



# PLARAD<sup>®</sup>

Torque & Tension Systems

## Products & Services

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# Quality made in Germany





# Professional bolting technology

Since 1962 Maschinenfabrik Wagner and its brand „Plarad“ has been the benchmark for quality, innovation and reliability in the field of bolting technology.

SME's and large, globally engaged companies in various industries rely on our competence where tailor-made bolting solutions are concerned. Our customers benefit from our flexibility and our know-how, acquired continuously since the early 1960s.

The new generation of Plarad bolting systems are thinner, more powerful and lighter than the preceding models. Due to continuous development of our products, Plarad is always a step ahead. We are driven by customer's requirements as well as market demands.

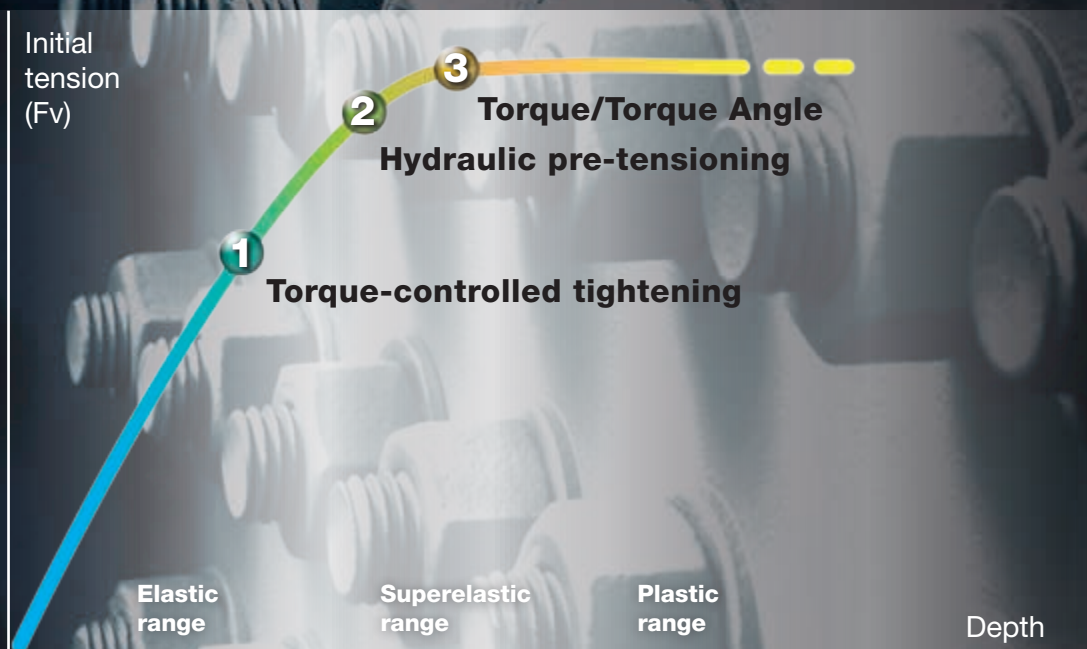
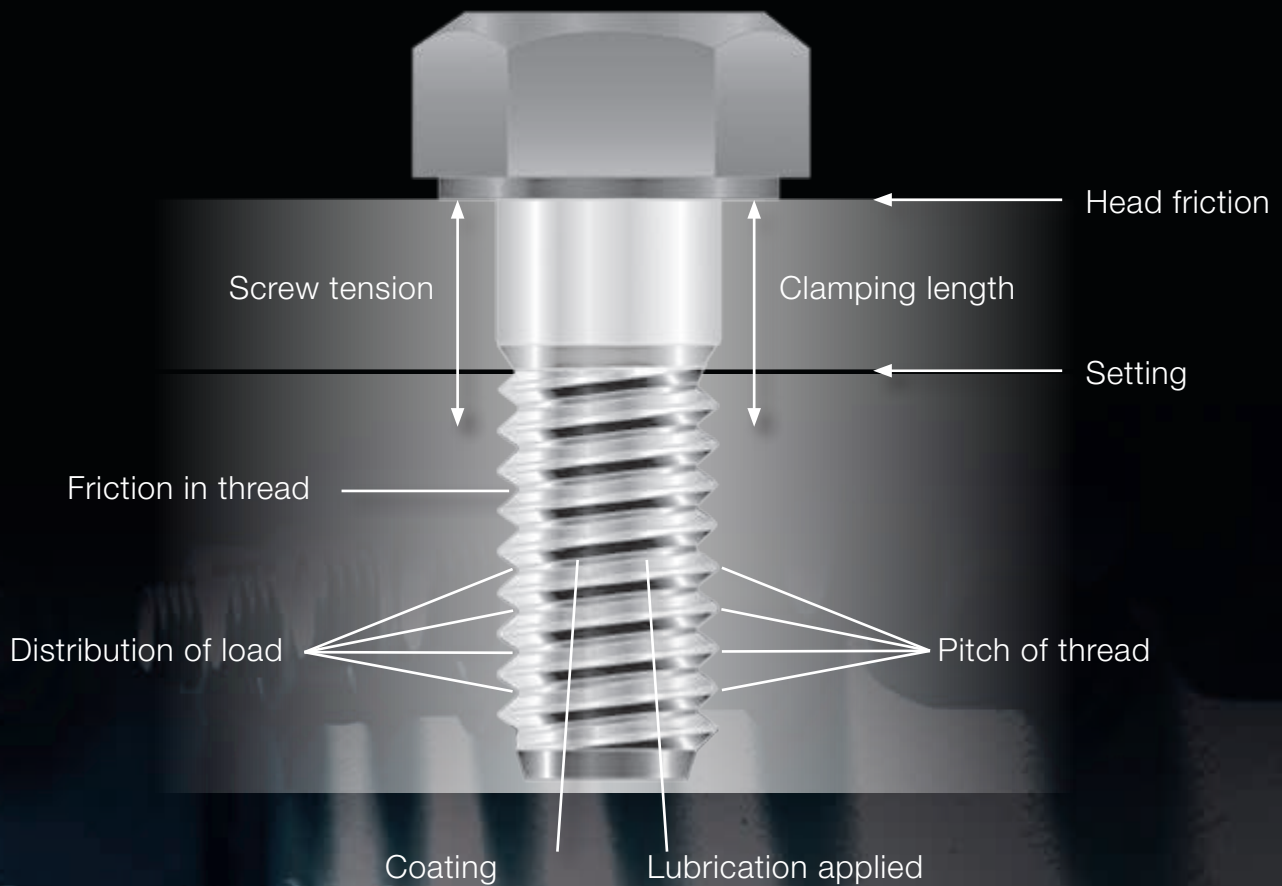
When developing new designs, we do not only focus on achieving a high level of quality, but at the same time we test extensively the function and handling features using our own testing devices. The result is a new generation of products for bolting technology which do not only technically fulfil the highest demands.

With eight product lines, from manual torque multipliers through to completely automatic bolting systems, we can offer you the broadest product range in the market. You benefit from perfectly optimised tooling while all the products for your bolted joints come from a single source.



# Bolt joint

Many physical characteristics affect and influence the final bolted joint.

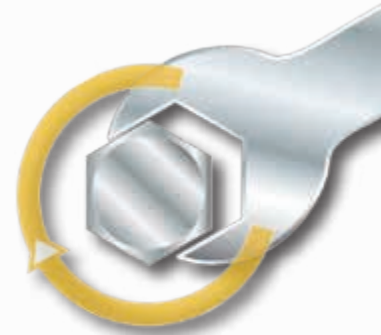


# Our solutions

## 1

### Torque-controlled tightening

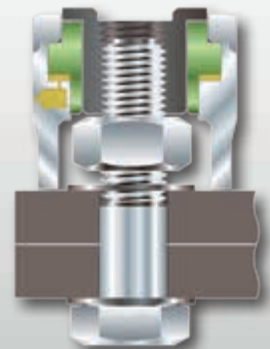
- In the majority of cases where bolts are used, torque-controlled tightening is the method used to tighten.
- With this method the friction on the thread and head of the bolt act as a precise pre-tensioning force, therefore the use of accurate tools is imperative.
- Effectively the bolt can be tightened quicker.
- This method is more practical and easy.
- Light, compact tools can be used where space is limited.



## 2

### Hydraulic Tensioning

- As the nut is not rotated under load, there is no torsional load on the bolt.
- After achieving the desired applied load, the nut can be tightened without causing stresses on it. The correct applied bolt load is therefore achieved.
- Even different co-efficients (levels) of friction have no effect on the tensioning process.



Via the hydraulic cylinder tensioning force is exerted on the bolt causing it to elongate.

## 3

### Torque/torque-angle-controlled tightening

- Torque/torque-angle-controlled tightening is more precise than purely torque-controlled tightening.
- The defined amount of rotation of the bolt (torque angle) provides automatically and accurately the required pretension.
- Control is achieved directly from the power pack, by means of microprocessor technology within the pump.
- Higher quality bolting joints are achieved.
- Results can be stored and used at a later date for documentation required in quality assurance processes.
- The whole control process is achieved without the need of external sensors, hence no need for extra cables from the tool.





# Nutrunners

**PLARAD**



# DE1 the new generation

**NEW!**

- New gearbox – slimmer, shorter, lighter
- New control system – for even more precise bolting results
- New display with added features – comfortable operation and comprehensive information

Multi function-display

Includes a protective transparent silicon cover

The motor drive can rotate 360°

vibration free quiet drive

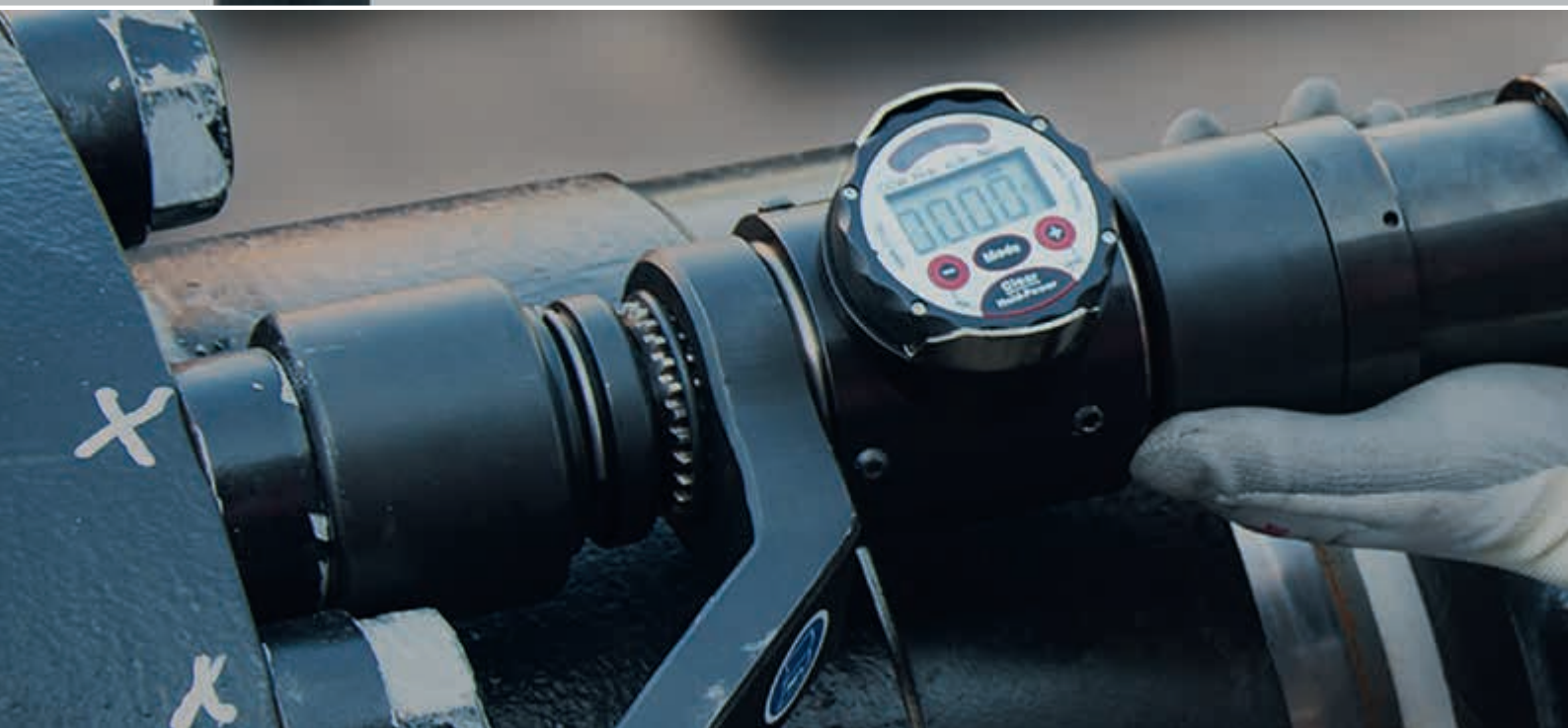
Redesigned gearbox

Fully developed ergonomic profile

## Type

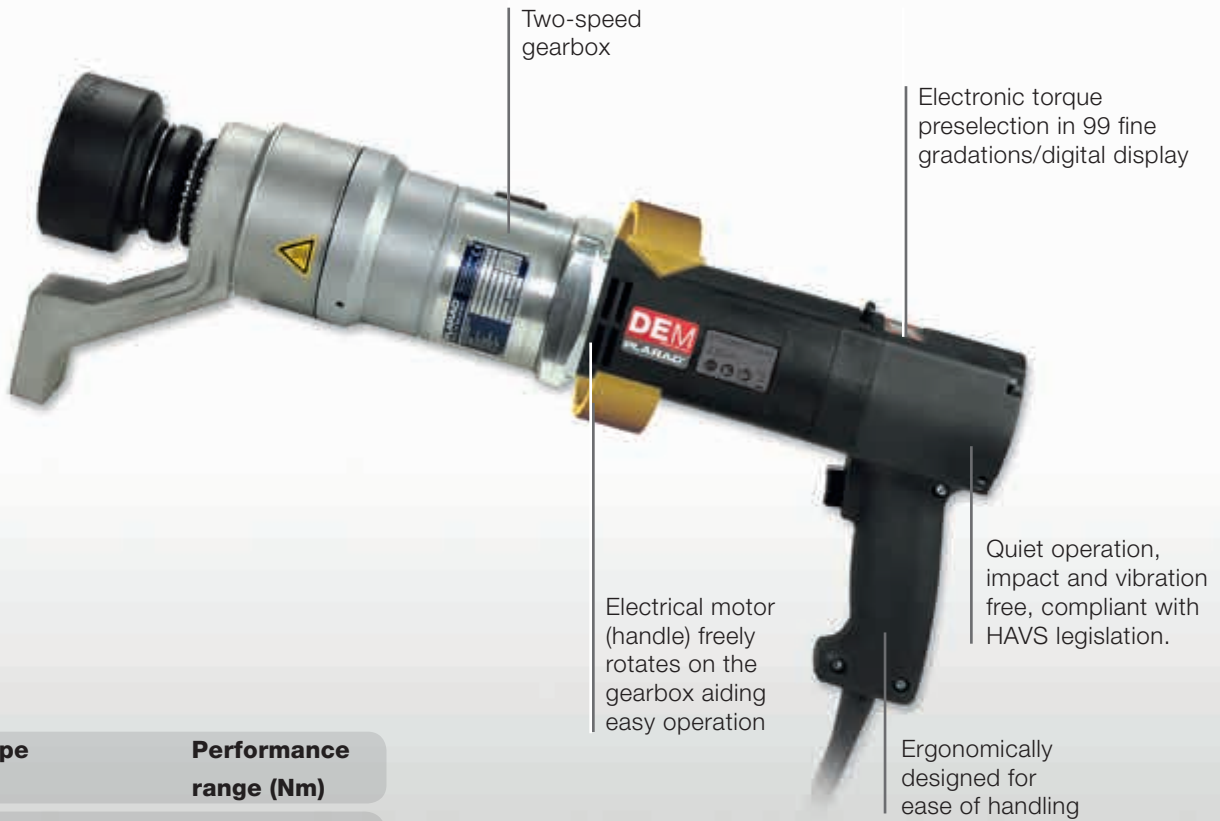
## Performance range (Nm)

