Your partner for expertise in the Pulp and Paper industry

70–80% of all downtime in hydraulic/lubrication systems and up to 45% of bearing failures are caused by contamination in the hydraulic and lubricating media. These failures result in extensive costs, caused by unplanned downtime and repair work along with a shortening of system service life.

At HYDAC, we use our many years of experience combined with our extensive product range and customised solutions to increase system availability, reduce downtime and increase productivity.

- Hydraulic and lubrication systems for wet section, press section, size press or film press, dry section, winding, roll cutter, packaging
- Treatment of fresh water, river water, process water, superclear filtrate, condensate, cooling colour, water for slide ring seal and nozzle protection
- Measurement sensor systems to monitor system pressure, oil level, temperature, water content, contamination level, flow rate, oil condition
- Oil service units for dewatering, filling and cleaning (mobile bypass flow units)

Your partner for expertise in the Pulp and Paper industry

All from one supplier. HYDAC fluid engineering involved in your production.

Energy efficiency
- Pressure drops are minimised in all components
- Optimised switch-off times and downtimes
- Energy-efficient unit cooling
- Reduced CO₂ levels (reduced carbon footprint)

System availability
- Worldwide service and spare parts
- Customised service solutions
- Quick and reliable on-site support
- Integrated system approach increases system availability

Conservation of resources
- Branch-orientated filtration solutions
- Prevention and removal of oil-ageing products (varnish)
- Preventive maintenance
- Condition Monitoring

Process reliability
- Reduced fresh water consumption
- Protection of system components
- Water circuits closed up
- Higher quality process media
- Fresh water savings
We can help you.

HYDAC system solutions.
One supplier. One contact.

Reliable, thanks to internationally certified quality.

Global and yet local.

HYDAC system solutions.
One supplier. One contact.

We can help you.
Wherever you need us, we are there to help you find the most effective solution – for every application, from components to a complete system.

We can help you.
We can help you.

Wood yard

The process steps required to produce chemical pulp, mechanical pulp and groundwood are as follows:

- **Storage:** Once the wood has been delivered by train or lorry, it is stored in the wood yard for two to three weeks before being processed. The stack of log wood, 2 to 4 metres in length, is watered to stop it from drying out.

- **De-barking:** The dark bark needs to be removed from the log wood, as it would disrupt the following processes and impair the paper quality. The de-barking is followed by a visual inspection, with any wood that is found to have some bark remaining being put through the process step a second time.

- **Chipping:** To produce chemical and mechanical pulp, the wood is shredded to small chips and then stored in piles. If the wood is to be defibred in the grinder to form groundwood, the chipping processing step is omitted.

- **Defibration:** Chemical substances or mechanical forces are used to perform the pulping, or a combination of both. Defibers are used to create chemical pulp, refiners are used to make mechanical pulp and grinders are used to make groundwood.

  - Efficient de-barking
  - Producing uniform chips for fibre extraction
  - Minimising wood loss

Applications:

- Drum de-barkers
- Screw conveyors
- Cutting units
- Distributor systems
- Hydraulics (lifting, pressure generation)
- Lubrication (bearings/gearboxes)

With over 8,000 employees worldwide, HYDAC is one of the leading suppliers of fluid technology, hydraulic and electronic equipment. Our wide range of products, combined with our expertise in development, manufacture, sales and service, satisfies the diverse requirements of the paper and pulp industry.

Our quality and environmental certification to ISO 9001/2000 and ISO 14001 denote first class quality and responsible management of our resources.

Thermo-mechanical pulping method

Method for defibrating wood chips by means of heat and pressure between the two rotating discs of a refiner (thermo-mechanical pulp = TMP). In this method, chopped wood waste is steamed and then ground to individual fibres in refiners under steam pressure. TMP is mainly used in place of cellulose or groundwood as a final fibre replacement for art paper and paperboard.

![Fig. 1: Hydraulic plate adjustment](image1)

![Fig. 2: Hydraulic plate control](image2)

![Fig. 3: Lubricating system](image3)

![Fig. 4: Refiner – complete machine](image4)

Power plants and residual waste incineration

The standard size for a refuse derived fuel power plant is 50–220 MW, which means that most of them are industrial power plants. These power plants are often set up as combined heat and power plants in connection with larger industrial enterprises, taking in process steam on local heat and/or providing refuse derived fuel. An example of such an enterprise would be a paper factory, which requires large amounts of wood waste producing reject paper as a refuse derived fuel.

