

# PLARAD Bolting systems for **CONSTRUCTION & MINING**



**PLARAD**<sup>®</sup>  
Torque & Tension Systems



# PLARAD BOLTING SYSTEMS

## PASSION FOR BUSINESS

For more than 40 years, Plarad has been developing bolting systems of the highest quality and today it's hard to imagine the global market without our presence. Yet this success is by no means a coincidence, but rather the fruit of consistent hard work.

### 40 YEARS OF SUCCESS ... IN GLOBAL MARKETS

The needs of our customers have always been at the heart of our work.

Recognizing those demands and offering innovative solutions has always been and continues to be the core objective of our company.

### SAVE MONEY, TIME AND RESOURCES

Cost consciousness, making the customer's working day that little bit easier and saving resources were all aspects taken into particular consideration during our product development stage.

In this tradition, our engineers develop innovative bolting systems to cope with the constantly evolving demands of the global market.

**We aim to solve tomorrow's problems today.**



# PLARAD AND CONSTRUCTION MACHINERY A LONG-LASTING PARTNERSHIP

Construction machines, such as diggers, cranes or dumper trucks, have high requirements placed on them every day. Similarly high are the demands on production and service quality. Servicing takes place at short, regular intervals.

The **PLARAD** product range offers a variety of different systems and performance classes for these applications, high capacity for batch production and light, mobile tools for service and repairs on site.



## SPECIAL SOLUTIONS FOR PRODUCTION AND SERVICING OF CONSTRUCTION MACHINES.

Yield point controlled bolting procedures, torque/angle of rotation procedures and precise pretensioning forces can be employed at exactly the right torque according to case-specific requirements with the aid of Plarad tools.

A good job that **PLARAD** is a specialist in the industry and understands perfectly the specific applications for bolt connections. **PLARAD** works in close cooperation with specialists to design and produce solutions for the most diverse bolting tasks.

Exact, reproducible bolt connections are a must if you want to achieve the highest possible level of operational safety and avoid downtime. Plarad tools keep machines running.



# PLARAD'S ROLE IN SURFACE MINING

## NO MEAN FEAT

Mining equipment must be able to satisfy the enormous demands placed on it 24 hours a day. Regular, careful servicing is of the highest importance to this machinery as any downtime brings high costs with it. **Plarad** bolting systems are always reliably there for the mechanics and allow precise bolt connecting at a high operating speed.



## CHOOSE PLARAD

### REDUCE DOWNTIMES, SAVE MONEY

Insurers and certifiers are also aware of how important the quality of bolt connections is. **Plarad** documentation is astonishingly user-friendly and happens between the tool and on-site PC without any sensors.



# UNDERGROUND WITH PLARAD

## A TRUE PAL

Underground mining puts the toughest demands on man and machine alike.

Our engineers work in teams with specialists from higher education institutions to create tailor-made solutions for any underground bolting tasks.

This is where the pneumatic powered tools come into play. Safe for use in hazardous locations and thus ATEX certified, their low weight and great manageability mean they make the otherwise difficult work a piece of cake. Of course, reproducibility and documentation go without saying at **Plarad**.

### A BONUS POINT FOR SAFETY WITH PLARAD SYSTEMS.



Attuned to the task at hand, there are the **PLARAD** pneumatic torque tools or a whole range of hydraulic tools available – all powered by the pneumatic-hydraulic power pack **PLARAD X2P** (*more information on page 8*).





## CH / RKW.F

Ultra-versatile –  
go-anywhere bolting tool!

- Extremely compact
- Wide range of ring inserts for maximum flexibility
- Light and handy
- Ideal in awkward, low-clearance bolting situations

300 Nm

20,000 Nm



## RE

Ultra-capable –  
concentrated power and versatility!

- Absolute maximum torque
- Bolt sizes up to A/F 320
- Ideal in awkward, low-clearance bolting situations

5,000 Nm

150,000 Nm



## SC

Ultra-powerful –  
setting new standards of safety and precision!

- Rugged, durable lightweight aluminium/titanium case
- Patented separate high-pressure safety cylinder
- Precise, fine-splined ratchet system
- Optional Safety Hold system\*
- 360° rotating reaction arm
- Extra heavy duty loosening-shock absorber

210 Nm

65,000 Nm



## VS / HSX

Ultra-slim –  
unbeatably light and compact!

- Extremely low-profile light aluminium/titanium case
- Patented separate high-pressure safety cylinder
- Superior working speed
- 360° rotating hose connection
- Precise, fine-splined ratchet system
- Optional Safety Hold system\*

250 Nm

45,000 Nm

The products shown represent only a small selection from our extensive product range.  
Ask for more information on the individual products.

\* Further information on the Safety Hold system is provided in our individual product leaflets.