<b>DE1-10</b>	up to 1 000
<b>DE1-20</b>	up to 2 000
<b>DE1-30</b>	up to 3 000
<b>DE1-36</b>	up to 3 600
<b>DE1-48</b>	up to 4 800



# DEA/DEM

automatic/manually operated



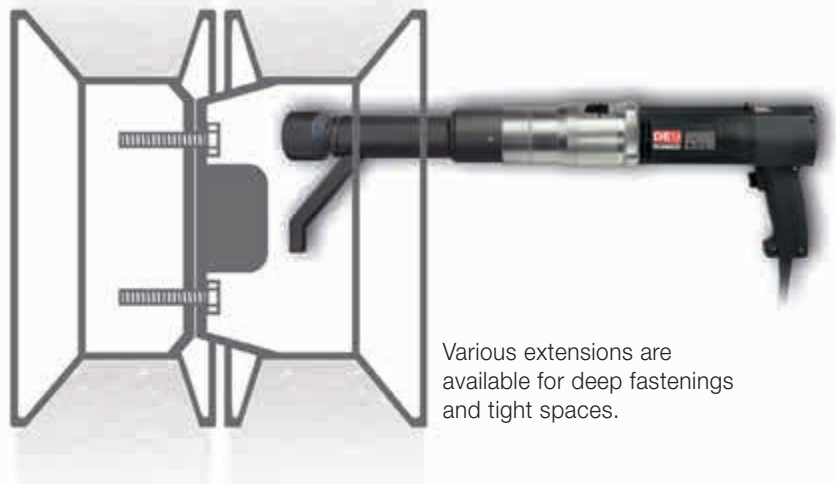
Type	Performance range (Nm)
DEA/DEM 65	up to 6 500
DEA/DEM 80	up to 8 000
DEA/DEM 120	up to 12 000

## Torque range up to 12 000 Nm

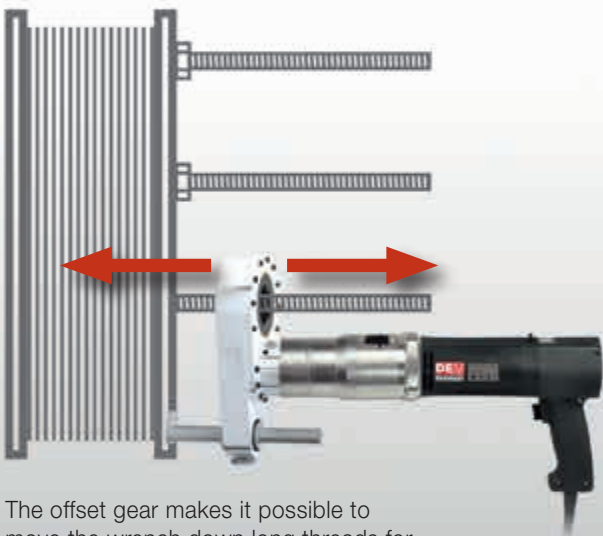
- For continuous use in assembly, repair and production
- Plarad DEM with manual and Plarad DEA with automatic 2-speed gearbox
- The low-vibration technology protects the user's muscles and joints, effectively preventing the onset of HAVS (hand-arm-vibration syndrome)
- The light weight and sophisticated ergonomic profile enable optimal handling



# DE accessories



Various extensions are available for deep fastenings and tight spaces.



The offset gear makes it possible to move the wrench down long threads for nut sizes up to AF 150 mm.



The motor drive can rotate 360°

DE1-W with angle drive: easy to use even in otherwise inaccessible places thanks to its low height. The electric motor and handle freely rotate on the gearbox.



# DA1 battery nutrunner



**Type**    **Performance range (Nm)**

**DA1-05**    130 - 550

**DA1-10**    130 - 1 000

**DA1-13**    275 - 1 300

**DA1-30**    285 - 3 000

**DA1-47**    470 - 4 700







Includes a battery powered LED torch



Includes a fast charger



Includes two 5 Ah lithium ion battery packs

## Torque range up to 4 700 Nm

- The range topping (most powerful) model DA1-47 can achieve up to 4 700 Nm
- 60 different torque settings
- Four different extrapowerful loosening settings
- Linear torque characteristics
- Two step active charge indicator
- On/Off operation trigger with delayed action – 0/1 binary logic
- Automatic release of forces on reaction arm once controlled tightening is achieved, no jamming

## High speed combined with enormous safety

As soon as the desired set torque value is acquired the unit automatically stops, it is also immediately ready for the next bolt tightening etc.

The continually active 2 step LED display of the battery charge prevents inaccurate torque tightening's when the capacity of the battery is too low.

The operation trigger is not variable but binary – thus preventing an inaccurate torque being applied, especially useful during extended operation or when wearing gloves.



Predetermined torques can be set via changing the gear and setting the power setting step





**PLARAD**

# DP1 the new generation

**NEW!**

- Shorter and slimmer than the previous model
- 5 models covering a torque range from 125 – 3 600 Nm
- Vibration reducing technology protects the users muscles and joints during continuous operation in assembly/maintenance and production environments
- Lightweight and ergonomic making the tool easy to use
- Pneumatic drive rotates 360° on the gearbox



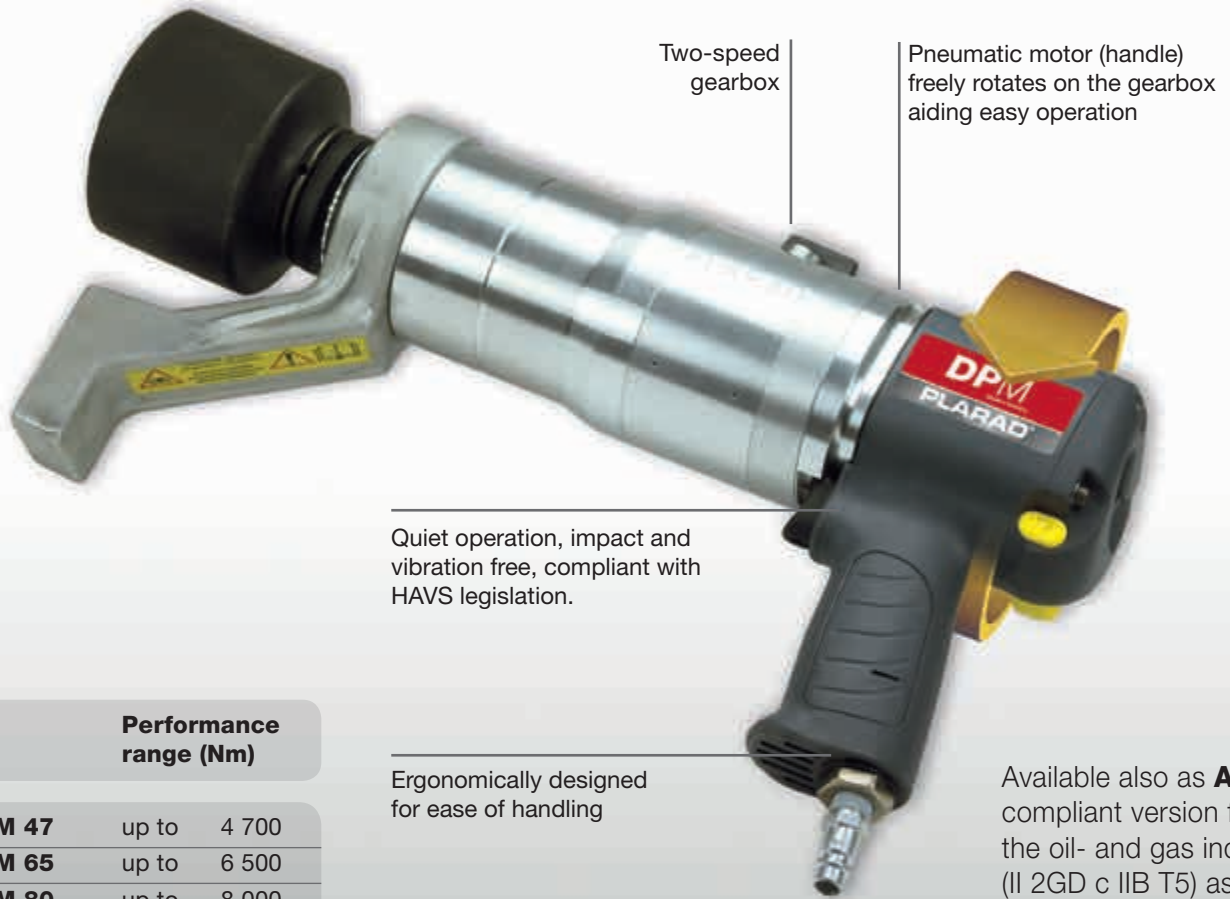
Type	Performance range (Nm)	
DP1-05	up to	500
DP1-10	up to	1 000
DP1-20	up to	2 000
DP1-30	up to	3 000
DP1-36	up to	3 600





# DPA/DPM

automatic/manually operated



Quiet operation, impact and vibration free, compliant with HAVS legislation.

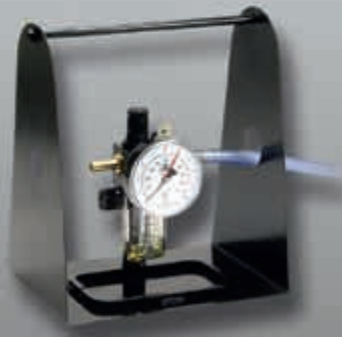
Ergonomically designed for ease of handling

Available also as **ATEX** compliant version for the oil- and gas industry (II 2GD c IIB T5) as well as mining industry (I M2 c)



Type	Performance range (Nm)
DPA/DPM 47	up to 4 700
DPA/DPM 65	up to 6 500
DPA/DPM 80	up to 8 000

Up to 12,000 Nm available on request.



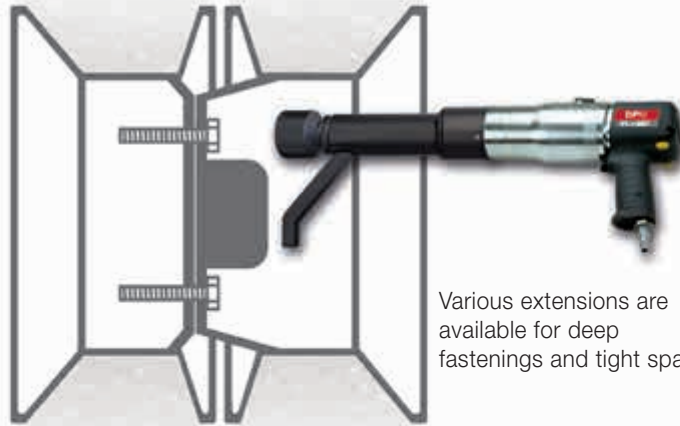
Fine adjustment is achieved via a pressure regulation unit

## Torques of up to 12 000 Nm

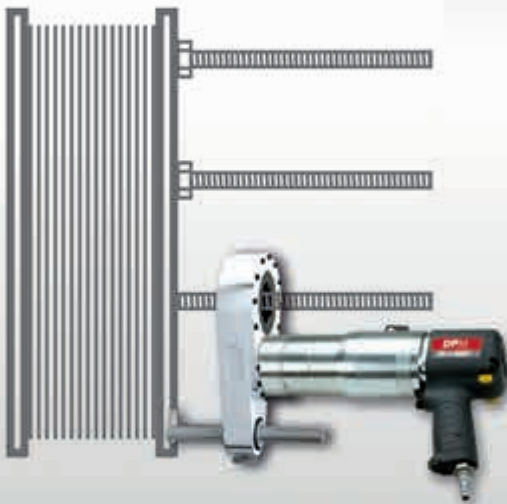
- For continuous use in assembly, maintenance and production
- Plarad pneumatic nutrunners are specifically designed for a variety of tasks, including “Ex” environments prevalent in the oil, gas, and mining industry
- Plarad DPM with manual 2-speed gearbox and Plarad DPA with automatic two-speed gearbox
- The low-vibration technology protects the user’s muscles and joints, effectively preventing the development of HAVS (Hand-Arm Vibration Syndrome)
- Their extremely light weight and sophisticated ergonomic profile enables ease of use



# DP accessories



Various extensions are available for deep fastenings and tight spaces.



The offset gear makes it possible to move the wrench down long threads for nut sizes of up to AF 150 mm.



The motor drive can rotate 360°

DP with angle drive: easy to use even in otherwise inaccessible places thanks to its low height. The pneumatic motor and handle freely rotate on the gearbox.



A close-up photograph of a hydraulic power pack. In the upper left, a pressure gauge is visible with a white face and black markings, showing a needle pointing to approximately 400. The gauge has two scales: an outer scale from 0 to 800 and an inner scale from 0 to 100. The main body of the power pack is a light-colored metal block with various ports and fittings. Two prominent red safety caps are attached to the front of the unit. The background is dark and out of focus.

# Hydraulic Power Packs

**PLARAD**



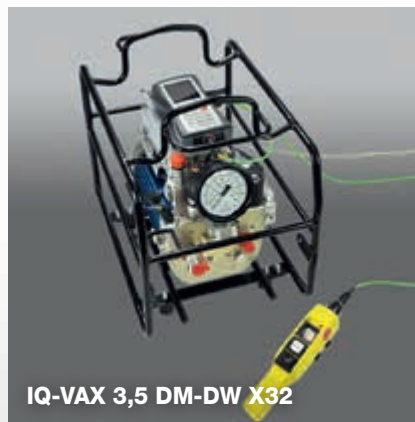
# Hydraulic Power Packs

## for every bolting situation

Our robust and long-lived hydraulic power packs are distinguished by a constant volume of oil (litres) up to the final pressure of 800 bar and have proven their mettle in heavy continuous use. From light-weight standard versions via microprocessor-controlled, fully automatic designs through to special power packs – Plarad has the correct power pack for every need, electric or pneumatic drive.