![Fig. 1: Transformer protection](image5)

![Fig. 2: Generators](image6)

![Fig. 3: Steam turbines](image7)

![Fig. 4: Gas/oil filtration](image8)

![Fig. 5: Compressors](image9)

![Fig. 6: Turbine/generator lubrication](image10)

![Fig. 7: Valve control](image11)

![Fig. 8: Exhaust gas system](image12)

![Fig. 9: Balance of plant](image13)

- Transformer protection
- Generators
- Steam boilers
- Steam turbines
- Gas/oil filtration
- Compressors
- Valve control
- Exhaust gas system
- Balance of plant
Your partner for expertise in the Pulp and Paper industry

70–85% of all downtime in hydraulic/lubrication systems and up to 45% of bearing failures are caused by contamination in the hydraulic and lubricating media. These failures result in extensive costs, caused by unplanned downtime and repair work along with a shortening of system service life.

At HYDAC, we use our many years of experience combined with our extensive product range and customised solutions to increase system availability, reduce downtime and increase productivity.

- Wood yard
- Thermo-mechanical pulping method
- Power plants and residual waste incineration
- Waste water treatment
- Pulp
- Stock preparation
- Pulp machine
- Filteration for oil and process applications
- Condition Monitoring – visualisation, sensors, electronics, cooling
- System, service and training

Conservation of resources

- Branch-orientated filtration solutions
- Prevention and removal of oil-ageing products (varnish)
- Preventive maintenance
- Condition Monitoring

Energy efficiency

- Pressure drops are minimised in all components
- Optimised switch-off times and downtimes
- Energy-efficient unit cooling
- Reduced CO₂ levels (reduced carbon footprint)

Process reliability

- Reduced fresh water consumption
- Protection of system components
- Water circuits closed up
- Higher quality process media
- Fresh water savings

System availability

- Worldwide service and spare parts
- Customised service solutions
- Quick and reliable on-site support
- Integrated system approach increases system availability

All from one supplier. HYDAC fluid engineering involved in your production.
70–85% of all downtime in hydraulic/lubrication systems and up to 45% of bearing failures are caused by contamination in the hydraulic and lubricating media. These failures result in extensive costs, caused by unplanned downtime and repair work along with a shortening of system service life.

At HYDAC, we use our many years of experience combined with our extensive product range and customised solutions to increase system availability, reduce downtime and increase productivity.

- Hydraulic and lubrication systems for wet section, press section, size press or film press, dry section, winding, roll cutter, packaging
- Treatment of fresh water, river water, process water, superclear filtrate, condensate, cooling colour, water for slide ring seal and nozzle protection
- Measurement sensor systems to monitor system pressure, oil level, temperature, water content, contamination level, flow rate, oil condition
- Oil service units for dewatering, filling and cleaning (mobile bypass flow units)

Your partner for expertise in the Pulp and Paper industry

All from one supplier. HYDAC fluid engineering involved in your production.

General overview

- Wood yard
- Thermo-mechanical pulping method
- Power plants and residual waste incineration
- Waste water treatment
- Pulp
- Stock preparation
- Pulp machine
- Paper machine
- Filtration for oil and process applications
- Condition Monitoring – visualisation, sensors, electronics, cooling
- System, service and training

Energy efficiency

- Pressure drops are minimised in all components
- Optimised switch-off times and downtimes
- Energy-efficient unit cooling
- Reduced CO2 levels (reduced carbon footprint)

Conservation of resources

- Branch-orientated filtration solutions
- Prevention and removal of oil-ageing products (varnish)
- Preventive maintenance
- Condition Monitoring

Process reliability

- Reduced fresh water consumption
- Protection of system components
- Water circuits closed up
- Higher quality process media
- Fresh water savings

System availability

- Worldwide service and spare parts
- Customised service solutions
- Quick and reliable on-site support
- Integrated system approach increases system availability
The process steps required to produce chemical pulp, mechanical pulp and groundwood are as follows:

**Storage:**
- Once the wood has been delivered by train or lorry, it is stored in the wood yard for two to three weeks before being processed. The stock of log wood, 2 to 4 metres in length, is watered to stop it from drying out.

**De-barking:**
- The dark bark needs to be removed from the log wood, as it would disrupt the following processes and impair the paper quality. The de-barking is followed by a visual inspection, with any wood that is found to have some bark remaining being put through the process step a second time.

**Chipping:**
- To produce chemical and mechanical pulp, the wood is shredded to small chips and then stored in piles. If the wood is to be defibred in the grinder to form groundwood, the chipping processing step is omitted.

**Defibration:**
- Chemical substances or mechanical forces are used to perform the pulping, or a combination of both. Digesters are used to create chemical pulp, refiners are used to make mechanical pulp and grinders are used to make groundwood.

