizing unloading inlet options. The DMV valve enables you to configure a valve from a variety of modules to create the perfect solution for your application.

NOTE: This valve is intended to be used in mobile applications where speed and position are controlled by an operator.



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Configure with these building blocks:

- Inlet modules
- Intermediate spool section modules
- End spool section modules
- Section relief valve modules
- Module cartridges
- Spool modules
- Centering and core-tube modules
- Solenoid coil modules

ENGINEERING
TOMORROW

Danfoss

Projects, Systems and Services

Industrial Solutions • System Design • Project Management

- Turn-key project consultation and design
- Power Units (HPU)
- Cylinders: Tie-rod, mill duty, welded, electrohydraulic, threaded
- Custom XL Cylinders
- Clutches and brakes



Projects, Systems and Services

Turn-Key Projects

Regardless of complexity, from the specification stage, through commissioning and beyond, we are uniquely positioned to support each project throughout the life of the installation.



Design Services

- Inventory of standard and OEM specific components
- Design services with expertise in regional requirements and compliance
- On-site project management, repair and field service assistance
- Danfoss warranty support and execution

Project Management Services

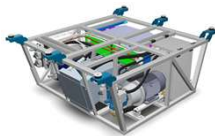
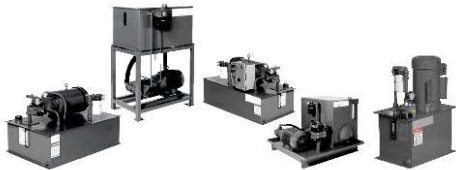
- Review specifications
- Circuit & BOM generation
- Performance testing
- Project integration
- Complete project support
- Field service
- Test/commissioning
- Training

Hydraulic Power Units (1-off to small series)

Small HPU
1 -200 ltr.

Medium HPU
200 – 800 ltr

Large HPU
800- 20T ltr.



Ind.
Manifolds/
Valve Stands



Hydraulic Power Units

No matter the scale or complexity of the project, Danfoss Application & Commercial Engineering (ACE) Group is available to help customers design, manage and install complex custom power units and control panels to meet your detailed specifications.

Manifold Assemblies

Bar manifold assemblies are available in two different materials with many optional features, to give engineers maximum flexibility when designing applications.

Packaged Systems and Turn-Key Projects

Regardless of complexity, from the specification stage, through commissioning and beyond, we are uniquely positioned to support each project throughout the life of the installation.

Projects with multiple units

Packaged System

Turn Key Project





Standard Hydraulic Power Units

The most complete line of industrial power units in the marketplace, featuring state-of-the-art motors, pumps, valves, and electronic intelligence, with a wide range of custom configuration options.

Variable speed drive ready

Our horizontal systems are engineered to manage variable speeds, making them highly adaptable. Our electric motors are rated for continuous duty to ensure a long-lasting, reliable system. The maintenance-friendly design ensures that when it's time to service your power unit, gaining access to the interior is easy.

Why welded?

Why now?

Welded Cylinder Series

Official relaunch in USA

Ideal for the toughest jobs, our welded cylinders are engineered with high-yield-strength steel and a special end-cap welding process to keep systems operating stronger, longer. Featuring an advanced sealing technology that virtually eliminates leaks, welded cylinders also have no tie rods to collect dirt and debris.

Try the Cylinder Configurator!



Configurable and competitive

- New, improved design and manufacturing processes enable the new welded cylinder series to be easily configured with a wide variety of sizes, mounting options, coatings and more.
- In addition to offering competitive pricing, a domestic supply shortens delivery times in the AMER region.



Tie Rod Cylinder

A full line of heavy-duty, tie-rod NFPA cylinders, designed for always-on use and maximum durability.



Mill Duty Cylinder

Heavy-duty construction offers maximum wear resistance, increased productivity, and low-cost servicing.





Threaded Cylinder

A clean, compact profile ideal for applications with space constraints, with high-strength steel components designed for long life.



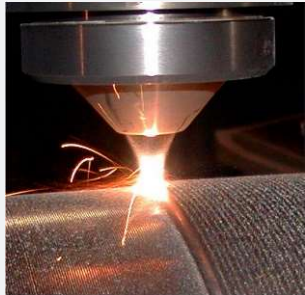
Electrohydraulic Cylinder

Electrohydraulic cylinders (EH series) simplify your supply chain by combining a high-performance cylinder, precision feedback transducer and control valve mount in a single package. For advanced closed-loop motion control, Danfoss valves can be mounted onto the configured cylinder and adjusted to your precise specifications.



XL Custom Cylinders

Danfoss engineer's custom hydraulic cylinders for the world's most demanding operating conditions. For new build or repair an existing installation, we're ready to customize a reliable, long-lasting solution for you. Also available, additional scope items tied to cylinder including frames, mounts, gimbals, etc.



Laser-Clad
Weld Overlay
Coating



- Up to 1.5-m/60-in bore, and 20-m/66-ft stroke
- Pressure ratings to 10,000 psi/690 bar (hydraulic)





Airflex® Air-Cooled Clutches and Brakes

Airflex air-cooled disc clutches and brakes excel in a wide range of applications. With favorable torque-to-size ratios and low-inertia friction disc assemblies, they provide maximum performance in limited spaces.



Airflex® Water Cooled Clutches and Brakes

Single and multiple disc designs, spring- or air-applied options and multiple sizes available combined with design features to match specific application requirements, including high horsepower absorption, continuous slip service, thermal load dissipation, dynamic tensioning, static holding and emergency stopping.



Airflex® Torque limiting couplings (TLC)

Designed to withstand the high torque spikes found in mills that use variable frequency drives, Danfoss Airflex Torque Limiting Couplings (TLC) deliver driveline control and protection for these demanding applications. Easy-to-use TLC decreases maintenance costs and downtime with electronic slip detection and automatic resets.



Airflex® Constricting Clutches and Brakes

Danfoss Airflex constricting drum clutch and brake elements use a rugged, tire-like neoprene and cord tube that expands radially inward when pressurized. The expansion forces a friction surface against a cylindrical drum to create torque.



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<https://www.danfoss.com/en-au/>