IQ-VAX 2 WZ X32



IQ-VAX 3,5 DM-DW X32



IQ-VAX 2 Z-X32 110V



XB 1



XB 2 Z



XB 2



X2 P-Z



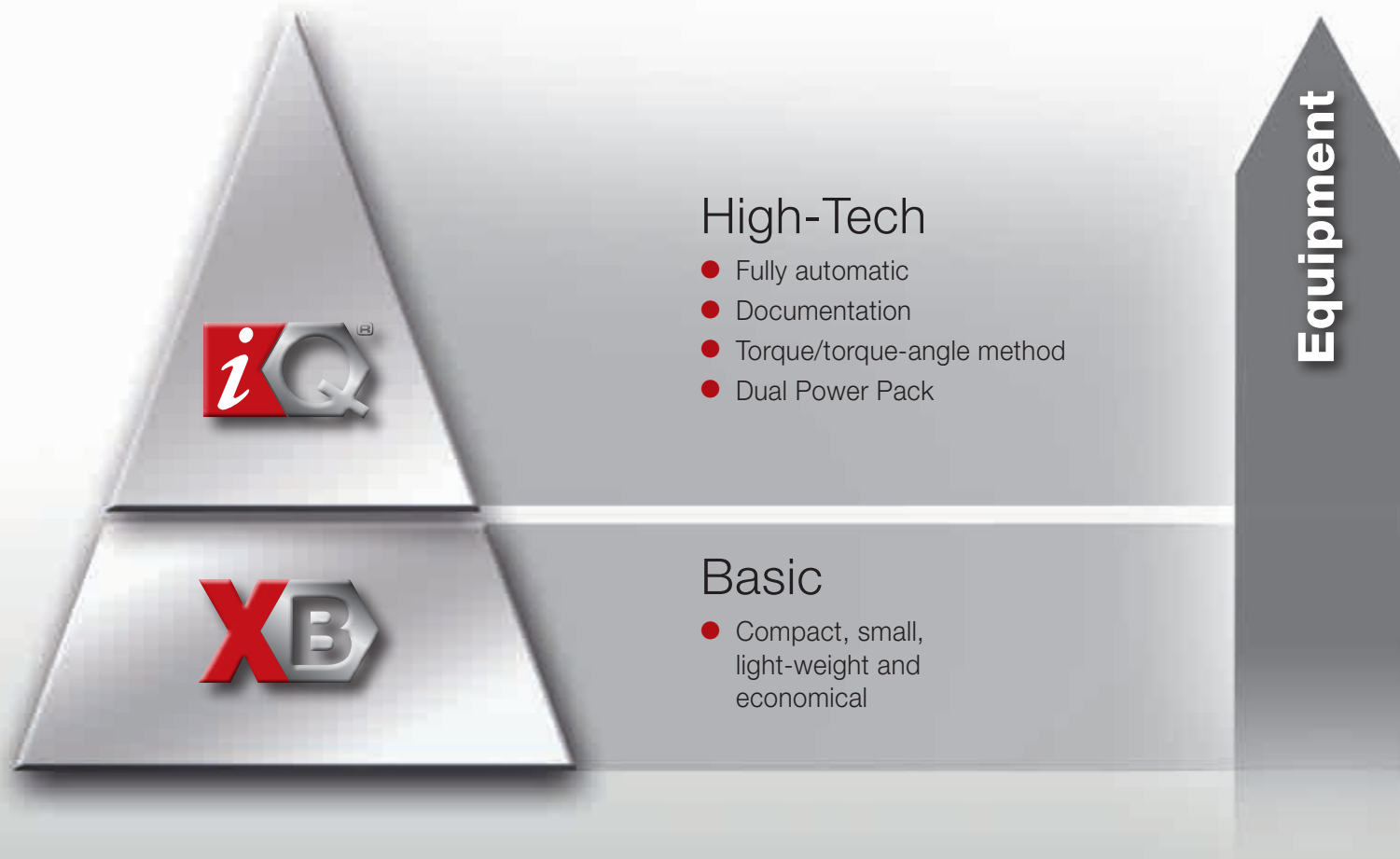
TAX



IQ VAX 2 WZ Dual

# Power Pack Overview

## electric



### Fast

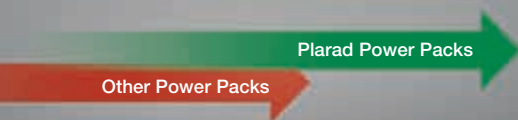
- More bolts can be tightened in the same amount of time: Plarad products are up to 3 times faster than other products.

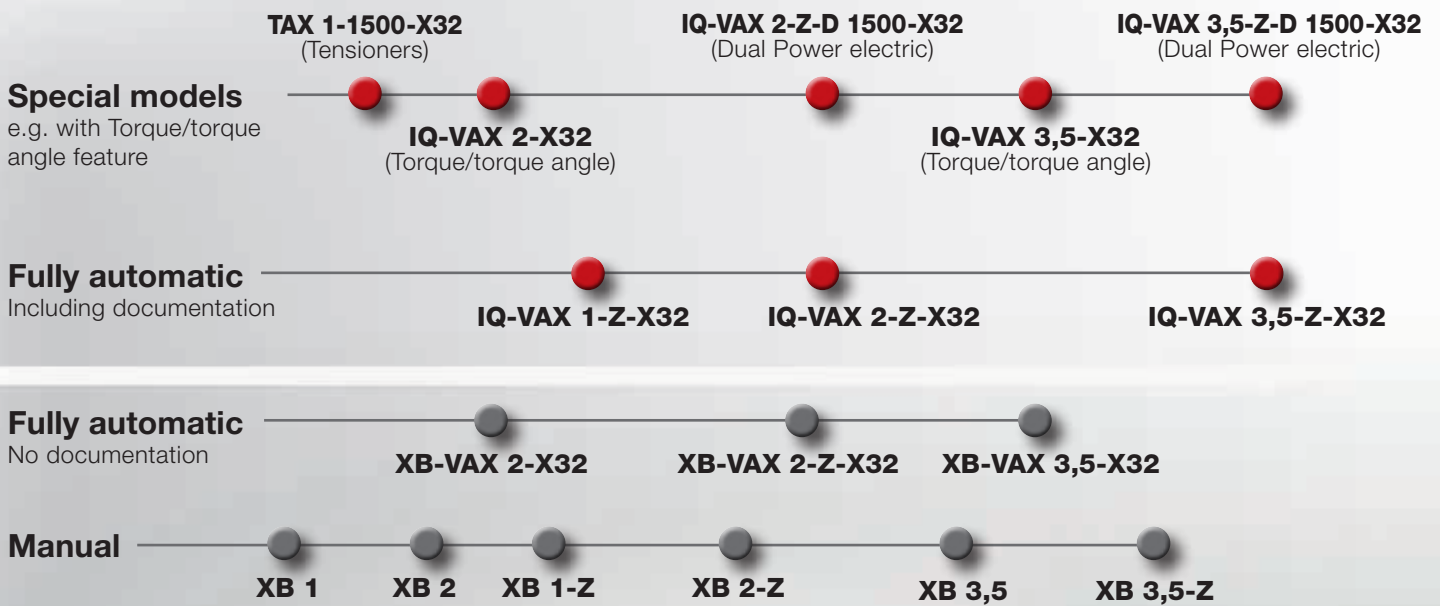
### Reliable

- Accurate, safe results as the application is controlled and monitored completely automatically by an internal microprocessor.

### Safe

- The Plarad documentation system makes it possible to record and illustrate the results of every bolted joint. For this reason the documentation is very useful in the field of product liability.





## Fast operation

### Lightweight

- Optimal power to weight ratio. The oil-filled electrical motor technology guarantees optimum weight and maximum output.



### Can be operated almost continuously

- The power packs do not over heat thanks to their special oil-filled motor design. The oil tank is part of the motor itself and no other tank is necessary. The motor, the pump unit and the oil are all cooled at the same time.



### It runs and runs and runs!

- Innovative, patented technologies and design features, plus the use of high-quality materials ensure the pump has an extremely long lifespan.







PLARAD



# **iQ** Power Packs

high-tech models



Our rugged and durable power packs are characterised by the constant volume they output right up to their pressure limits, and have proved themselves through their long life in the toughest applications. The oil-filled motor prevents overheating. The design also ensures optimum performance to weight ratio.

## **IQ-VAX**

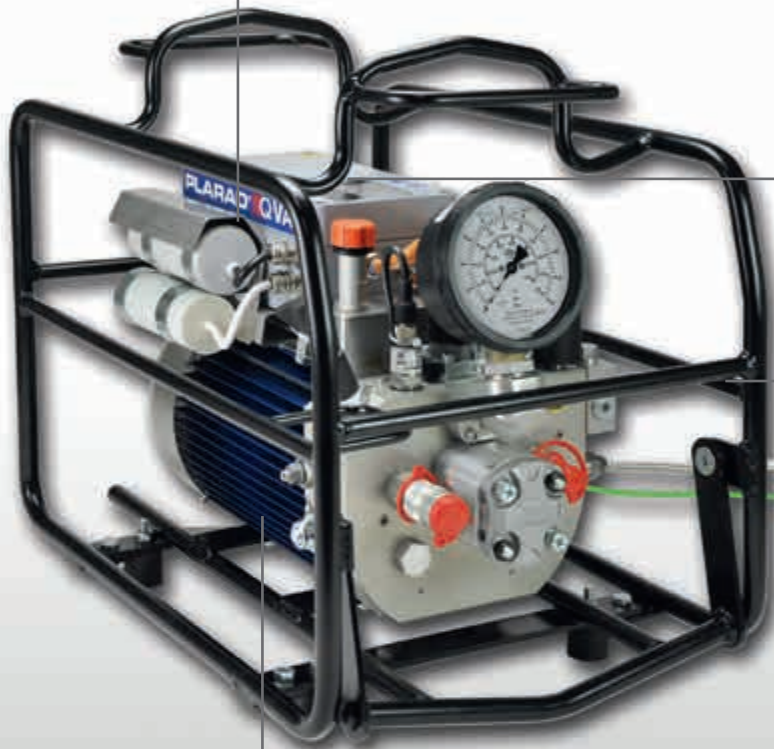
- Fully automatic for accurate, reliable bolting joints
- Documentation
- Instrumentation and control systems
- Torque-angle method

Power Pack	Flow rate	Weight *
<b>IQ-VAX 3,5-X32</b>	3.5 l/min	35 kg
<b>IQ-VAX 1-Z-X32</b>	5.3 / 0.75 l/min	26 kg
<b>IQ-VAX 2-Z-X32</b>	8.0 / 1.2 l/min	32 kg
<b>IQ-VAX 3,5-Z-X32</b>	13.2 / 3.0 l/min	36 kg

Extracts of the specifications.

\* ready for use

Fully automatic VAX technology keeps users perfectly safe

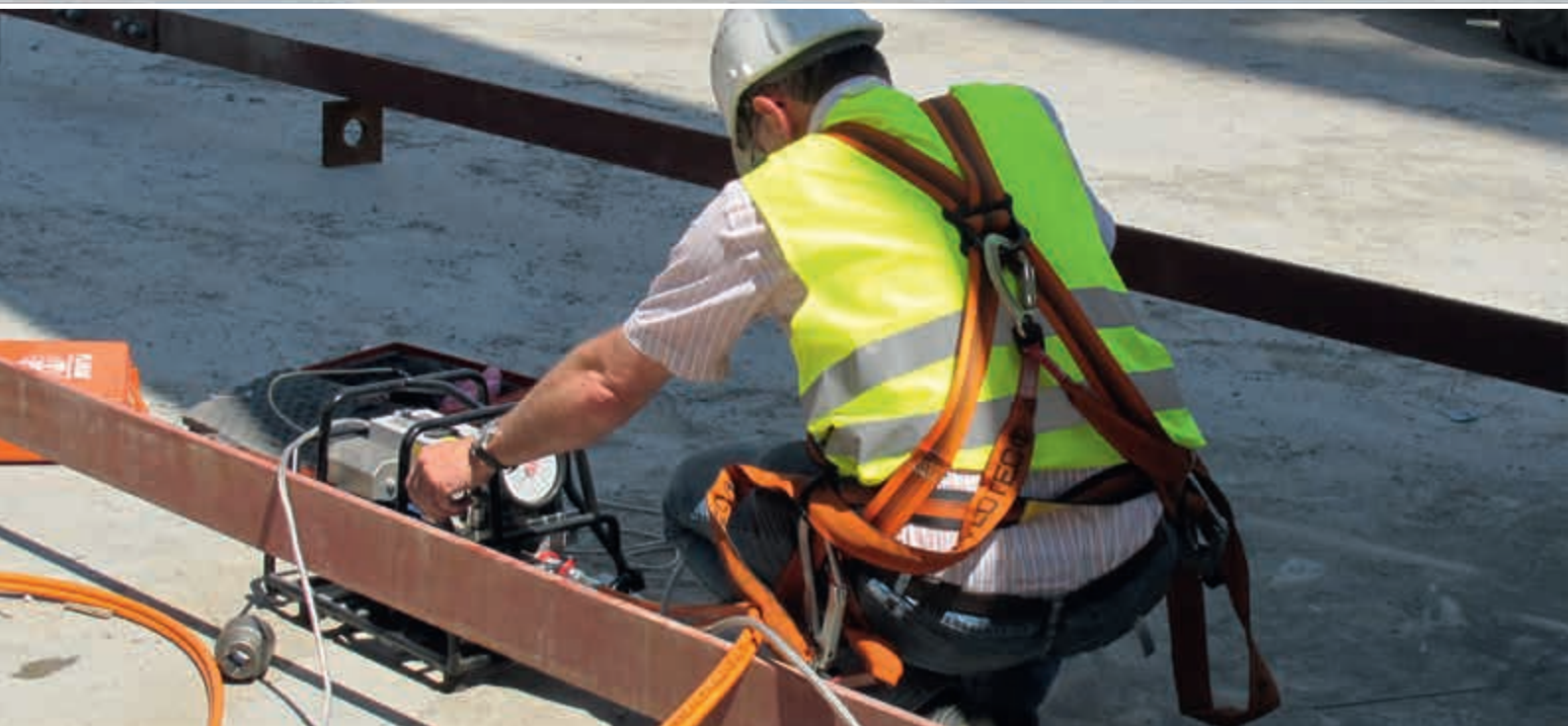


Each individual Bolting case (tightening – loosening) is controlled via the pumps microprocessor control unit utilising different processes

Rugged cage which protects the unit, even on building sites

Pressure indication displayed, assessment of the bolting case via a status indicators

Low noise while operating



## VAX – Genuine full automation function

- Straight to work at the touch of a button: the VAX Automatic controls and finishes the bolted joint automatically and accurately, even when handling multiple bolts, as well as indicating progress to the operator via the remote-control.
- Pressure is taken off the operator, hence errors are eliminated.



## Documentation

- The Plarad “Documentation” add-on saves all torque or torque angles conducted into the control unit.
- Once uploaded to a computer, the bolting data can be used for traceability purposes on each bolt joint.

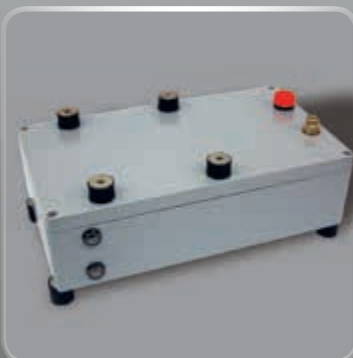
## Multiple bolting technologies

- The Torque-Angle function, for example, means that differing friction coefficients of bolts no longer play a role. The required tightening torque will always be achieved.

## Synchronised operation

- Synchronised operation using two or more units (MX-EC or FSX).
- The automatic function ensures that synchronised bolted joints are handled quickly and reliably, ensuring an optimal seal.

## Optional accessories



There is an extensive range of accessories, e.g. auxiliary oil tanks, to extend the unit's range of applications



Hydraulic couplings – adaptors and hoses are available in many sizes etc.



Optimal storage in a professional Plarad storage trolley





**PLARAD**



# **XB** Power Packs

setting high standards



## **XB 1**

for mobile service work

- **XB 1**

The lightweight design of the XB 1 makes this power pack ideal for mobile service applications.

- **XB 2**

The all-rounder in the XB range is the XB 2, famous for its high speed.

- **XB 3,5**

As the quickest power pack the XB 3,5 is a powerful package particularly suitable for complex bolting jobs.