- **Efficient de-barking**
- **Producing uniform chips**
- **Minimising wood loss**

**Applications:**
- Chippers, drum de-barkers, screw conveyors, cutting units, distributor systems, hydraulics (lifting, pressure generation), lubrication (bearings/gearboxes)

With over 8,000 employees worldwide, HYDAC is one of the leading suppliers of fluid technology, hydraulic and electronic equipment. Our wide range of products, combined with our expertise in development, manufacturing, sales and service, satisfies the diverse requirements of the paper and pulp industry.

Our quality and environmental certificates to ISO 9001/2000 and ISO 14001 denote first class quality and responsible management of our resources.

The standard size for a refuse derived fuel power plant is 50–220 MW, which means that most of them are industrial power plants. These power plants are often set up as combined heat and power plants in connection with larger industrial enterprises, taking in process steam or local heat and/or providing refuse derived fuel. An example of such an enterprise would be a paper factory, which requires large amounts of thermal energy producing reject paper as a refuse derived fuel.
We can help you.

Wood yard

The process steps required to produce chemical pulp, mechanical pulp and groundwood are as follows:

- **Storage:** Once the wood has been delivered by train or lorry, it is stored in the wood yard for two to three weeks before being processed. The stock of log wood, 2 to 4 metres in length, is watered to stop it from drying out.

- **De-barking:** The dark bark needs to be removed from the log wood, as it would disrupt the following processes and impair the paper quality. The de-barking is followed by a visual inspection, with any wood that is found to have some bark remaining being put through the process step a second time.

- **Chipping:** To produce chemical and mechanical pulp, the wood is shredded to small chips and then stored in piles. If the wood is to be defibred in the grinder to form groundwood, the chipping processing step is omitted.

- **Defibration:** Chemical substances or mechanical forces are used to perform the pulping, or a combination of both. Digesters are used to create chemical pulp, refiners are used to make mechanical pulp and grinders are used to make groundwood.

Method for defibbing wood chips by means of heat and pressure between the two rotating discs of a refiner (thermo-mechanical pulp = TMP). In this method, chipper wood waste is shredded and then ground to individual fibres in refiners under steam pressure. TMP is mainly used in place of coarse or groundwood as a fine-fibre replacement for art paper paper.

- **Aims:**
  - Efficient de-barking
  - Producing uniform chips for fibre extraction
  - Minimising wood loss

- **Applications:** Chipper, drum de-barker, screw conveyors, cutting units, distributor systems, hydraulics (lifting, pressure generation), lubrication (bearings/gearboxes)

Thermo-mechanical pulping method

Power plants and residual waste incineration

The standard size for a refuse derived fuel power plant is 50-220 MW, which means that most of them are industrial power plants. These power plants often set up a combined heat and power plant in connection with larger industrial enterprises, taking in process steam on local heat and/or providing refuse derived fuel. As an example of such an enterprise would be a paper factory, which requires large amounts of fuel while producing reject paper as a refuse derived fuel.

The process steps required to produce chemical pulp, mechanical pulp and groundwood are as follows:

- **Storage:** Once the wood has been delivered by train or lorry, it is stored in the wood yard for two to three weeks before being processed. The stock of log wood, 2 to 4 metres in length, is watered to stop it from drying out.

- **De-barking:** The dark bark needs to be removed from the log wood, as it would disrupt the following processes and impair the paper quality. The de-barking is followed by a visual inspection, with any wood that is found to have some bark remaining being put through the process step a second time.

- **Chipping:** To produce chemical and mechanical pulp, the wood is shredded to small chips and then stored in piles. If the wood is to be defibred in the grinder to form groundwood, the chipping processing step is omitted.

- **Defibration:** Chemical substances or mechanical forces are used to perform the pulping, or a combination of both. Digesters are used to create chemical pulp, refiners are used to make mechanical pulp and grinders are used to make groundwood.

Method for defibbing wood chips by means of heat and pressure between the two rotating discs of a refiner (thermo-mechanical pulp = TMP). In this method, chipper wood waste is shredded and then ground to individual fibres in refiners under steam pressure. TMP is mainly used in place of coarse or groundwood as a fine-fibre replacement for art paper paper.

- **Aims:**
  - Efficient de-barking
  - Producing uniform chips for fibre extraction
  - Minimising wood loss

- **Applications:** Chipper, drum de-barker, screw conveyors, cutting units, distributor systems, hydraulics (lifting, pressure generation), lubrication (bearings/gearboxes)
We can help you.

Wood yard

The process steps required to produce chemical pulp, mechanical pulp and groundwood are as follows:

- **Storage**: Once the wood has been delivered by train or lorry, it is stored in the wood yard for two to three weeks before being processed. The stack of log wood, 2 to 4 metres in length, is watered to stop it from drying out.