# HIGHLIGHTS FROM OUR MAINTENANCE AND SERVICE RANGE



## G type

**Torque multipliers –  
bolting made easy, anywhere!**

- No outside energy source needed
- High efficiency for minimum effort
- Built to take the knocks
- Ultra-compact size

170 Nm      8,600 Nm

## ST / STM

**Electric turbo torque tools –  
A new dimension in speed and precision!**

- Used in assembly, maintenance and mass production
- Multiposition electronic torque selector
- Light weight
- Unmatched high tightening speed
- Industrial grip and casing
- Vibration-free and low-noise

250 Nm      12,000 Nm

## STA / STAM

**Pneumatic turbo torque tools –  
a new dimension in speed and precision!**

- For high-risk environments (an ATEX certified torque tool is also available)
- Pneumatic valve for fine adjustment
- Unmatched high tightening speed
- No need for electrical power
- Shock-free and low-noise
- Low weight

130 Nm      12,000 Nm

## Bolt Tensioner

**Controlled force –  
maximum power at minimum torsion!**

- Performance range 130 kN to 6,000 kN
- No torsion and unaffected by friction
- Exact tension preset
- Withstand maximum pressures
- Universally deployable

Technical data subject to change without notice.

# ONE POWER PACK, ENDLESS POSSIBILITIES

Three performance classes up to 0.79 gal/min at 11,600 psi

**PLARAD IQ-VX** power packs are an upgradable modular system that grows with your needs. The **IQ-VX** series offers basic models in three sizes with differing flow rate.

The **PLARAD IQ-VX** also grows with your needs, with a range of accessories including an extra oil tank and a pressure intensifier.

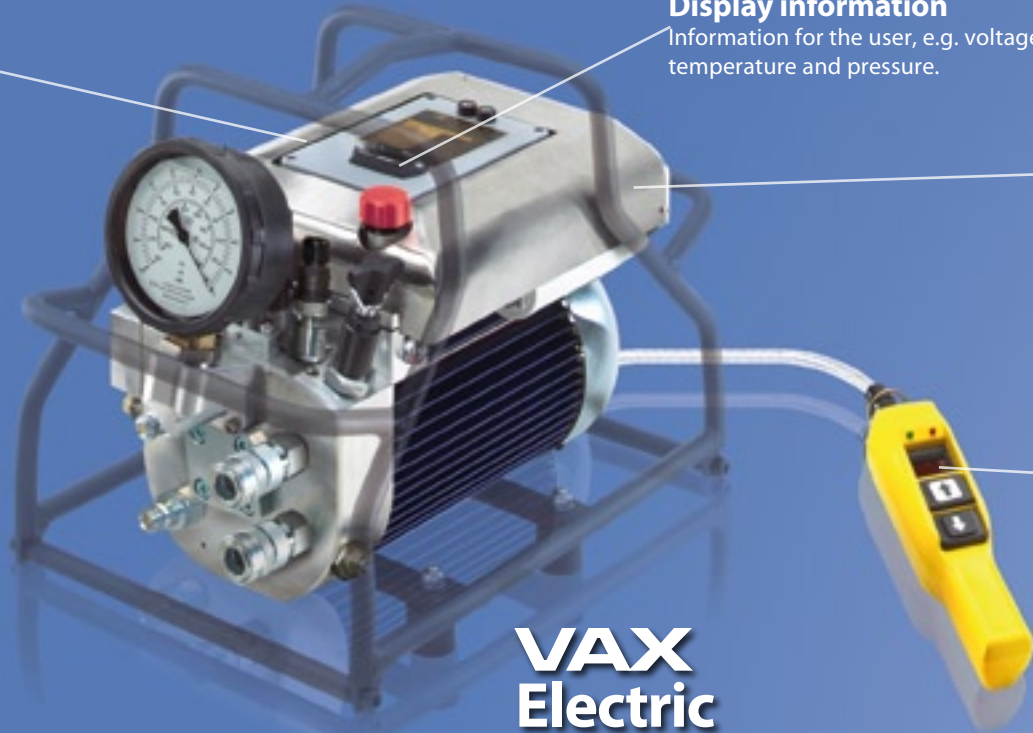
All models from the basic PLARAD VX upwards boast an integral microcontroller and a range of operating modes and tightening methods.

## VAX technology (fully automated)

Safe to use with fully automated tightening, automatic tool shut-off and completion indicator on remote control.

## Display information

Information for the user, e.g. voltage, temperature and pressure.



## IQ-VAX 1 - Z

- Compact
- Light weight

## IQ-VAX 2 - Z

- Excellent handling
- High speed

## IQ-VAX 3,5 - Z

- Minimum payback period
- Extremely high speed



# MULTIFUNCTION POWER PACK TECHNOLOGY FOR POWER PLANTS

## Synchro

For tightening multiple bolts in parallel.