## **XB 2** for universal use

Guide to wind  
the cables around

Rugged industrial  
cage for tough  
environments

The Main Valve is  
within a protected  
non exposed area  
on the pump

Outward-facing oil filters (on XB 1 and  
XB 3,5) and maintenance friendly  
design, for easier maintenance

Improved valve  
technology

One or more hydraulic  
tools can be used  
with one or twin hose  
technology

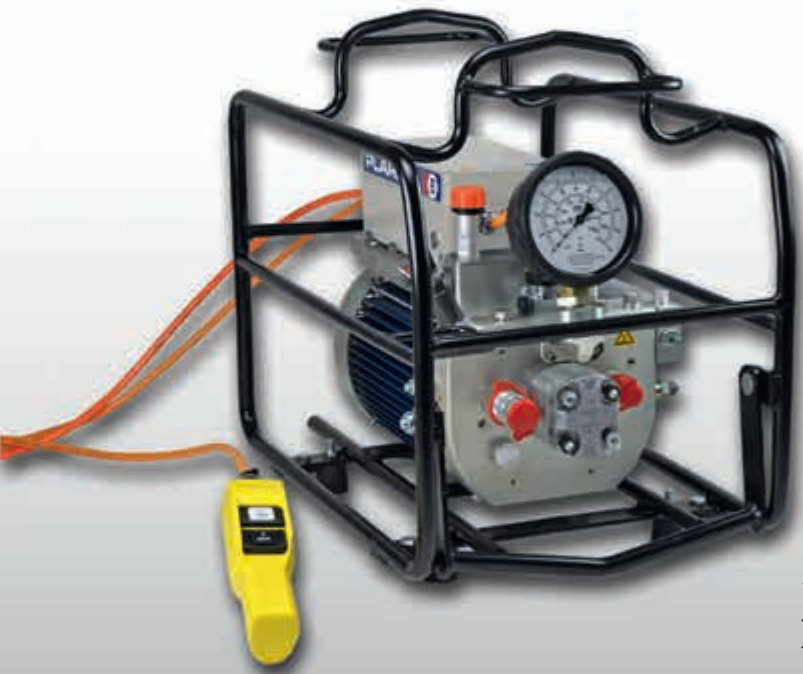




Power Pack	Flow rate	Weight*
<b>XB 1</b>	0.8 l/min	20 kg
<b>XB 2</b>	1.2 l/min	29 kg
<b>XB 3,5</b>	3.5 l/min	33 kg
<b>XB 1-Z</b>	5.4 / 0.8 l/min	24 kg
<b>XB 2-Z</b>	8.0 / 1.2 l/min	31 kg
<b>XB 3,5-Z</b>	13.2 / 3.0 l/min	35 kg
<b>XB-VAX 2</b>	1.2 l/min	32 kg
<b>XB-VAX 2-Z X32</b>	8.0 / 1.2 l/min	32 kg
<b>XB-VAX 3,5</b>	3.5 l/min	35 kg

Extract from technical data (values apply to 230 V/50 Hz or 400 V/50 Hz versions. (Other voltages are available), e.g. 110 V.

\* ready for use



## **XB 3,5**

for use in manufacturing plants







PLARAD



# TAX the pump for tensioners

Guide to wind the cables around



Power Pack	Flow rate	Weight*
<b>TAX 1-1500-X32</b>	0.4 l/min (1500 bar)	31 kg
<b>TAX 3,5-1500-X32</b>	1.0 l/min (1500 bar)	40 kg

Extracts of the specifications.

\* ready for use

- Dedicated pump specially for tensioning applications up to 1500 bar (optional to 2100 bar)
- Pressure indication in the display screen
- Compactly built with special principles being utilised to build up the pressure



# Dual Power



Hydraulic Torque Tools

Power Pack	Flow rate	Weight *
<b>IQ-VAX 2-Z-D 1500-X32</b>	8.0 / 1.2 l/min (at 800 bar) 8.0 / 0.4 l/min (at 1500 bar)	40 kg
<b>IQ-VAX 3,5-Z-D 1500-X32</b>	13.2 / 3.0 l/min (at 800 bar) 13.2 / 1.0 l/min (at 1500 bar)	42 kg

Extracts of the specifications.

\* ready for use

**800 bar**



The IQ Dual Power Pack can power both hydraulic torque tools and hydraulic tensioners.

**1 500 bars**  
(optional up to 2 100 bars)



Tensioners

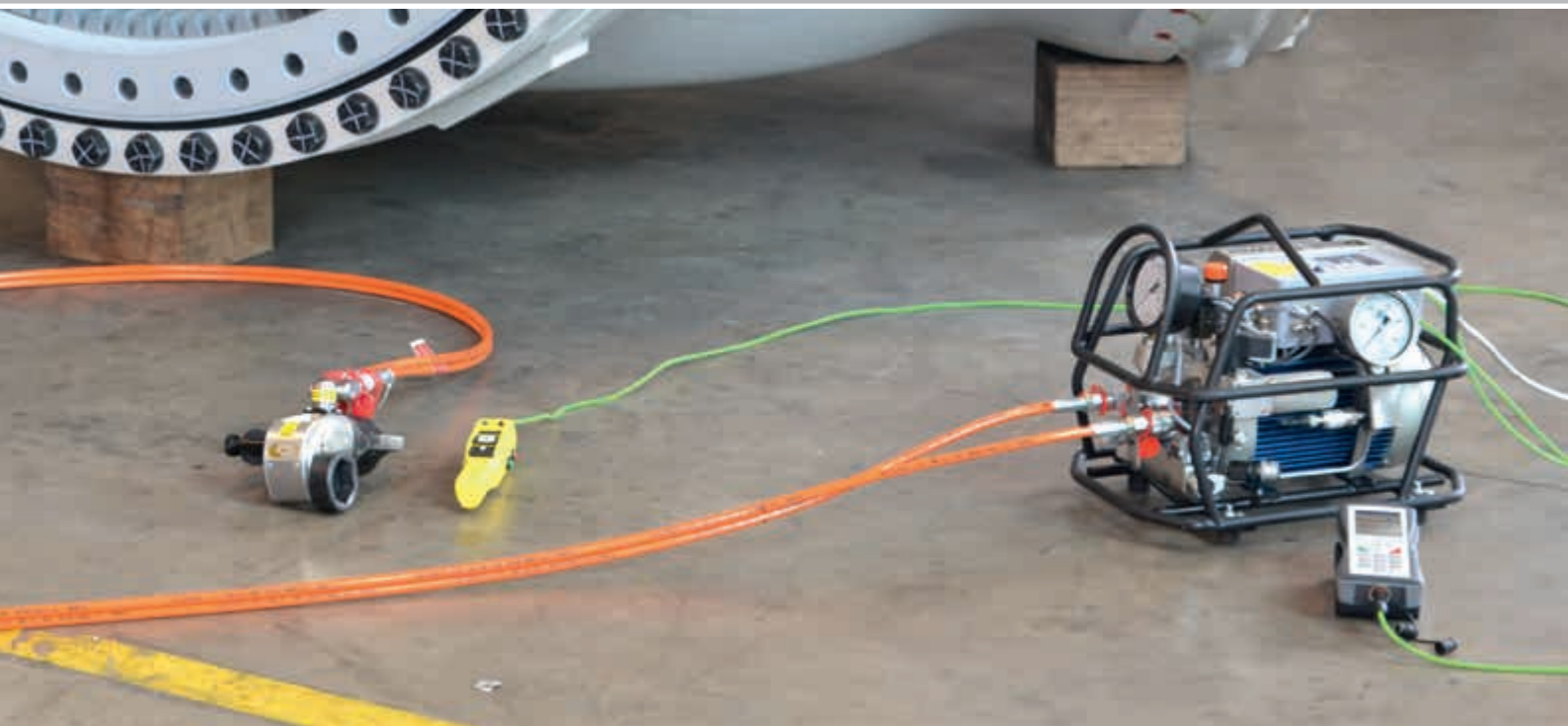
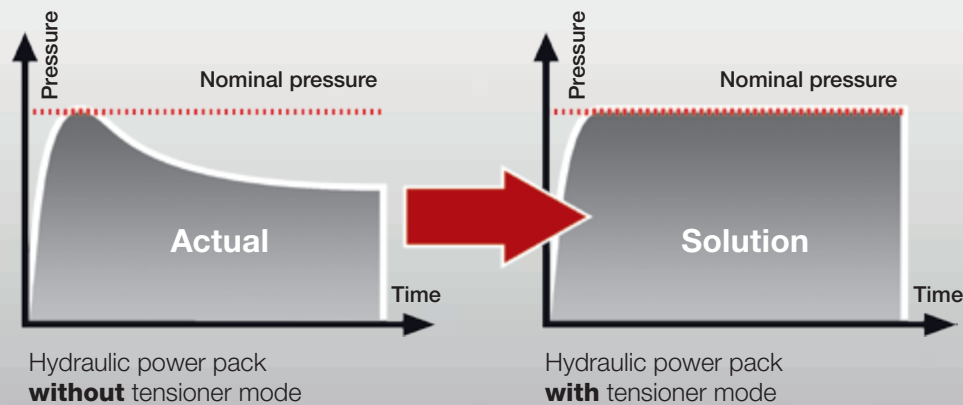
As well as a variety of bolting techniques and lifting processes in 800 bar mode, the Dual Power VAX unit can also be used for tensioning applications up to 1500 bars (optional up to 2100 bars). This universal hydraulic Power Pack saves you having to invest in additional high-pressure units.

- 2-in-1, one less unit to buy
- Fully automatic pumping of hydraulic tensioners
- Automatic limit-stop
- Pumping performance accross the range
- User-friendly – a remote control with identical functions. Users can easily familiarise themselves with the operation of the units easily
- All of the upgrades and enhancements on conventional IQ Power Packs are also available for the Dual Power

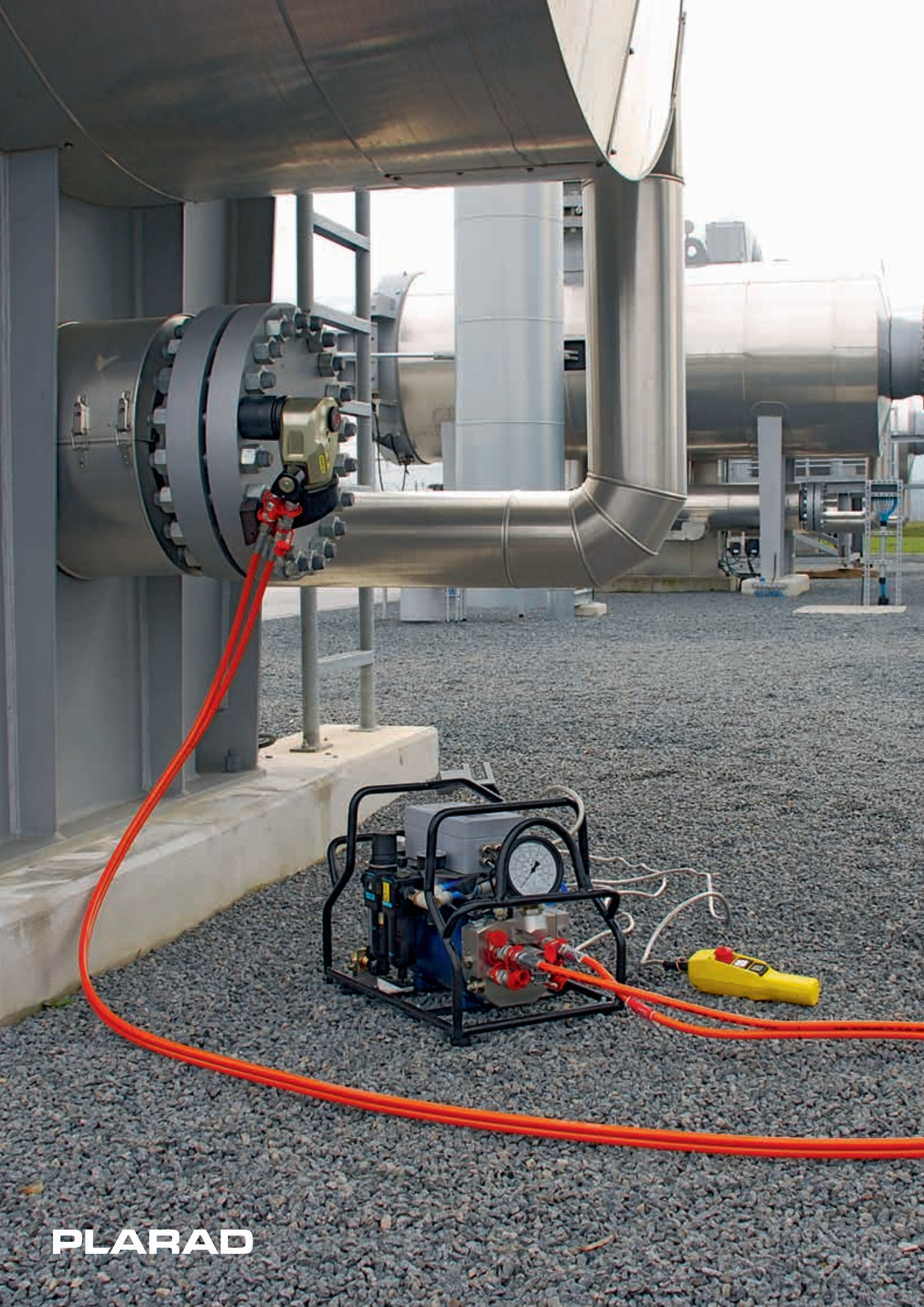
## Controlled tensioning force in tensioner mode

When initially tensioning, there is a risk that oil pressure decreases due to the settling of the object during the actual stretching process or due to stretching of the attached hydraulic hoses.

Plarad IQ Power Packs Tensioner mode monitors the pressure and pump as required, ensuring that the required tension is achieved.







**PLARAD**



# Pneumatic Hydraulic Power Packs

**IQ-VAX 2-P-Z****X 2-P-Z**

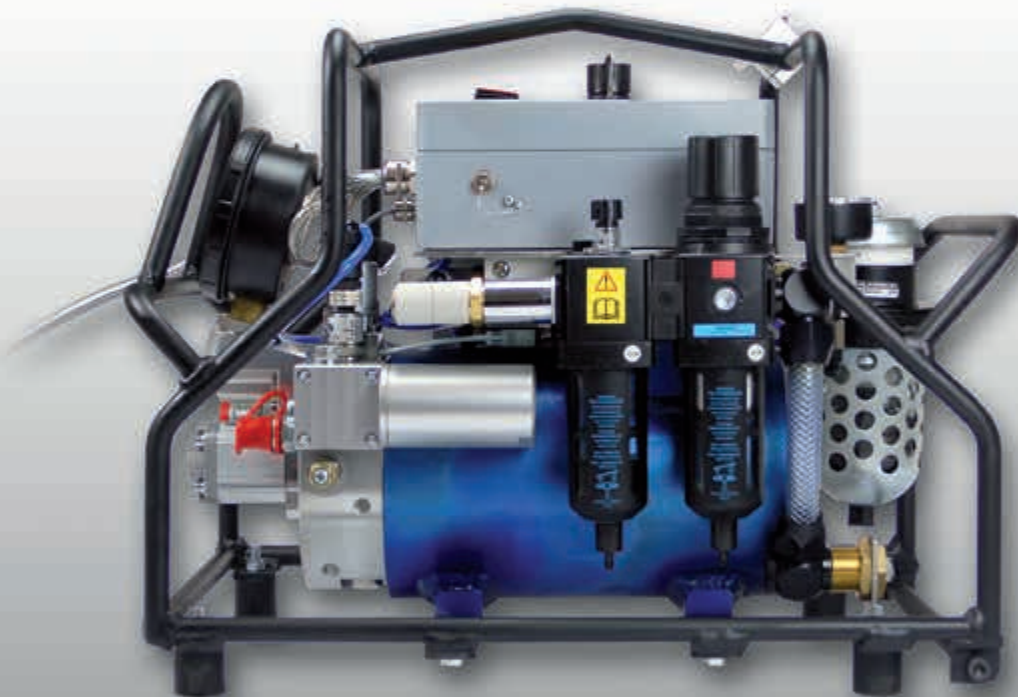
Just like our electrically powered hydraulic units, our pneumatic hydraulic power packs are characterised by their ruggedness, long life and their constant throughput right up to their pressure limits. The pneumatic motor is integrated into the oil tank, preventing seizure while simultaneously cooling the hydraulic fluid.

