TYROLIT PROJECT SERVICES
Machines, tools and project support
at the highest level

Premium grinding tools since 1919
www.tyrolit.com
TYROLIT Group

A global company

As one of the world’s leading manufacturers of bonded grinding, cutting, sawing, drilling and dressing tools and a system supplier of tools and machines for the construction industry, the family-run TYROLIT company has been synonymous with superior quality, innovative spirit and outstanding service since 1919.

Day in, day out the experts at TYROLIT are busy working on solutions that accommodate the individual requirements of customers around the world; thus contributing to their business success. Some 80 000 available products set the standard in various industrial sectors.

TYROLIT business units

Construction

In the construction division, TYROLIT is the leading system supplier for drilling systems, wall- and wire saws, floor saws and surface treatment.

Trade

Thanks to its global sales network, in addition to premium product solutions in the three core areas of cutting, grinding and finishing, TYROLIT’s Trade business unit guarantees truly customer-focused marketing support.

Metal / Precision

From precision machining in the engine and gear industry to the production of cut-off wheels with diameters up to 2 000 mm for the steel industry – the TYROLIT product range in the Metal & Precision business unit includes high-tech tools for a huge variety of applications.

Stone – Ceramics – Glass

Our customised diamond tools and grinding solutions in the Stone – Ceramics – Glass business unit cannot fail to impress through their exceptional performance and quality.
The Construction business unit

As a pioneer in the development and manufacturing of machinery and diamond tools for the construction industry, our partners benefit from our long-time experience and know-how as a system provider. In the construction division, TYROLIT is therefore the leading system supplier for drilling systems, wall- and wire saws, floor saws and surface treatment.

In addition to an extensive standard range of products for various applications such as drilling as well as wire or wall sawing, TYROLIT also offers individual services for special applications of all types.

Individual – quick – reliable

Highest standards for quality and service
The TYROLIT Project Services Team

Whether for the controlled decommissioning of offshore installations or nuclear power stations, the expansion and reconstruction of tunnels or for smaller specialist construction projects – TYROLIT is your reliable partner in special construction solutions.

In addition to a wide range of standard products, as well as customisable products, the TYROLIT Project Services Team supports its customers with:

- Feasibility studies
- Planning concepts
- Principle sketches
- Customised products for machines & tools
- Project management
- Training courses

Many years of experience, specialised expertise and countless successfully completed projects have shown that the TYROLIT specialists ensure technically sophisticated and project-related solutions.
Convincing technologies

**TGD® – TYROLIT GRAIN DISTRIBUTION**

TYROLIT diamond tools with TGD® technology feature intelligently distributed diamonds that enable even load distribution, optimised cooling and a constantly high cutting performance. This significantly extends the tool lifetime and the load on the machines is reduced.

- Long lifetime
- High cutting ability
- Enhanced efficiency

**P2® - PERMANENT POWER**

P2® - PERMANENT POWER - is a high-frequency technology registered by TYROLIT, which combines the compact design of electrical systems with the reliability and performance of hydraulic systems in a single machine to optimum effect. This innovative drive concept is based on the principle of drive motors with permanent magnets and enables operation at a high torque, with simultaneously reduced motor speeds. The maintenance-friendly layout of the compact devices makes servicing easier and reduces costs.

- High reliability
- Powerful performance
- Compact design

**Modular System**

Thanks to the TYROLIT Modular System, individual components can be used for the same area of application and for different applications. This not only makes the work easier and more efficient, it also saves on costs. One part of the TYROLIT Modular System is the ModulDrill™ quick clamping system, for example, which enables our drill motors to be rapidly attached to different TYROLIT drill rigs.

- High economic efficiency
- Efficient working
- Easy operation
Reliable products for your success

For special applications in small or large-scale, complex projects, the TYROLIT Project Services Team delivers ingenious solutions which quickly and efficiently bring our partners to their goal.

The following products are adapted according to requirements.

Drill rig for large diameters

- Versions for drilling diameters from 1 000 – 1 500 mm and drilling depths of up to 2 m
- Modular setup comprising 2 drill rigs (BC-2)
- Hydraulic feed on both sides via synchronisation linkages
- Gear reduction arm adapted to the relevant drilling diameter
- Electric system available upon request

Drilling unit for deep drilling

Sturdy, modular drill rig comprising standard components and new accessory parts.

- Switchable direction of rotation (left & right)
- Inclination = 25° to 90°
- Diameter = 80 – 300 mm
- Centering device
- Hydraulic pipe clamping
- Tractive force = 1 000 kg
- Recommended drive = PPH40RR
- Total weight = 120 kg
- Can be dismantled in 10 parts
- Clamping and locking device for loosening and extending tubes
**Diamond wire saw on swivel bracket**

- Standard wire saw mounted on swivel bracket
- Vertical and horizontal cuts can be made from a central position
- For rectangular apertures up to approx. 1.2 m side length
- Electric and hydraulic versions available

**Curved track**

- Adjustable to various radii
- Minimum radius inside = 875 mm
- Minimum radius outside = 1 200 mm
- Rail supports welded on
- Designed for FZ-4S saw heads, other types upon request
- Can be produced in individual 3 m lengths
- Combination with straight rails possible

**Pilecutter R1500**

- Suitable for cutting pipes or columns
- For pipes with diameters of 600 – 1 500 mm
- Can also be used underwater (down to 10 m)
- Assembly and wire loops without sleeve possible (length upon request)
- Conversion kit for BC2 drill rig available
Tunnel milling with the TPF-8

Whether vertical or horizontal - the new TPF-8 tunnel mill enables fast and flexible work in tunnels. It is the first choice when making cuts for drainage, joints, cable laying or profile extensions as well as for cutting out niches or the partial demolition of tunnel walls.