- **De-barking**: The dark bark needs to be removed from the log wood, as it would disrupt the following processes and impair the paper quality. The de-barking is followed by a visual inspection, with any wood that is found to have some bark remaining being put through the process step a second time.

- **Chipping**: To produce chemical and mechanical pulp, the wood is shredded to small chips and then stored in piles. If the wood is to be defibred in the grinder to form groundwood, the chipping processing step is omitted.

- **Defibration**: Chemical substances or mechanical forces are used to perform the pulping, or a combination of both. Digesters are used to create chemical pulp, refiners are used to make mechanical pulp and grinders are used to make groundwood.

Method for defibring wood chips by means of heat and pressure between the two rotating discs of a refiner (thermo-mechanical pulp = TMP). In this method, chipped wood waste is steamed and then ground to individual fibres in refiners under steam pressure. TMP is mainly used in place of cellulose or groundwood as a fixed-fibre replacement for offset paper.

Thermo-mechanical pulping method

**Power plants and residual waste incineration**

The standard size for a refuse derived fuel power plant is 50–220 MW, which means that most of them are industrial power plants. These power plants are often set up as combined heat and power plants in connection with large industrial enterprises, taking in process steam or local heat and/or providing refuse derived fuel. An example of such an enterprise would be a paper factory, which requires large amounts of mill waste producing reject paper as a refuse derived fuel.

Power plants and residual waste incineration

We have over 8,000 employees worldwide, HYDAC is one of the leading suppliers of fluid technology, hydraulic and electronic equipment. Our wide range of products, combined with our expertise in development, manufacturing, sales and service, meets the diverse requirements of the paper and pulp industry.

Our quality and environment certifications to ISO 9001/2000 and ISO 14001 denote first-class quality and responsible management of our resources.

HYDAC system solutions.
One supplier. One contact.
**Pulp machine**

*High availability. Low maintenance costs.*

---

**Stock preparation**

*Consistent quality. Environmentally responsible.*

---

**Waste water treatment**

Water is an indispensable tool in paper manufacture. Water is mainly used for sheet formation, but also for cleaning purposes and cooling.

To create 1 kg fine paper, roughly 50 to 100 litres of water is required. Only 10 litres of this is fresh water. The remainder is return-circuit water. Waste water treatment plants of various types are used to prepare the return-circuit water.

---

**Lumber yard, chemical recovery, power plant, waste water treatment plant**

---

**Water**

**Chemicals**

**Regeneration**

**Shredding**

**Sorting**

**Cleaning**

**Drying**

**Regeneration**

---

**Applications:**
- Refiner
- Washing press, high-pressure diffuser, hydraulics
- Lubrication hydromotor, screw presses
- Lubrication for pump station and control block for dispersing system

---

**Components for:**
- Wet section, press section (shoe press), cutters, baler
- Mechanically prepared pulp (mechanical pulp)
- Chemically prepared pulp (chemical pulp)

---

**In action:**
- Hydropulper
- Disc refiner
- To paper machine

---

**Fig. 1:**
- High-pressure filter block for 24-hour operation
- Fiber stations including pressure sensors for the hydraulic shoe press
- Cooling circuit (fig. 2) and high-pressure circuit (fig. 3)

---

**Fig. 2:**
- Filter stations including pressure sensors for the hydraulic shoe press
- Cooling circuit (fig. 2) and high-pressure circuit (fig. 3)

---

**Fig. 3:**
- Protective filtration, cooler

---

**In action:**
- Lubrication for pump station and control block for dispersing system
Waste water treatment

Water is an indispensable tool in paper manufacture. Water is mainly used for sheet formation, but also for cleaning purposes and cooling. To create 1 kg fine paper, roughly 50 to 100 litres of water is required. Only 10 litres of this is fresh water. The remainder is return-circuit water. Waste water treatment plants of various types are used to prepare the return-circuit water.

Pulp machine

High availability. Low maintenance costs.

Stock preparation

Consistent quality. Environmentally responsible.

For the pulp and paper industry, HYDAC offers a wide product range of hydraulic filters, process filters and matching sensor systems to monitor the fluid state.

Applications:
- Refiner
- Washing press, high-pressure diffuser, hydraulics & lubrication hydromotor, screw press
- Mechanical prepared pulp (mechanical pulp)
- Chemically prepared pulp (chemical pulp)
- In action:
  - Pulp digester
Waste water treatment

Water is an indispensable tool in paper manufacture. Water is mainly used for sheet formation, but also for cleaning purposes and cooling.

To create 1 kg fine paper, roughly 50 to 100 litres of water is required. Only 10 litres of this is fresh water. The remainder is return-circuit water. Waste water treatment plants of various types are used to prepare the return-circuit water.

Pulp machine

High availability. Low maintenance costs.

Stock preparation

Consistent quality. Environmentally responsible.