# IQ VAX

## pneumatic

Only from Plarad!

The first pneumatic VAX unit:  
 The new, fully automatic pneumatic power pack uses the latest microprocessor technology. This eliminates user errors since operators simply start a fully automatic, controlled procedure at the push of a button. The machinery shuts off automatically when the required torque is achieved and informs the operator via the remote control.



**IQ-VAX 2-P-Z**



**For the full functionality of IQ technology**

Power Pack	Flow rate	Weight*
X 1-P	0.8 l/min	24 kg
X 2-P	1.6 l/min	31 kg
X 2-P-Z	7.0 / 1.6 l/min	31 kg
X 2-P-Z ATEX	7.0 / 1.6 l/min	32 kg
IQ-VAX 2-P-Z	7.0 / 1.6 l/min	35 kg

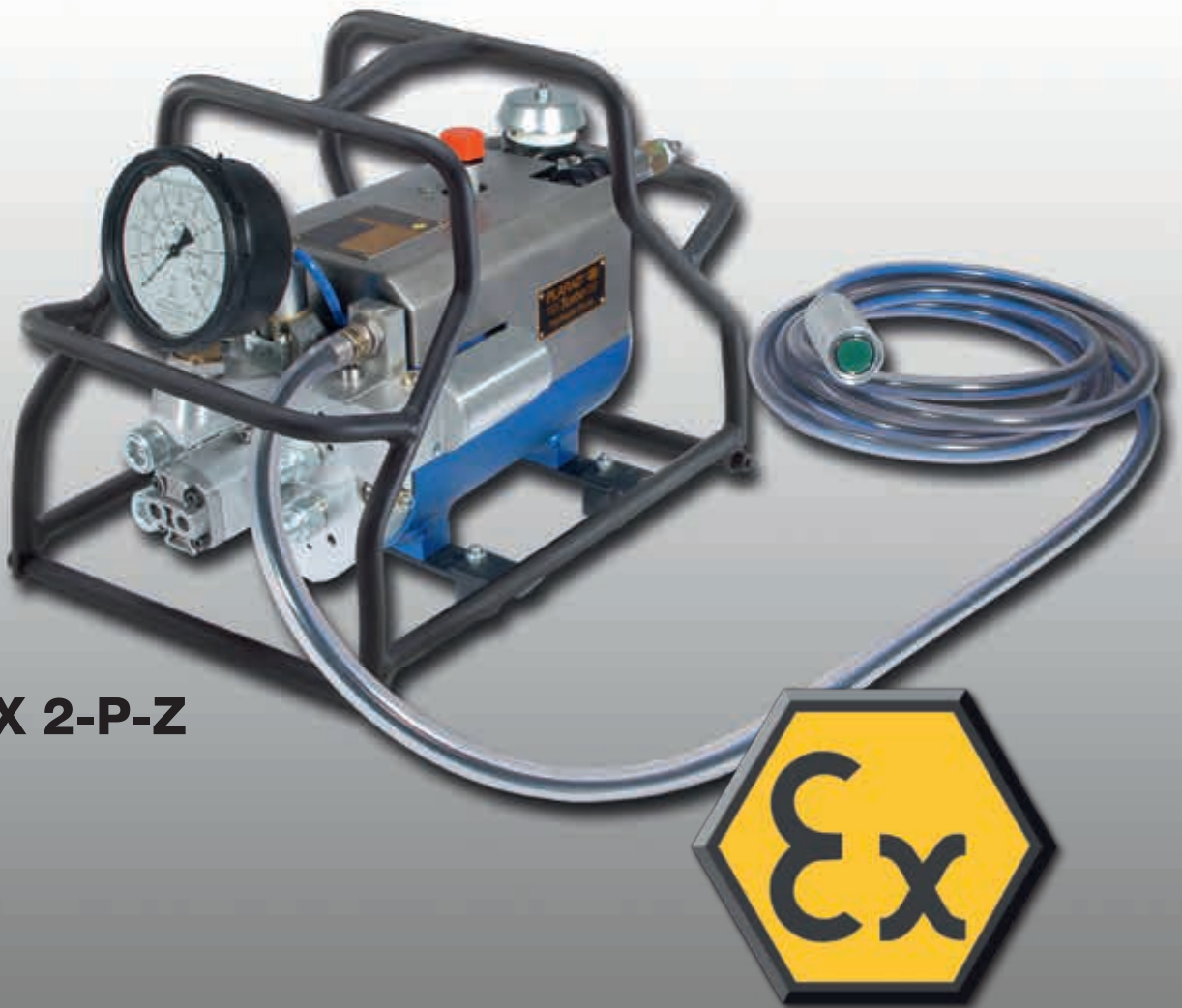
Extracts of the specifications.

\* ready for use

# ATEX approved

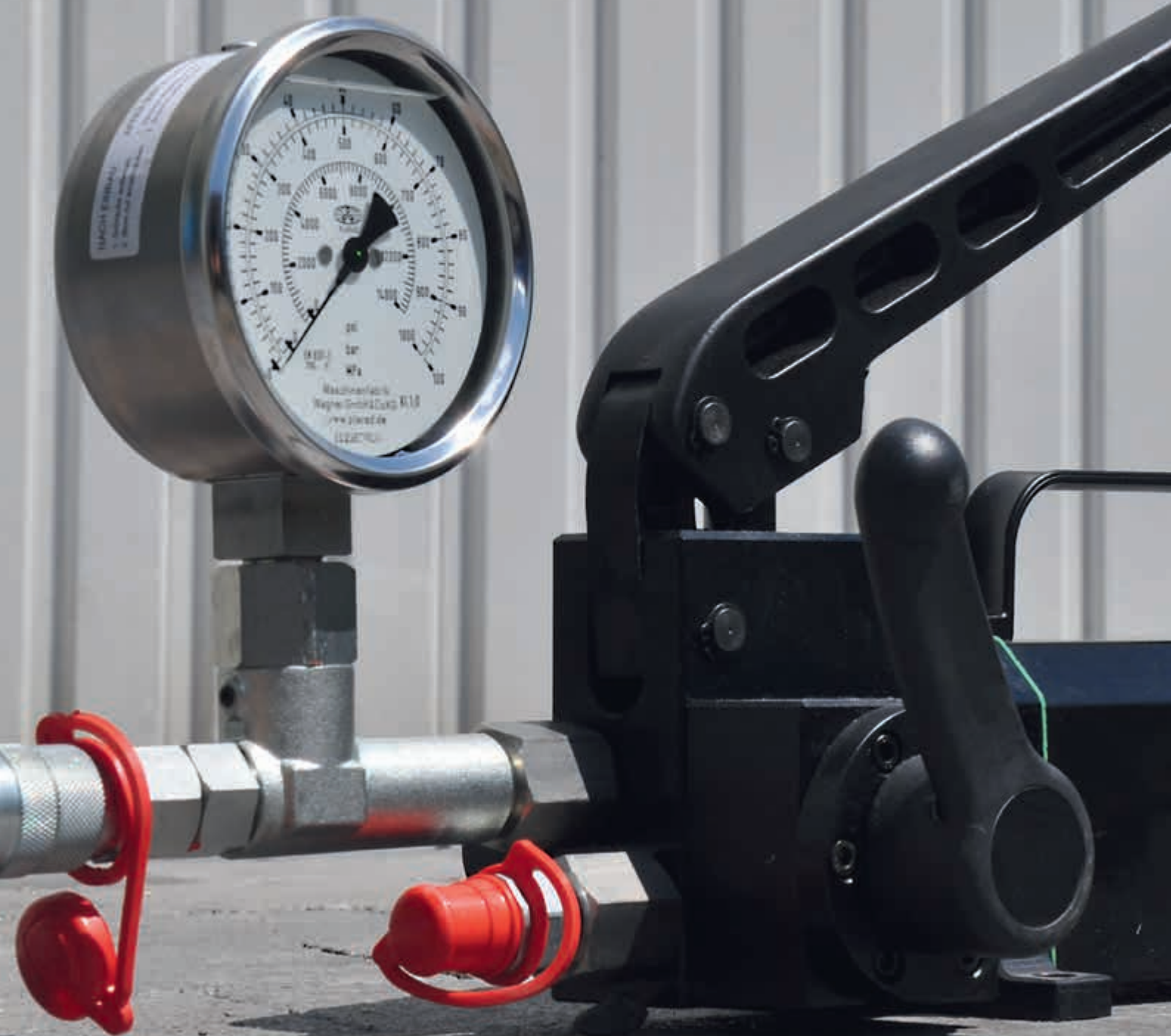
Only from Plarad!

X 2 P-Z ATEX: Approved for operation in Zone 2G  
Certified for use in areas containing materials with  
a minimum flame point of 0.082 mJ



**X 2-P-Z**





**PLARAD**

# HP Hydraulic Pump

## light and handy

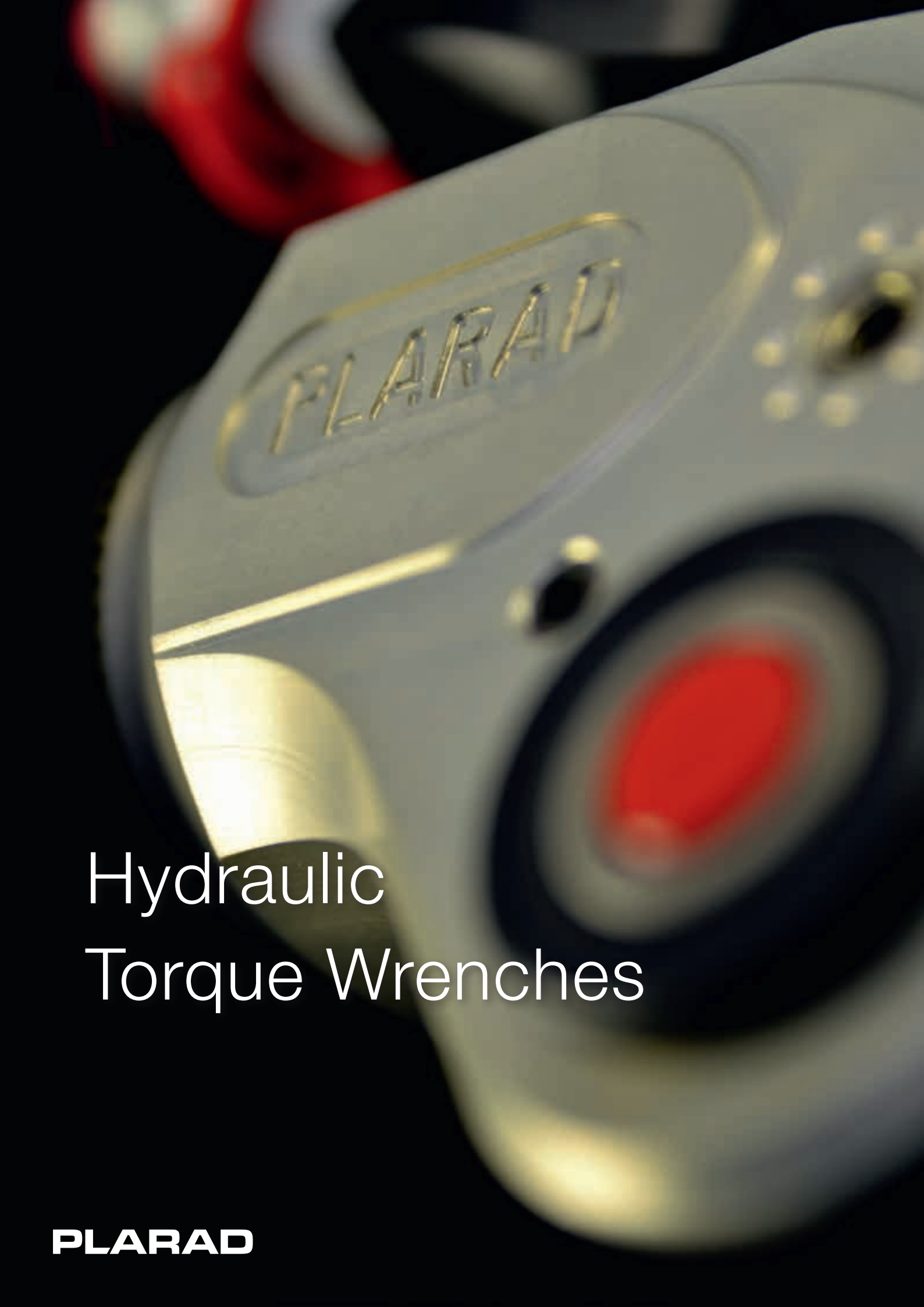
Plarad's manual hydraulic pumps are characterised by their high performance and low weight.

The use of very rigid light metal saves more than 50% in weight compared to conventional steel pumps.

35% less power required to achieve mechanical leverage, extremely low weight, and considerably higher pumping performance than conventional products, means that **HP** Power Packs are a welcome tool for everyday use in the workplace. Plarad **HP** Power Packs are also available in a variety of sizes.



- For occasional use
- Ideal for tensioners
- Extremely light
- High throughput
- More than 50% lighter than conventional steel pumps
- High throughput thanks to clever design
- Low setting down to 385 N
- Pressure limiting valve adjustable from the outside
- Carrying handle and stabilising feet
- Available with two sizes of tank, 2 l and 4 l
- Available in 800-bar and 1 600-bar models



Hydraulic  
Torque Wrenches

**PLARAD**



# MSX/MX-EC

powerful and variable

Continuous rotation  
in every stroke  
position! No jamming!