## Rugged

Strong frame to protect the machine.

## Handy and lightweight

Ideally suited for mobile use (from 49 lb)

# X2P Pneumatic

(also available with VAX technology)

## Latest bolting methods

Microcontroller for torque or angle-controlled tightening without tool-mounted sensors.

## Fast two-stage system

with additional gear.

## ATEX-compliant

Specially designed for use in explosive atmospheres.

## Digital remote control

Digital display shows applied pressure and status message on assembled joint.

## Optional extras for added versatility

### Fully scaleable

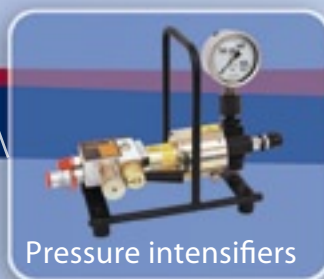
For use with two or more large torque tools.



Extra oil tank

### Extends up to 29,000 psi

For use with bolt tensioners and other high-pressure hydraulic components up to 29,000 psi.



Pressure intensifiers

### Data input/output

Record and print attained torque and other data.



Recording

# PLARAD AND SERIAL PRODUCTION

## FAST - PRECISE - RELIABLE

The extensive product range from **PLARAD** offers diverse solutions for almost any bolting situation arising in the serial production of units and machines.

Electric and pneumatic power torque tools ensure quick, non-tiring work without irritating or health endangering vibrations.

Especially in non-stop operation the Hand/Arm Vibration-Syndrome (HAVS) can thus be ruled out.

## EFFICIENT PRODUCTION AT THE OPTIMAL COST-BENEFIT RATIO

Hydraulic power packs with a maximum capacity of 3 l/min at 800 bar are fully-automatically controlled right up to the end of the bolting procedure thanks to the **Plarad VAX** automatic

technology. Exact reproducibility and documentation – without sensor technology and on-site PC – ensure a comfortable work process. The VAX technology can be implemented as either yield point or torque/angle of rotation controlled.

Thanks to the VAX technology, gaping and leakages are now firmly a thing of the past; the Plarad synchronized process means a number of power nutrunners can be controlled absolutely synchronized and at the same torque.

Special constructions are a welcome challenge for us engineers. We like to sit down around a table with our customers and develop individual solutions for even the most complex bolting situations in order to make their production more efficient.



# OFFICIALLY CERTIFIED BLACK AND WHITE PROOF OF OUR QUALITY



The best proof of a company's performance is allowing it to be tested by independent authorities.

Plarad displays the recognized **DIN ISO 9001:2000** certificate, for instance, which documents a firm, established quality management system within a company.

## ... ALWAYS A STEP AHEAD OF THE COMPETITION.

The German Metrology Institute (**PTB – Physikalisch-technische Bundesanstalt**) has supported Plarad with tests and certification for decades.

**“Germanischer Lloyd”** in its activities as a global certifier has also been at our side for all certification.



# *fit***2***gether*

**Fit2gether: You** and **PLARAD** products from Maschinenfabrik Wagner are the perfect fit.

Together we join components, tighten fasteners, master engineering challenges and find the most cost-effective solution to match your needs. Our products go hand in hand with full service.

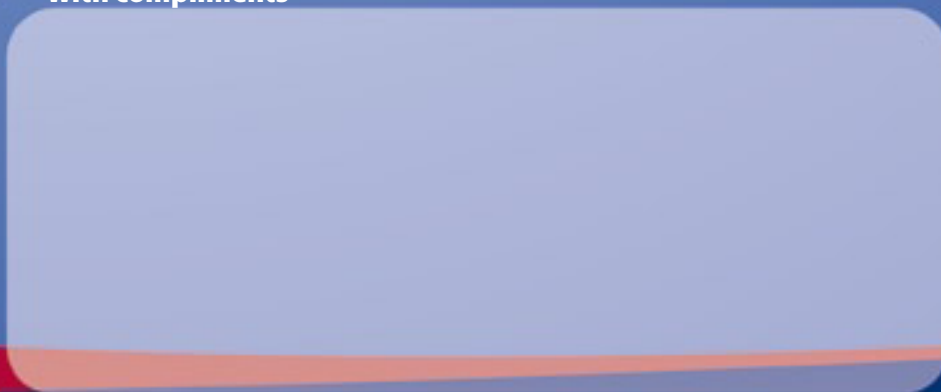
When you buy **PLARAD**, you are entering into a long-term partnership focused exclusively around your needs.

**Fit2gether** is professional knowledge and expertise in bolting.

We meet your needs.

**Fit2gether** – your partnership with **PLARAD**.

**With compliments**



**PLARAD**<sup>®</sup>  
Torque & Tension Systems



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