Components for:

- Wet section
- Press section (shoe press), cutters, baler
- Mechanical prepared pulp (mechanical pulp)
- Chemically prepared pulp (chemical pulp)

In action:

Application: Refiner

Applications: Washing press, high-pressure diffuser, hydraulics & lubrication hydromotor, screw presses

Applications: Protective filtration, cooler

Fig. 1: High-pressure filter block for 24-hour operation

Fig. 2 + fig. 3: Filter stations including pressure sensors for the hydraulic shoe press

Cooling circuit (fig. 2) and high-pressure circuit (fig. 3)

Lumber yard, chemical recovery, power plant, waste water treatment plant

For the pulp and paper industry, HYDAC offers a wide product range of hydraulic filters, process filters and matching sensor systems to monitor the fluid state.

The first step in manufacturing paper is preparing the stock, which involves defibring the wood. The preparation method that is chosen depends on the type of wood and on what the paper will eventually be used for.

Mechanically prepared pulp (mechanical pulp)

Chemically prepared pulp (chemical pulp)

Applications: In the waste water treatment plant of a paper factory, waste water is treated in a ozonisation stage. Disruption is caused by plastic particles carried over from waste paper treatment.

Fig. 1: Application: In the waste water treatment plant of a paper factory, waste water is treated in a ozonisation stage. Disruption is caused by plastic particles carried over from waste paper treatment.

Fig. 2: Application: The stainless steel filter is used to treat presedimented waste water from the paper factory to make process water. The filter is used for the spray pipes for the filter press and the control block for slide ring seals. The filtration line increases recirculation and greatly reduces the factory’s amount of waste water.

Fig. 3: Protective filtration, cooler

In action:

Application: Lubrication for pump station and control block for dispersing system
Your paper machine
A complex system with stringent requirements.

**HYDAC solutions:** For increased plant availability and minimised downtime

**HYDAC filtration**
For pure oil and energy savings

**HYDAC oil maintenance devices**
For increased system availability

**HYDAC coolers**
For increased safety

**HYDAC accumulators**
For high level of operating reliability

**HYDAC Service**
For reliable commissioning

**HYDAC all-in-one solutions**
For consistent quality from a single source

---

**HYDAC’s new Optimicron® filter elements provide:**
- Differential pressure up to 35% lower
- Enormous cost and energy savings thanks to low differential pressure
- First-class filtration performance thanks to high-quality microglass media
- Increased robustness and better incident flow to the filter mat (diffuser effect) thanks to innovative outer casing

**NEW: Optimicron® Pulp & Paper filter elements, optimised for use in paper machines**
- For safe and simple filter change
- Element can easily be removed from above
- Ergonomic element change (two-part filter hood)
- For low fresh water consumption and long service life for process media
- Expert treatment of fresh water, hot water, condensate, spray water, cooling water, water for trim nozzles and moistening spray nozzles, seal water, extinguishing water and coating colours.

**HYDAC accumulators**
- Multi-purpose accumulators for emergency running characteristics, energy storage and pulsation damping

**HYDAC Service**
- As a specialist in systems and fluids, the HYDAC SERVICE CENTER is happy to help, for example with:
  - Filtration and flushing
  - Piping
  - Installation

**HYDAC all-in-one solutions**
- Complete functional solutions including peripherals, such as:
  - Mounting technology
  - Shut-off and change-over valves
  - Accessories for traction, damping and tanks
  - Threaded connections
  - Couplings
  - Measurement ports
  - Fluid level gauges

---

Should you so wish, HYDAC can support your project across the entire service life.

You can make use of a comprehensive range of easy-to-use measurement and analysis equipment to monitor fluid condition and technical cleanliness. Protection for component and system is increased thanks to permanent online measurement of parameters such as system pressure, amount of contamination, water content, temperature, flow, oil level, viscosity and dielectric constant.

Fluid laboratory vehicles are at your service worldwide.
Your paper machine
A complex system with stringent requirements.

HYDAC solutions: For increased plant availability and minimised downtime

**HYDAC filtration**
For for pure oil and energy savings

- HYDAC's new Optimicron® filter elements provide:
  - Differential pressure up to 30% lower
  - Continuous cost and energy savings
  - First-class filtration performance
  - Increased productivity
  - Reduced oil ageing

- For safe and simple filter change
- Element can easily be removed from above

**HYDAC oil maintenance devices**
For increased system availability

- Filtration during filling to avoid initial damage
- Increased component protection thanks to offline filtration
- Continuous deaeration for high component reliability
- Reduced oil ageing

**HYDAC coolers**
For increased safety

- Thermal overload prevented by installation of air and water coolers and re-pressuring cooling filter units