- Long-lasting Plarad quality
- Fast operation thanks to optimum harmonisation with Plarad power packs
- Safety relief valve
- SQS-high-pressure safety cylinder – in case of housing failure – no leakage
- Easy servicing
- Compact dimensions
- Fine-toothed ratchet system offers high torque precision and prevents jamming
- Also available in an ATEX version (II 2 G ck II B T4) for Zone 1G
- Internationally patented technology



The fast-locking device allows quick and simple reversing of the tool and socket



Available with adjustable handle

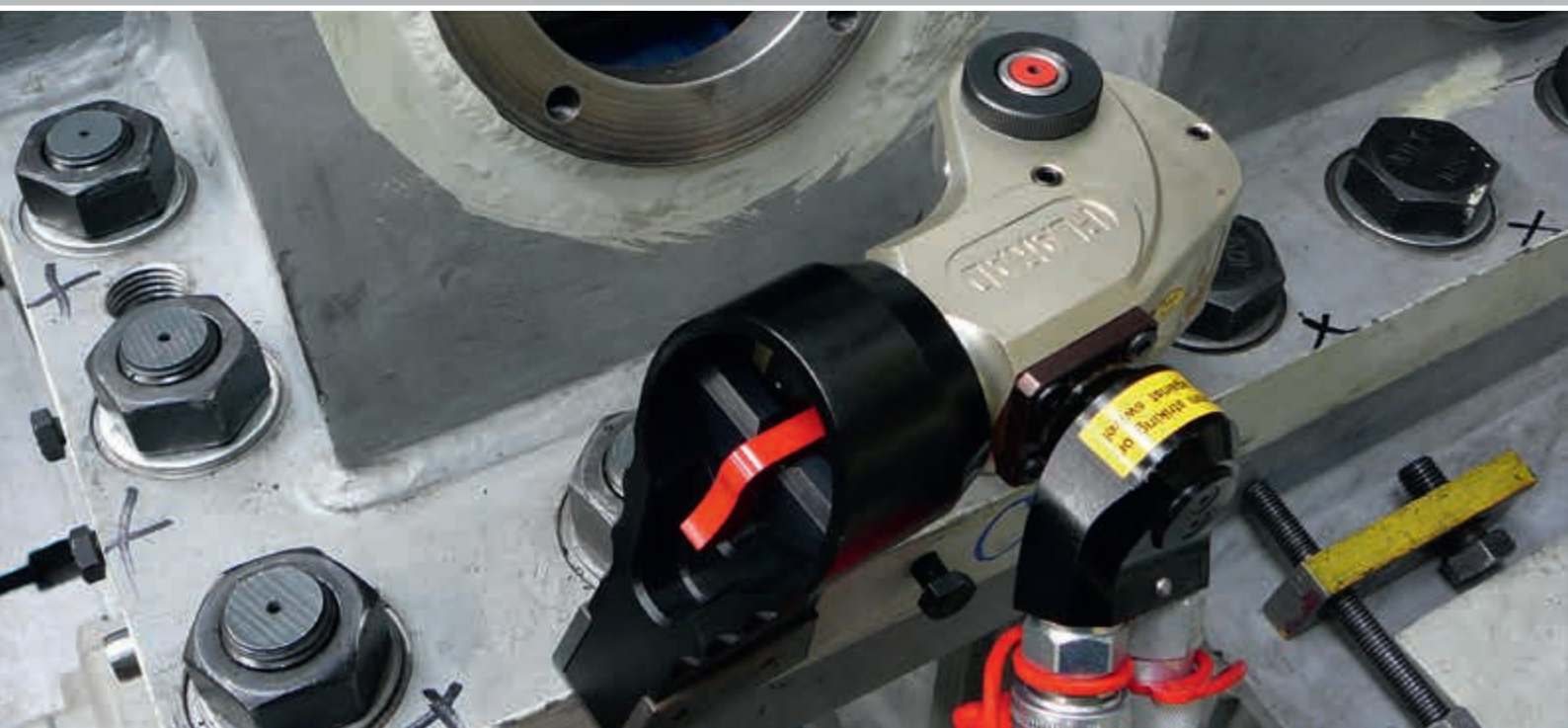


360° rotatable hose connection, with swivel option



Also available in a singlehose version – for even easier handling and positioning

Typ	Square socket adapters	Torque range (Nm)
<b>MX-EC 10 TS</b>	3/4"	100 - 1 000
<b>MX-EC 20 TS</b>	1" and 3/4"	210 - 2 100
<b>MX-EC 45 TS</b>	1"	450 - 4 500
<b>MX-EC 75 TS</b>	1 1/2"	750 - 7 500
<b>MX-EC 95 TS</b>	1 1/2"	950 - 9 500
<b>MX-EC 120 TS</b>	1 1/2"	1 200 - 12 000
<b>MX-EC 155 TS</b>	1 1/2"	1 550 - 15 500
<b>MX-EC 200 TS</b>	2 1/2"	2 000 - 20 000
<b>MSX 250 TS</b>	2 1/2"	2 500 - 25 000
<b>MSX 400 TS</b>	2 1/2"	4 000 - 40 000
<b>MSX 650 TS</b>	3 1/2"	6 500 - 65 000





Lever piston system – in the case of sudden loosening, the piston separates from the lever and reconnects automatically. No part is therefore in danger of being broken.

Extremely slim, lightweight and high-strength aluminium housing.

Pressure safety valve.

Integrated release shock absorber protects the housing from sudden loosening impact damage.



The reaction arm can be rotated quickly and easily through 360°.

Safety ratchet – prevents unintended unlocking of the reaction arm.

Long-lasting fine-toothed ratchet system. Full stroke movement is not always essential.

The connection between lever and ratchet guarantees optimum transfer of the torque generated.

SQS safety cylinder made of high-strength material allows high pressures in a lightweight housing.



# Accessories for **MSX/MX-EC**

Standard square-drive sockets are available in all dimensions and for all across flats sizes.



Long socket

Double hexagonal socket

Reduction of height and weight through the use of one-piece splined safety sockets.



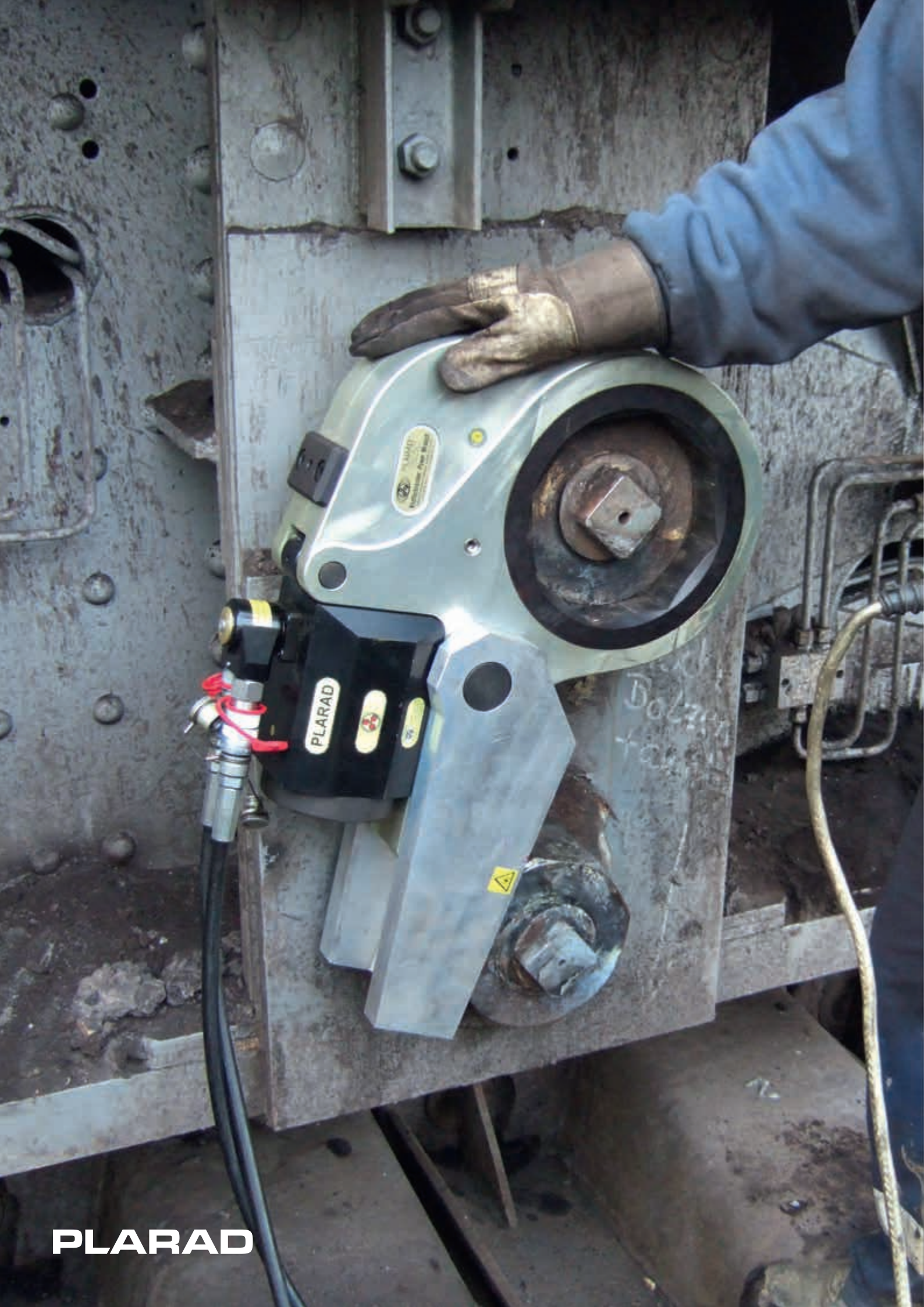
Splined safety hex inserts in a variety of sizes.











**PLARAD**



# FSX

slim and precise

Continuous rotation  
in every stroke  
position! No jamming!



- Fast operation thanks to optimum harmonisation with Plarad power packs
- Safety relief valve
- SQS-high-pressure safety cylinder – in case of housing fracture no leakage
- Easy servicing
- Compact dimensions
- Fine-toothed ratchet system offers high torque precision and prevents jamming
- Also available in an ATEX version (II 2 G ck II B T4) for Zone 1G
- ANSI/API-compatible version available
- Internationally patented technology



Available with adjustable handle

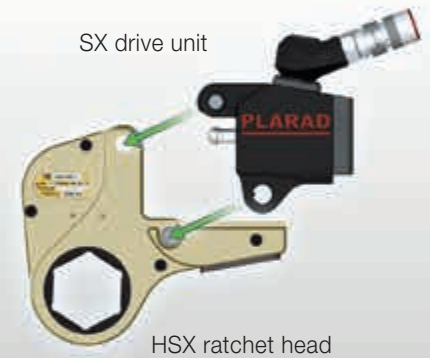


360° rotatable hose connection, with swivel option



Also available in an ANSI version for the oil & gas industry

FSX combination	Ratchet heads (AF)	Torque range (Nm)
<b>SX-EC 1 / HSX</b>	27 - 41	100 - 1 000
<b>SX-EC 2 / HSX</b>	20 - 70	250 - 2 500
<b>SX-EC 5 / HSX</b>	27 - 85	500 - 5 500
<b>SX-EC 8 / HSX</b>	46 - 80	800 - 8 500
<b>SX-EC 12 / HSX</b>	50 - 120	1 200 - 12 000
<b>SX-EC 20 / HSX</b>	55 - 145	2 000 - 20 000
<b>SX 30 TST / HSX</b>	95 - 145	3 000 - 30 000
<b>SX 45 TST / HSX</b>	120 - 185	4 500 - 45 000



Lever piston system – in the case of sudden loosening, the piston separates from the lever and reconnects automatically. No part is therefore in danger of being broken.

Extremely slim profile, lightweight high-strength aluminium housing.

Pressure safety valve

Integrated release shock absorber protects the housing from sudden loosening impact damage.

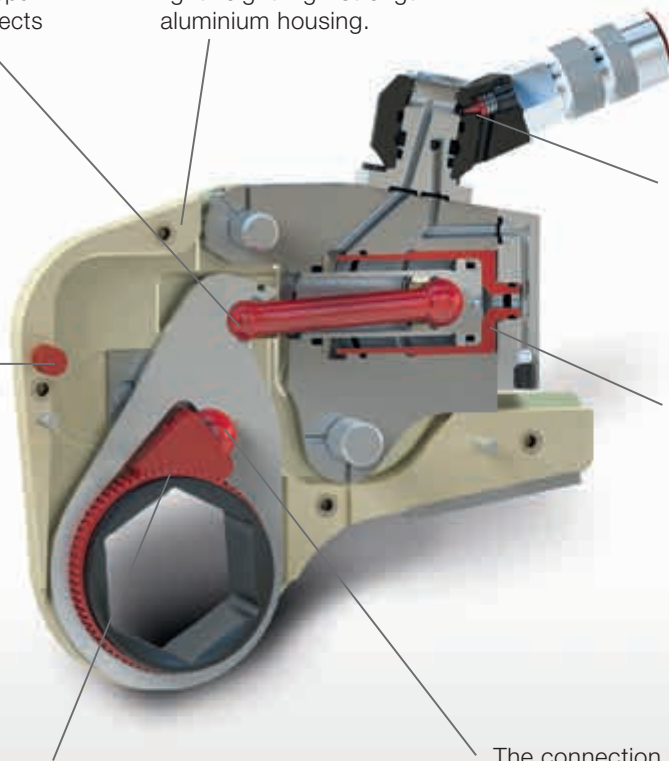
SQS safety cylinder made of high-strength material allows high pressures in a lightweight housing

Also available in single hose version - for even easier handling



Long-lasting fine-toothed ratchet system. Full stroke movement is not essential.

The connection between lever and ratchet guarantees optimum transfer of the torque generated.





# Accessories for **FSX**

Interchangeable sockets in different sizes can be quickly changed.

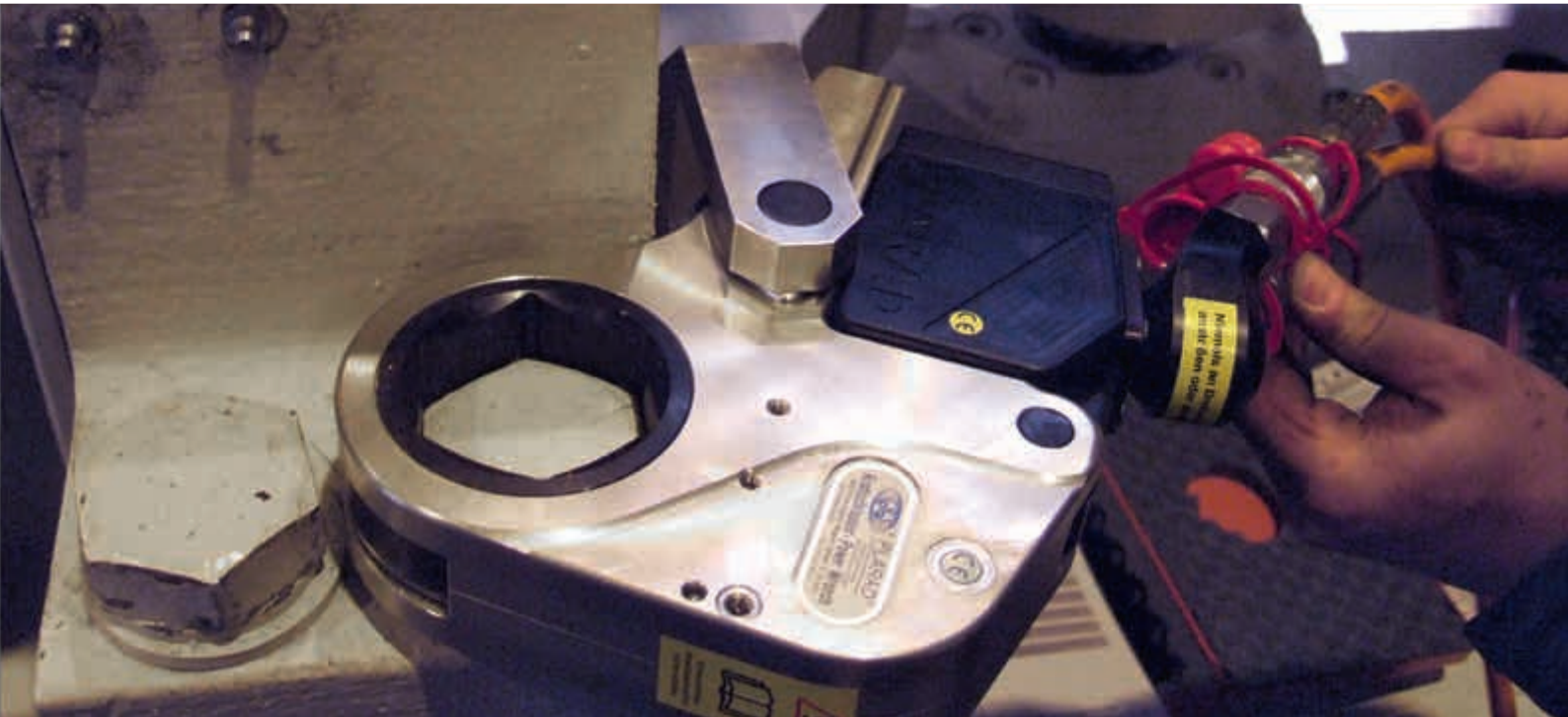


In/out sockets are available in all dimensions and for all wrench sizes.