Mounting versions

- **Horizontal cut**
  - max. cutting depth = 700 mm (blade diameter min. = 750 mm / max. = 1 600 mm)
  - rail length = 1 850 mm

- **Cutting head/slot cutter**
  - max. cutting width up to 800 mm
  - max. cutting depth = 225 mm
  - blade diameter up to 650 mm

- **Multiple blade arbour**
  - blade diameter min. = 600 mm / max. = 1 025 mm
  - cutting width up to 200 mm

- **Vertical cutting attachment**
  - max. cutting depth = 700 mm
  - (blade diameter = 1 600 mm)
  - min. blade diameter 750 mm
Controlled decommissioning of nuclear power plants

The controlled decommissioning of nuclear power plants is becoming increasingly relevant and the TYROLIT experts supply the suitable equipment for this purpose, both for dry and wet applications.

According to requirements, a wide standard range of diamond tools and machines or customised solutions are available. The best proven methods and product solutions are as follows:

The TYROLIT Wallshaver

In terms of removing contaminated concrete surfaces, the TYROLIT Wallshaver convinces in every respect:

- Fully hydraulic basic machine
- Suitable for removing concrete surfaces or for milling channels into concrete or asphalt surfaces
- Cutting depth up to 100 mm (blade diameter = 400 mm)
- Removal by cutting in stages of max. 20 mm
- Cutting widths from 3.2 to 122 mm
- Remote control
- PPH40RR drive (40 kW)
- Can be used wet and dry
- Optionally available: extraction system for removing dust and slurry
The TYROLIT Dry Drilling System

The TYROLIT Dry Drilling System is the world’s first solution for easy and inexpensive dry drilling of reinforced concrete.

One of a kind

+ Clean working without a compressor – particularly suitable for decommissioning nuclear facilities
+ Low cost, simple operation
+ Excellent results in reinforced concrete
+ Durable dry drill bits in TGD® Technology in various usable lengths and diameters
+ Switchable soft impact function and 1¼ and ½ chucks
+ Soft start system and LED monitoring display for optimum drilling speed
+ Centring aid for precise drill bit guidance
TYROLIT wire saw systems

TYROLIT (diamond) wire saw systems are the first choice for cutting existing metal structures, particularly steel elements.

**DWM***-S / DWH***-S / DWH**S ATEX

+ Very high cutting performance
+ Extremely long lifetime and noticeable smooth running
+ High number of beads
+ Extremely safe thanks to robust construction

**Wire saw SB / SB-E**

+ Large wire storage up to 10 m
+ High power transfer thanks to multiple roller drive
+ Smooth running due to hydraulic wire tensioner
+ Recommended drive = PPH40RR
+ Also available in an electric design in conjunction with the 26 kW motor of the WSE2226
Controlled decommissioning of offshore installations

Whether for topside cutting orders or underwater cutting work, whether during running operation or on decommissioned facilities – the TYROLIT experts understand their customers' requirements. A special highlight of the product range is the world’s first ATEX-certified wire saw system, which can be used in explosion-hazardous areas.

**DWH***-SL & DWM***-SL wire loops

- Spliced design in lengths of 2.9 m – 52.5 m
- Yellow rubber for better visibility, especially underwater
- Length tolerances depending on loop length
The only ATEX-certified wire saw system worldwide

TYROLIT is the world’s first supplier to present an ATEX-certified wire saw system for use in Zone 1 (EX Zone 1, II 2G IIA c T3) explosion-hazardous areas. The system, which comprises a hydraulic wire saw and electroplated diamond wire for steel, was tested in accordance with current ATEX Directives by GexCon in Norway. Certification was awarded by DNV Nemko Presafe AS.

This revolutionary cold cutting technology of the highest standard enables working on complex projects in explosion-hazardous environments as supplied by no other competitor worldwide.

- Certified for explosion hazardous areas (EX Zone 1, II 2G, IIA c T3)
- Modular, combinable system comprising DWH***-S ATEX diamond wire, SB hydraulic wire saw and drive.*
- For all metals except titanium
- Wire speed = 10 – max. 18 m/s
- Only for wet cutting
- With machine, only in conjunction with flow monitor

* Certified drive, either provided by customer or alternatively PPH40RR in a certified protective cabin (upon request).
Depending on the requirements or existing machines, different product offerings are available.