**HYDAC accumulators**
For high level of operating reliability

- Polytetrafluoroethylene accumulators for emergency running characteristics, energy storage and pulsation damping

**HYDAC Service**
For reliable commissioning

- As a specialist in systems and fluids, the HYDAC SERVICENTER is happy to help, for example with:
  - Filtration and flushing
  - Piping
  - Installation

**HYDAC all-in-one solutions**
For consistent quality from a single source

- Complete functional solutions including peripherals, such as:
  - Mounting technology
  - Shut-off and change-over valves
  - Accessories for traction, damping and tank
  - Threaded connections
  - Couplings
  - Measurement parts
  - Fluid level gauges

For reliable plant operation

- Should you so wish, HYDAC can support your project across the entire service life.
- You can make use of a comprehensive range of on-site measurement and analysis equipment to monitor fluid condition and technical cleanliness.
- Protection for component and system is increased by monitoring key parameters such as system pressure, amount of contamination, water content, temperature, flow, oil level, viscosity and dielectric constant.

HYDAC can support your project across the entire service life.

- Complete functional solutions including peripherals, such as:
  - Mounting technology
  - Shut-off and change-over valves
  - Accessories for traction, damping and tank
  - Threaded connections
  - Couplings
  - Measurement parts
  - Fluid level gauges

- Fluid laboratory vehicles are at your service worldwide.
Your paper machine
A complex system with stringent requirements.

HYDAC solutions: For increased plant availability and minimised downtime

HYDAC filtration
For pure oil and energy savings

HYDAC’s new Optimicron® filter elements provide:
- Differential pressure up to 35% lower
- Enormous cost and energy savings thanks to low differential pressure
- First-class filtration performance thanks to high-quality microglass media
- Increased robustness and better incident flow to the filter mat (diffuser effect) thanks to innovative outer casing

NEW: Optimicron® Pulp & Paper filter elements, optimised for use in paper machines
- For safe and simple filter change
- Element can easily be removed from above
- Ergonomic element change (two-part filter hood)
- For low fresh water consumption and long service life for process media
- Expert treatment of fresh water, hot water, condensate, spray water, cooling water, water for trim nozzles and moistening spray nozzles, seal water, extinguishing water and coating colours.

HYDAC oil maintenance devices
For increased system availability

- Filtration during filling to avoid initial damage
- Increased component protection thanks tooffline filtration (mobile/electrical/remote)
- Continuous dewatering for high component performance
- Reduced oil ageing lengths oil change intervals

HYDAC coolers
For increased safety

- Thermal overload prevented by installation of air and water coolers and recirculating cooling filter units

HYDAC accumulators
For high level of operating reliability

- Polymeric accumulator for emergency running characteristics, energy storage and pulsation damping
- Filtration during filling to avoid initial damage
- Increased component protection thanks to offline filtration (mobile/electrical/remote)
- Continuous dewatering for high component performance
- Reduced oil ageing lengths oil change intervals

HYDAC Service
For reliable commissioning

As a specialist in systems and fluids, the HYDAC SERVICENTER is happy to help, for example with:
- Filtration and flushing
- Piping
- Installation

HYDAC all-in-one solutions
For consistent quality from a single source

Complete functional solutions including peripherals, such as:
- Mounting technology
- Shut-off and change-over valves
- Accessories for traction, damping and tanks
- Threaded connections
- Couplings
- Measurement ports
- Fluid level gauges

For reliable plant operation
Should you so wish, HYDAC can support your project across the entire service life.
You can make use of a comprehensive range of easy-to-use measurement and analysis equipment to monitor fluid condition and technical cleanliness. Protection for component and system is increased by permanent online measurement of parameters such as system pressure, amount of contamination, water content, temperature, free oil level, viscosity and dielectric constant. Fluid laboratory vehicles are at your service worldwide.
Fluid problems can cause high costs.

Oil filtration
Innovative filter technology for sustainable filtration.

Safety aspects in the pulp and paper industry

In action:

In action:

Water filtration
Filters and filter elements for process technology

Accessories
- Ball valves
- Fluid level gauges
- Coaxial valves
- Mounting technology...

Accumulator stations
- Emergency functions
- (e.g. opening and closing the rolls)
- Function damping
- Energy accumulators

Measurement sensors and devices
- Pressure/temperature
- Fluid contamination
- Fluid level/flow
- Oil ageing

Fluid service and handling
- Stationary and mobile fluid servicing systems for filtering, de-aerating, skimming and conditioning operating fluids.

FluidCareCenter FCC
- Systematic fluid analyses in our own lab or at customer’s premises to find the perfect fluid for your plant.