In exceptional cases, bespoke reaction arms can be designed to match your particular application, ensuring safe and optimum use of the reaction arm against a surface.









PLARAD



# K-series

the universal tool for confined spaces



Socket fittings up to 150 mm, also available open and open-able versions



Ratchet heads (up to 105 mm) with exchangeable inserts



Type	Head sizes (mm)	Performance range (Nm)
<b>K 30 TF</b>	24 - 95	300 - 3 000
<b>K 60 TF</b>	24 - 95	660 - 6 600
<b>K 150 TF</b>	27 - 110	1 100 - 11 000
<b>K 200 TF</b>	60 - 135	2 000 - 20 000
<b>K 300 TF</b>	80 - 150	3 000 - 30 000







WAGNER  
HYDRAULIK  
123456789  
101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899100

352  
1237/EN857

**PLARAD**



# HPR up to 150 000 Nm

- For tightening and loosening large, heavy bolted joints
- Optimised for use in confined spaces where conventional hydraulic wrenches do not fit
- The space required by a ring spanner is enough room for the HPR to operate



CTK 35 EFS  
Hydraulic Power Pack



Various ring spanner attachments, and the ratchet heads, can be changed quickly and easily.

Power unit	Performance range	Max. size, metric (AF)	Max. size, imperial (AF)	Weight
RE 500	5 000 to 50 000 Nm	185 mm	7 1/4"	34 kg
RE 1000	10 000 to 100 000 Nm	230 mm	9 1/8"	45 kg
RE 1500	15 000 to 150 000 Nm	320 mm	12"	76 kg







**PLARAD**



# ATEX products

Terminology conforms to EU machine guidelines 98/37/EU and 94/9 EU



## X 2-P-Z

Pneumatic Power Pack

II 2G ck IIB T4  
-10°C ≤ Ta ≤ +50°C



## FSX

Hydraulic Torque Wrench

II 2G ck IIB T4  
-10°C ≤ Ta ≤ +50°C



## MX-EC

Hydraulic Torque Wrench

II 2G ck IIB T4  
-10°C ≤ Ta ≤ +50°C



## DP

Nutrunner (pneumatic)  
for mining

I M2 c  
-10°C ≤ Ta ≤ +50°C

Nutrunner (pneumatic) for  
oil and gas industries

II 2GD c IIB T5  
-10°C ≤ Ta ≤ +50°C



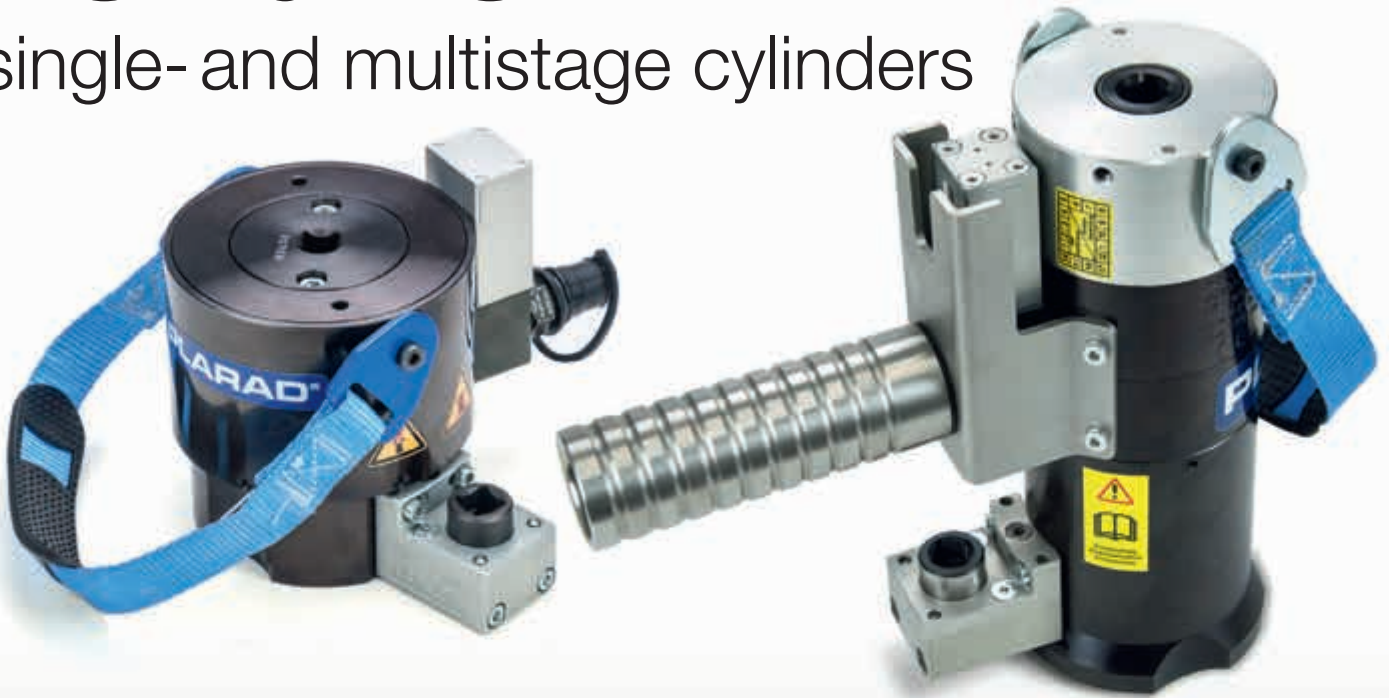
# Hydraulic Tensioners



**PLARAD**

# PSE & PSD

single- and multistage cylinders



- Bolted joint assembly and disassembly without inducing torsional stress in the bolt
- Applied load precisely adjustable
- Individual adjustment for every bolting need
- Available in single-stage and multi-stage versions
- 1 500 bar maximum operating pressure
- Available in a range of sizes



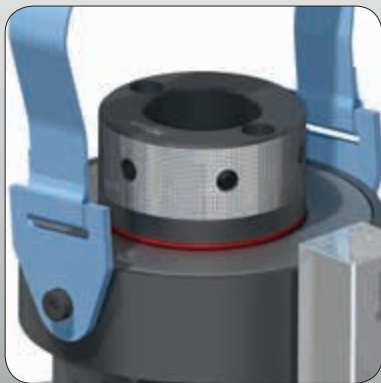


# PSE single stage

Its flat design makes the single-stage tensioner particularly advantageous in axially restricted spaces. The knurled attachment additionally included will also ensure successful tensioner application with bolt protrusions of excessive length. Furthermore the **PSE** also includes all market relevant features of the **PSD** (see cross sectional 3d model).



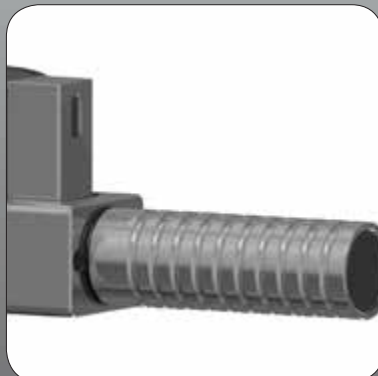
Standard attachment



Knurled attachment for long bolt protrusions



Spacer rings and washers for different bolting cases



Handle



Hose coupling can be positioned for optimum use

Type	Maximum force applied load (kN)	AF (mm)
<b>PSE 24-305</b>	305	36
<b>PSE 30-482</b>	482	46
<b>PSE 36-681</b>	681	55
<b>PSE 42-980</b>	980	65
<b>PSE 48-1235</b>	1 235	75
<b>PSE 52-1458</b>	1 458	80
<b>PSE 56-1676</b>	1 676	85
<b>PSE 64-2259</b>	2 259	95

Other sizes and dimensions on request.

# PSD two-stage

The two-stage hydraulic tensioner **PSD** enables screw joint assembly and disassembly without torsional stress for the bolt. The pre-tensioning power is precisely adjustable.

## Safety indicator – green (optional)

Safe controlled operation: Verification of sufficient engagement of the bolt/stud.

## Maximum stroke indicator

Optical safety: Visual indication of maximum stroke (max distance piston can move out of the tensioner body).

## Automatic piston return

Swift operation: The puller is automatically returned to its original position once the pressure has been released.

## Stroke limiter – mechanical

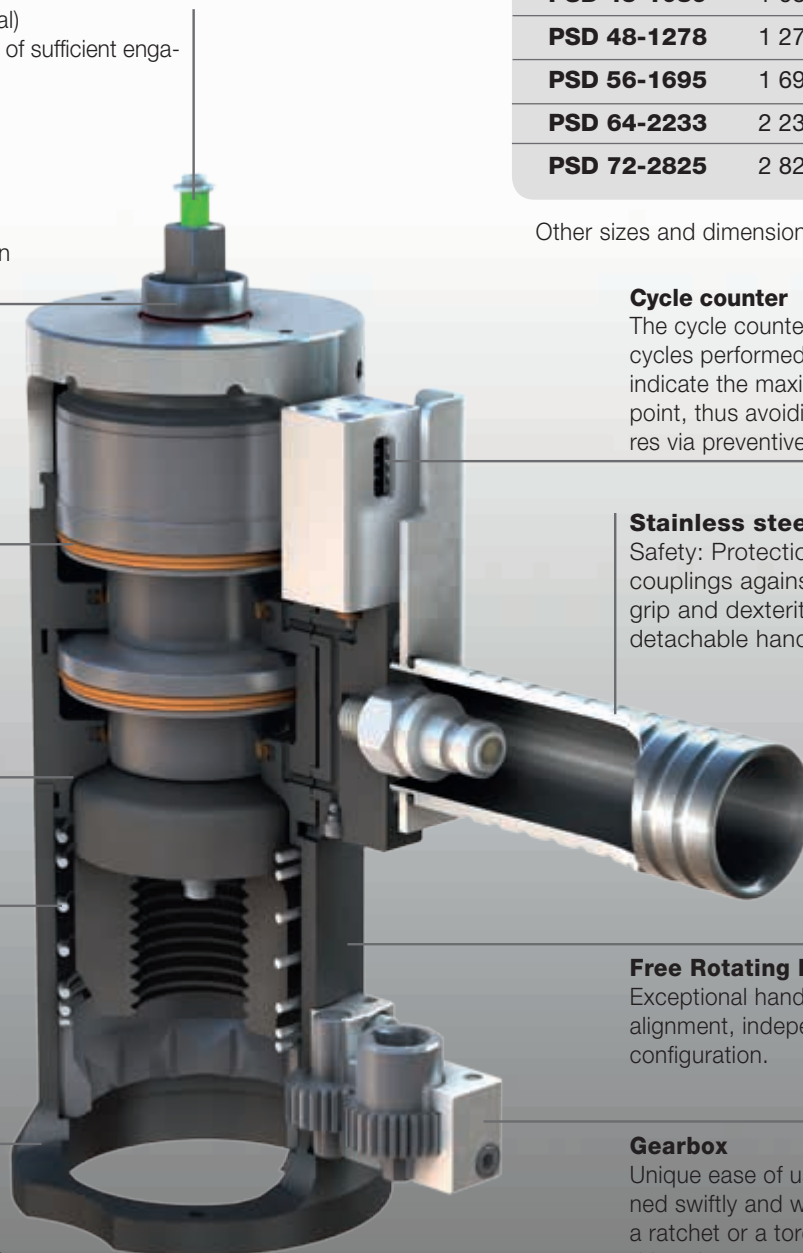
Ultimate safety: The mechanical end stop prevents the over extension of the piston (even under maximum load).

## Rotating socket – spring-loaded

Prevention of installation damage during the positioning of the tensioner: The spring affords the rotating socket axial flexibility.

## Supporting surface – optimized

Outstanding versatility in any environment: The tensioner is especially well suited for use in tight spaces thanks to its optimal shape.



Type	Maximum force applied load (kN)	AF (mm)
------	---------------------------------	---------

<b>PSD 30-471</b>	471	46
-------------------	-----	----

<b>PSD 33-581</b>	581	50
-------------------	-----	----

<b>PSD 36-678</b>	678	55
-------------------	-----	----

<b>PSD 39-808</b>	808	60
-------------------	-----	----

<b>PSD 42-937</b>	937	65
-------------------	-----	----

<b>PSD 45-1089</b>	1 089	70
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<b>PSD 48-1278</b>	1 278	75
--------------------	-------	----

<b>PSD 56-1695</b>	1 695	85
--------------------	-------	----

<b>PSD 64-2233</b>	2 233	95
--------------------	-------	----

<b>PSD 72-2825</b>	2 825	105
--------------------	-------	-----

Other sizes and dimensions on request.

## Cycle counter

The cycle counter indicates number of cycles performed and will consequently indicate the maximum cycle service point, thus avoiding damage and failures via preventive maintenance.

## Stainless steel handle

Safety: Protection of the hose couplings against damage. Optimal grip and dexterity provided by the detachable handle of the tensioner.

## Free Rotating Bridge

Exceptional handling: Straightforward alignment, independent of the bolt configuration.

## Gearbox

Unique ease of use: The nut can be turned swiftly and with perfect ease using a ratchet or a torque wrench that is driven by a gear drive (maximum input torque: < M36=40 Nm, > M36=80 Nm).



# Manual Torque Multipliers



**PLARAD**

# XVR/XVK

- Manually operated torque multiplier
- Ideal for use with no external power supply
- Available for use anywhere and at any time

Torque multiplier	Height (mm)	Ø (mm)	Performance range (Nm)	Weight (kg)
<b>XVK 15</b>	172	81	220 - 1 700	2.6
<b>XVR 25</b>	302	81	440 - 2 300	5.2
<b>XVR 35</b>	273	81	510 - 3 600	5.0
<b>XVR 40</b>	238	95	560 - 4 000	6.1
<b>XVR 65</b>	244	114	820 - 6 200	8.4
<b>XVR 70</b>	302	128	980 - 6 800	11.4
<b>XVR 90</b>	300	172	1 780 - 8 600	21.8
<b>XVR D 45</b>	310	128	1 000 - 10 100	16.0

All weights are without reaction arm/subject to amendment.