**PPH40RR**

+ Powerful 40 kW drive
+ 4-stage control for optimal cutting speeds
+ Freedom of movement thanks to remote control; all functions can be adjusted via remote control
+ Rotational direction switch, secondary connections, operating hours counter
+ Plastic cover can be removed without tools.

**Protective cabin**

+ Certified protective cabin for PPH40RR
+ Certified remote control
+ Small and transportable unit in pallet size
+ Integrated emergency stop function in the event of failure of the water supply to the wire saw (in conjunction with flow monitor)
+ Overpressure system and integrated cooling

**A modular system for your specific application**

Depending on the requirements or existing machines, different product offerings are available.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Machine</th>
<th>Drive</th>
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<tr>
<td>Diamond wire</td>
<td>SB hydraulic wire saw</td>
<td>Certified drive provided by the customer</td>
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<tr>
<td>DWH***-S ATEX</td>
<td>PBHS-OFFSB-01 (only in conjunction with flow monitor)</td>
<td>OR</td>
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<td>PPH40RR in conjunction with a certified protective cabin (optional)</td>
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Environmentally friendly subsea cutting

Our oceans’ seabed is littered with human made infrastructure: oil and gas pipelines, anchor chains and a lot more that we need to maintain our modern lifestyle. Nothing lasts forever, so when something is no longer in operation, it needs to be removed. As the nature of the matter makes a simple garbage collection impossible, you need professionals with special knowledge and specially developed machines and tools.

Perfect synergy of technology and know-how

TYROLIT’s distribution partner 1Diamond manufactures cutting machines with cutting capacities from 6 to 62 (82) inches and a maximum operational depth of 10 000 ft / 3 000 m. On request, also larger machines for special applications can be designed and build as well. TYROLIT delivers the diamond wires for these demanding and complex underwater applications.
Subsea cutting machines
1Diamond sets new industrial standards in wire cutting technology.

**PIRANHA 6”**
- Max. cutting width 6”
- ROV development
- Light weight aluminium or carbon
- Diamond wire OD 8.5 mm up to 11.00 mm
- Bolt cutting, challenging space available

**DOLPHIN**
- Max. Pipe Clamp: 6” to 12”, 10” to 24”, 22” to 36”, 30” to 42” and 42” to 60”
- Configurable to cut various pipe diameters by fitting a suitable pipe clamp
- All electric operation option
- Accurate control, reliable results
- Capable of sawing at any inclination at up to 1 000 / 6 000 ft / 300 / 1 800 msw
- Durable construction and materials
- Handles high axial load
- Designed for high availability

**Versions**
- **Dolphin 12”** – cutting from 6" to 12", hydraulic drive, depth up to 1 800 m / 6 000 ft
- **Dolphin 24”** – cutting from 10" to 24", hydraulic drive, depth up to 1 800 m / 6 000 ft
- **Dolphin 36”** – cutting from 22" to 36", hydraulic drive, depth up to 1 800 m / 6 000 ft
- **Dolphin 42”** – cutting from 30" to 42” (extension kit available to cut up to 80" diameter), hydraulic drive (electric upon request), depth up to 1 800 m / 6 000 ft and 3 000 m / 10 000 ft
- **Dolphin 60”** – cutting from 42” to 60”, hydraulic drive, depth up to 1 800 m / 6 000 ft
**BARRACUDA**

+ Emergency response tool
+ Max. Pipe Clamp: 30” to 40” OD 762 mm to 1067 mm
+ Configurable to cut various pipe diameters by fitting a suitable pipe clamp
+ All electric operation
+ Accurate control, reliable results
+ Capable of sawing at any inclination at up to 10 000 ft / 3 000 msw
+ Durable construction and materials
+ Handles high axial load
+ Designed for high availability
+ Horizontal and vertical cutting possible

**GREEN SAWFISH**

+ Groundbreaking modular system for last-phase removal of deck frames (MSF) and gravity-based structures (GBS)
+ Max. Depth: 600 ft / 182.9 m below water surface
+ Max. Cutting dimension:
  - Model 200”: 16 ft / 4.9 m
  - Model 300”: 25 ft / 7.6 m
+ Cuts with surgical precision through almost all materials
+ Diamond wire is not affected by high axial loads
+ Engineered cutting of jacket legs and piles
+ GBS separation
+ Engineered incline 10 degree cut to secure the structure
MUD FISH
- For cutting jacket legs and piles
- Cutting width up to 100" / 2.5 m
- Water depth up to 600 ft / 182.9 m
- Designed for cutting below mudline
- Cutting in harsh environment

FLY FISH
- Designed for cutting jacket legs and piles above water level
- Diameter up to OD 60"
- Engineered “key-cut” to secure the structure
- Engineered RAT (Rope Access Technician) friendly

GREEN TURTLE
- Cuts conductors down 15 ft below sea floor
- Totally remotely controlled
- Self-dredging functionality
- Cutting operation is supported and monitored by using state-of-the-art computer simulation software and by Satellite
In use worldwide

The TYROLIT Project Services Team supports its customers in numerous (major) construction projects around the globe.
Our worldwide subsidiary companies can be found on our website at www.tyrolit.com