Hydraulic and lubricating oil filtration
- In paper machines
- Inline filter
- Offline filter
- Breather filter and dryer

Fig. 1: Low-pressure filters, can be switched off individually, 24-hour operation
Fig. 2: High-pressure filter block, 24-hour operation
Fig. 3: High-pressure filter block, can be switched off individually, 24-hour operation
Fig. 4: Duplex lubricating filter, 24-hour operation
Fig. 5: Online system, control valve station for dry section
Fig. 6: Lubricating oil filter, central

Innovative filter technology for sustainable filtration.
Fluid problems can cause high costs.

Safety aspects in the pulp and paper industry

Accessories
- Ball valves
- Fluid level gauges
- Coaxial valves
- Mounting technology, ...

Accumulator stations
- Emergency functions (e.g. opening and closing the rolls)
- Pulsation damping
- Energy accumulators

Measurement sensors and devices
- Pressure/temperature
- Fluid contamination (particles in the water)
- Oil ageing
- Position
- Fluid level/flow

Fluid service and handling
- Stationary and mobile fluid servicing systems for filtering, decanting, degassing and conditioning operating fluids.
- Systematic fluid analyses in our own lab or at customer’s premises to find the perfect fluid for your plant.

In action:

Hydraulic and lubricating oil filtration
- In paper machines
  - Inline filter
  - Offline filter
  - Breather filter and dryer

In action:

Oil filtration
Innovative filter technology for sustainable filtration.

Water filtration
Filters and filter elements for process technology

Water filtration in paper machines
- Inline filter
- Automatic back-flushing filter
- Hybrid system – cyclone & inline filter

FluidCareCenter FCC

Fig. 1: Low-pressure filter, can be switched off individually, central lubrication, 24-hour operation

Fig. 2: Duplex high-pressure filter block, 24-hour operation

Fig. 3: High-pressure filter block, can be switched off individually, 24-hour operation

Fig. 4: Duplex lubricating filter, U-shape, cooling oil circuit, central lubrication for dry section

Fig. 5: Lubricating oil filter, calender
Fluid problems can cause high costs.

Safety aspects in the pulp and paper industry

Accessories
- Ball valves
- Fluid level gauges
- Coaxial valves
- Mounting technology...

Accumulator stations
- Emergency functions
- Fluid level gauges
- Pulsation dampsers
- Energy accumulators

Measurement sensors and devices
- Pressure/temperature
- Fluid/contamination
- Fluid level/flow
- Oil ageing

Fluid service and handling
- Stationary and mobile fluid servicing systems for filling, descaling, skimming and conditioning operating fluids.

FluidCareCenter FCC
- Systematic fluid analyses in our own lab or at customer’s premises to find the perfect fluid for your plant.

Oil filtration
Innovative filter technology for sustainable filtration.

In action:

Hydraulic and lubricating oil filtration
- Paper machines
- Inline filter
- Inline filter and dryer
- Breather filter
- Breather filter and dryer
- Breather filter and dryer
- Breather filter and dryer

Innovative filter technology for sustainable filtration.

In action:

Water filtration
Filters and filter elements for process technology

Water filtration in paper machines
- Inline filter
- Automatic backflushing filter
- Hybrid system – cyclone & inline filter

Safety aspects in the pulp and paper industry

Innovative filter technology for sustainable filtration.
Condition Monitoring
Preventive maintenance to increase fluid service life.

A large percentage of downtime in hydraulic and lubrication systems is caused by contamination of the fluids used, in the form of particles, mixtures, water and the like. Alongside contamination, the oil itself is exposed to physical and chemical ageing processes that can also cause corrosion and downtime. It is thus clear that the condition of the oil to some extent indicates the condition of the entire system.

Determining the oil condition on the basis of the particle contamination, water content or viscosity, etc., using modern and inexpensive HYDAC sensors is therefore an efficient way to monitor the state of the entire hydraulic and lubrication system.

Sensors and electronics
Branch orientated solutions – all from a single source.

The range of sensors includes products for the measurement of pressure, temperature, distance, position, level, flow volume, speed as well as contamination and oil condition. In addition to products for standard applications, the product portfolio covers special applications such as potentially explosive atmospheres or applications with increased functional safety.

Cooling
A cool solution for every application.

In all hydraulic systems, energy is converted and transported. This involves some energy being lost, in the form of heat. Channelling this heat away is the job of heat exchangers and coolers. Whether it involves cooling with air or water, return flow or bypass flow, a standard or a customised solution, you are sure to find just the right cooler for your application in our product range.
**Condition Monitoring**
Preventive maintenance to increase fluid service life.

A large percentage of downtime in hydraulic and lubrication systems is caused by contamination of the fluids used, in the form of particles, mixtures, water and the like. Alongside contamination, the oil itself is exposed to physical and chemical ageing processes that can also cause corrosion and downtime. It is thus clear that the condition of the oil to some extent indicates the condition of the entire system. Determining the oil condition on the basis of the particle contamination, water content or viscosity, etc., using modern and inexpensive HYDAC sensors is therefore an efficient way to monitor the state of the entire hydraulic and lubrication system.

**Sensors and electronics**
Branch orientated solutions – all from a single source.

The range of sensors includes products for the measurement of pressure, temperature, distances, position, level, flow volume, speed as well as contamination and oil condition. In addition to products for standard applications, the product portfolio covers special applications such as potentially explosive atmospheres or applications with increased functional safety.

**Cooling**
A cool solution for every application.

In all hydraulic systems, energy is converted and transported. This involves some energy being lost, in the form of heat. Channelling this heat away is the job of heat exchangers and coolers. Whether it involves cooling with air or water, return flow or bypass flow, a standard or a customised solution, you are sure to find just the right cooler for your application in our product range.
Systems

Branch orientated hydraulic and lubrication units

HYDAC does not just produce components, but also connects these optimally with each other into sub-systems right up to ready-to-use complete systems. Tried and tested technology, high quality standards and detailed testing procedures guarantee the performance capability of HYDAC system solutions.

Based on well-founded knowledge on the paper industry, HYDAC is in a position to develop customer-specific solutions such as complete lubrication systems for the central lubrication and for the dry and wet sections, as well as hydraulic systems for the press section.

Energy-efficient drive systems with integrated safety functions.

HYDAC does not just produce components, but also connects these optimally with each other into sub-systems right up to ready-to-use complete systems. Tried and tested technology, high quality standards and detailed testing procedures guarantee the performance capability of HYDAC system solutions.

Training

In an age when processes are constantly changing, Quality Assurance must take centre-stage in company activities. The continuous training and further development of staff is an important component in improving quality and therefore in ensuring the long-term success of the company. Starting from this realisation, we aim constantly to improve and to extend the provision of further training for our staff.

At HYDAC, quality, professionalism and individual customer support are our standards, and always present new challenges.

Service

From start-up to rebuild. Service vehicles in action worldwide.

The HYDAC Servicenter offers a systematically constructed, comprehensive programme of services which makes a decisive contribution to increasing the useful life of hydraulic plants, coupled with correct maintenance and inspection, lubrication systems and electrohydraulic controls and regulators.

The qualification and many years’ experience in hydraulics and electronics are reflected in the worldwide authorisation of HYDAC products and the close collaboration practised with the responsible acceptance agencies (TÜV, Germanischer Lloyd, DVGW, etc.) as well as by the grounded training of the specialist personnel, who are in possession of, for example, radiation passports.

Variable speed pump drives & electromechanical systems

Application areas:
Push floors, roller drives, shoe press, packaging and conveying technology

Extensive practical knowledge of hydraulic matters.

In action:
**Systems**

**Branch orientated hydraulic and lubrication units**

HYDAC does not just produce components, but also connects these optimally with each other into sub-systems right up to ready-to-use complete systems. Tried and tested technology, high quality standards and detailed testing procedures guarantee the performance capability of HYDAC system solutions.

Based on well-founded knowledge on the paper industry, HYDAC is in a position to develop customer-specific solutions such as complete lubrication systems for the central lubrication and for the dry and wet sections, as well as hydraulic systems for the press section.

**Energy-efficient drive systems with integrated safety functions.**

HYDAC Servicenter offers a systematically constructed, comprehensive programme of services which makes a decisive contribution to increasing the useful life of hydraulic plants, coupled with correct maintenance and inspection, lubrication systems and electrohydraulic controls and regulators.

The qualification and many years' experience in hydraulics and electronics are reflected in the worldwide authorisation of HYDAC products and the close collaboration practised with the responsible acceptance agencies (TÜV, Germanischer Lloyd, DVGW, etc.) as well as by the grounded training of the specialist personnel, who are in possession of, for example, radiation passports.

**Service**

**From start-up to rebuild. Service vehicles in action worldwide.**

The HYDAC Servicenter offers a systematically constructed, comprehensive programme of services which makes a decisive contribution to increasing the useful life of hydraulic plants, coupled with correct maintenance and inspection, lubrication systems and electrohydraulic controls and regulators.

**Training**

**Extensive practical knowledge of hydraulic matters.**

In an age when processes are constantly changing, Quality Assurance must take centre-stage in company activities. The continuous training and further development of staff is an important component in improving quality and therefore in ensuring the long-term success of the company. Starting from this realisation, we aim constantly to improve and to extend the provision of further training for our staff.

At HYDAC, quality, professionalism and individual customer support are our standards, and always present new challenges.