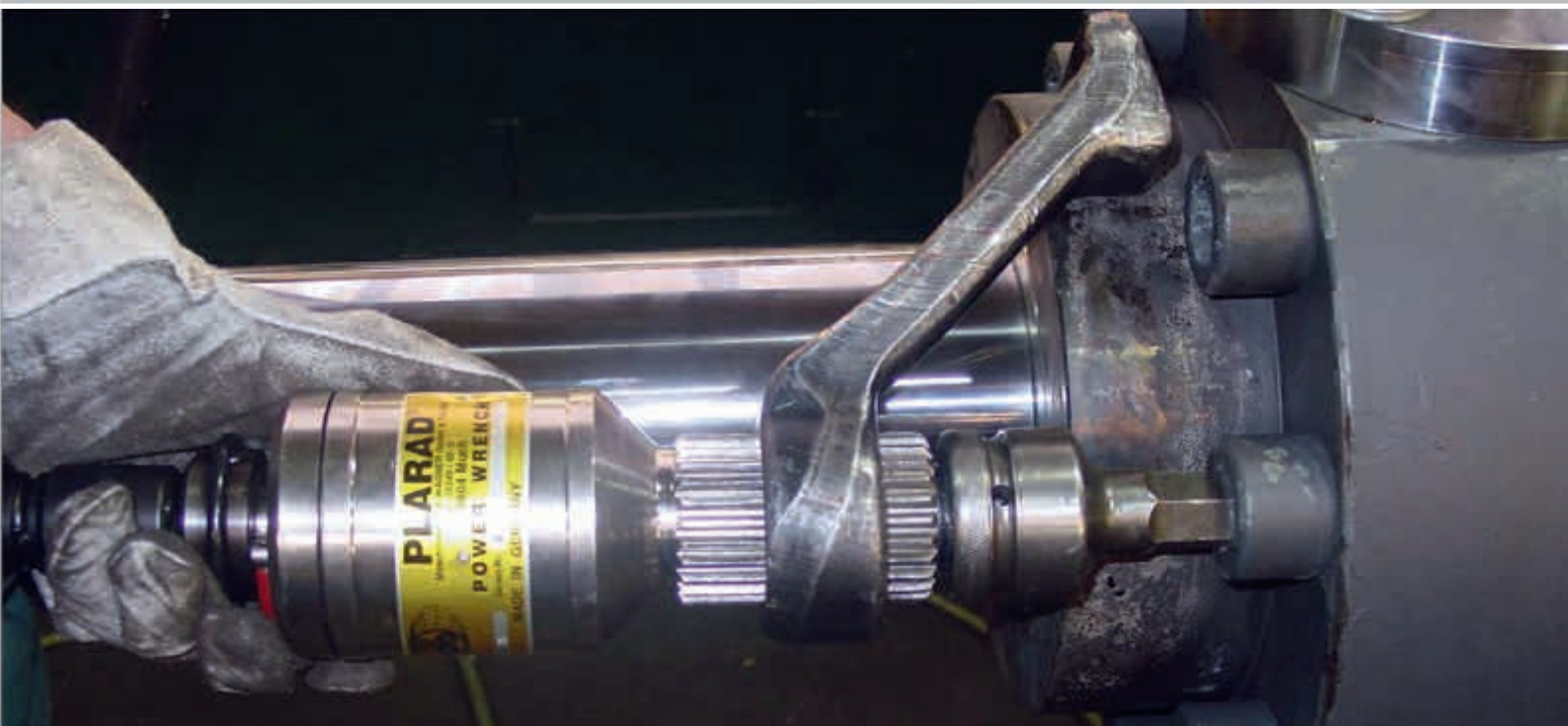
Compatible torque wrenches



**XVK**  
Single-stage torque multiplier

**XVR**  
Multi-stage torque multiplier with reversing safety mechanism ensures extra safety for users

Flexibility thanks to height-adjustable reaction arm





# General accessories

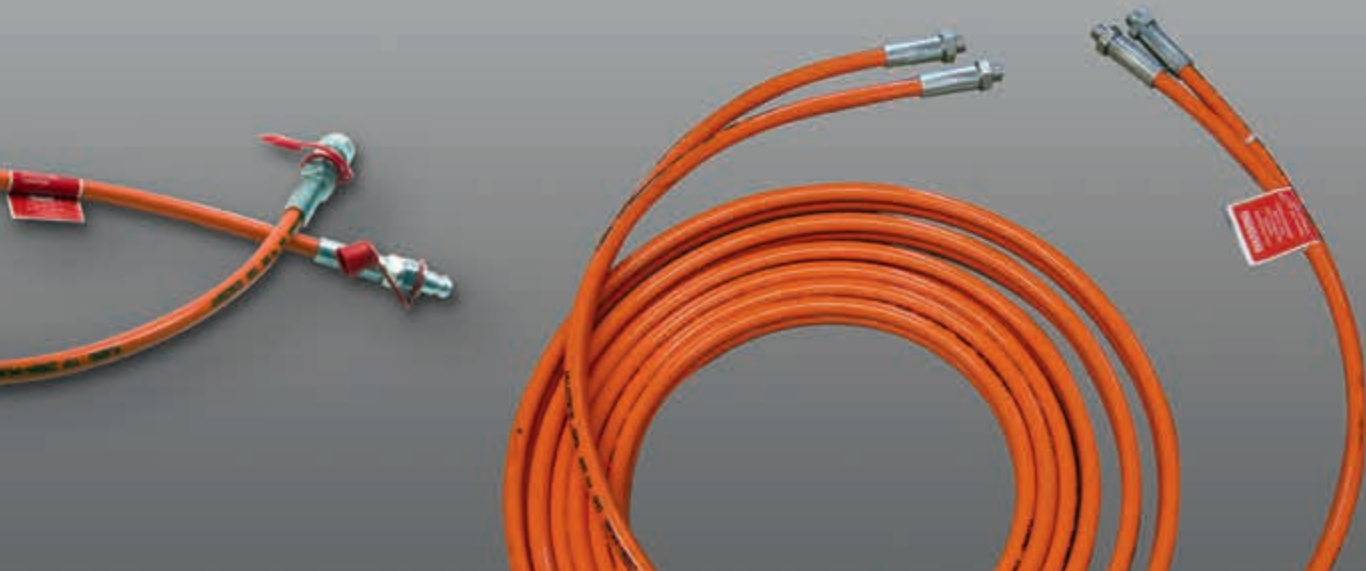
Trolley for hydraulic power packs – for mobility in plants and workshops

Aluminum frame, 2 integrated handles, lockable-quick lock, rollers with solid rubber tires and roller bearings, brake and caster wheels



Assortment of hoses and coupling adapters

Plarad hoses with a fourfold safety factor up to 800 bars (bursting pressure 3 200 bars)





Lubricants



Various reaction arms

Valve wheel driver for valves



Various sockets and fittings



# GMV 2 torque measuring device

## Checking bolting joints

The microprocessor controlled **GMV 2** unit is our key test instrument.

Used in conjunction with a transducer, it enables precision measurement of torque while bolts are being done up. The values can be saved, along with the date and time, and can then be printed out by the instrument itself or uploaded to a PC for further evaluation.



## Equipment testing

The PH test system, used with the GMV 2, is the ideal combination for testing and setting up hydraulic tools.

Combining the DRT reaction torque sensor with the GMV 2 enables static testing of impact tools, electric torque tools and other equipment of various designs.

Versuchs-Nr.	Datum	Zeit	Schraubteil	Modus	Sub-Nr.	Min-Nm	Max-Nm	Sub*	Ergebnis	Ist-Nm
37	17.01.2009	13:42:20	810 1000	MA*	400	1000	2000	40	Schraubteil	810
38	17.01.2009	13:44:12	810 1000	MA*	400	1000	2000	40	OK	1276
39	17.01.2009	13:44:18	810 1000	MA*	400	1000	2000	40	OK	1264
40	17.01.2009	13:44:30	810 1000	MA	2000	1000	2000	0	Schraubteil	1750
41	17.01.2009	13:44:37	810 1000	MA	2000	1000	2000	0	Schraubteil	1620
42	17.01.2009	13:45:05	810 1000	MA	1000	1000	1000	100	Schraubteil	1000
43	17.01.2009	13:45:17	810 1000	MA	1000	1000	1000	100	Schraubteil	770
44	17.01.2009	13:45:27	810 1000	MA	1000	1000	1000	100	Schraubteil	1000
47	17.01.2009	13:46:17	810 1000	MA	2200	2000	2000	120	OK	1401
48	17.01.2009	13:46:26	810 1000	MA	2200	2000	2000	120	OK	1470
49	17.01.2009	13:46:35	810 1000	MA*	700	700	2000	40	OK	1037
50	17.01.2009	13:47:45	810 1000	MA*	700	700	2000	40	OK	1037
51	17.01.2009	13:48:10	810 1000	MA*	700	700	2000	40	OK	1039
52	17.01.2009	13:48:16	810 1000	MA*	700	700	2000	40	OK	1035
53	17.01.2009	13:48:22	810 1000	MA*	700	700	2000	40	Schraubteil	1000
54	17.01.2009	13:48:28	810 1000	MA*	700	700	2000	40	Schraubteil	1000
55	17.01.2009	13:48:34	810 1000	MA*	700	700	2000	40	OK	2525
56	17.01.2009	13:48:41	810 1000	MA*	700	700	2000	40	OK	1000
57	17.01.2009	13:48:47	810 1000	MA*	700	700	2000	40	OK	1000
58	17.01.2009	13:48:53	810 1000	MA*	700	700	2000	40	OK	1000
59	17.01.2009	13:49:00	810 1000	MA*	700	700	2000	40	OK	1000
60	17.01.2009	13:49:06	810 1000	MA*	700	700	2000	40	OK	1000
61	17.01.2009	13:49:12	810 1000	MA*	700	700	2000	40	OK	1000
62	17.01.2009	13:49:18	810 1000	MA*	700	700	2000	40	OK	1000
63	17.01.2009	13:49:24	810 1000	MA*	700	700	2000	40	OK	1000
64	17.01.2009	13:49:30	810 1000	MA*	700	700	2000	40	OK	1000

Bolting joints can be evaluated on a PC



Deutscher  
Akkreditierungs  
Rat



DKD

# PTB

Our test fittings are checked and accredited by the calibration service at Germany's Federal Physical and Technical Institute

# TC1 mobile measuring unit

The TC1 measuring unit is an innovation in the field of mobile measuring equipment. It measures the applied torque, and hence the bolting process, directly where it happens. The system works wirelessly in the bolting process and can simply be attached to the nutrunner.

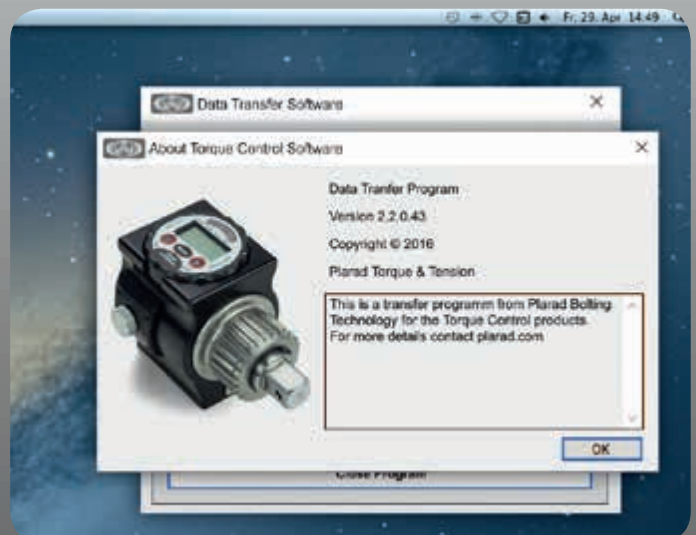


- Measures the applied torque directly at the point of application
- Measuring range up to 5 500 Nm
- Torque is shown in the sensor display
- Acoustic warning signal if the defined tolerance is exceeded
- An LED display provides information about the torque result
- Integrated memory for 250 values
- Transfer and analysis to the PC
- Appliances are compatible with the current Plarad nutrunner range and virtually maintenance-free
- Including transport box, Data-Trans software, power cable and USB cable

Type	Measurement range (Nm)	Square drive	Spline Teeth Quantity	Weight (kg)
<b>TC1 - 11</b>	110 - 1 100	3/4"	26	2.60
<b>TC1 - 31</b>	310 - 3 100	1"	45	4.70
<b>TC1 - 41</b>	410 - 4 100	1"	26	2.70
<b>TC1 - 55</b>	550 - 5 500	1 1/2"	45	5.00

## Torque Control Software

- Documentation from: Screw connection date, time, OK-/NO OK -result
- Storage of screw connection data
- Evaluation/statistics/archive
- Optimised documentation and process security
- Quality assurance guarantee







Plarad support during the construction of a wind plant in China



Consultation and assistance for use of equipment in Russia



Demonstration of equipment by Plarad employees in Italy



# Comprehensive service

Sustained long-term success will only be possible if you are able to respond to market and customer requirements quickly. With over 50 years' worth of bolting expertise and the broadest product range, we can offer you the most economical solution.

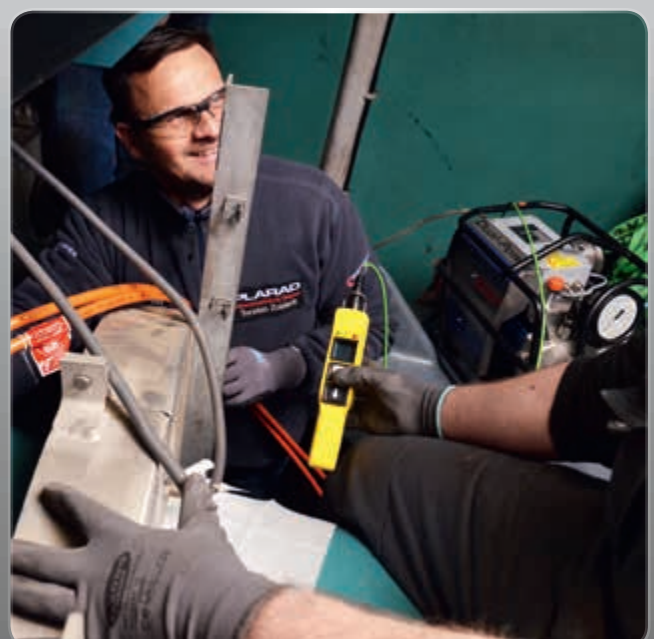
In close cooperation with our clients, we develop tailor-made tools that are perfectly customised to their respective requirements. Extensive support is meanwhile an integral part of our service. This is because we will accompany you before, during and after the project phase.

We are actively involved in various panels and standardization committees. This enables the accommodation of the latest changes in standards and of future bolting requirements in our competent service portfolio.

- Project Consulting
- Bolting Case Analysis
- 3D-CAD Analysis
- Product Demonstrations
- Trainings/Instructions/Seminars
- Measuring/Testing/Calibrating
- Repair and Spare Part Service
- 24-hour Service
- Renting/Leasing/Financing



Product advice from our specialists onsite



Test equipment and product demonstrations available





**PLARAD**

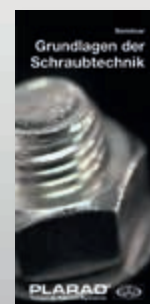
# We pass on our knowledge

We continually offer advanced training within the organisation to enhance the know-how of our employees.

We cooperate with PSA Sicherheitstechnik GmbH & Co. KG in operations worldwide, providing detailed support for training and safety instruction (for example, working at height, where this is a risk of falling), both for our own employees and for yours.

## Training and seminars for your employees

- Maintenance and repair of torque tools:
  - Relevant maintenance
  - Fault diagnosis
  - Repairs
  - Adjustment, calibration and testing
- User training:
  - Basic bolt fitting and technology
  - Safety aspects
  - Handling and positioning torque tools
  - Equipment settings
- Training courses in colleges and academies:
  - e.g. Basic bolting techniques





# 3D CAD analysis

Give us the data on your bolting joints in whatever format you want:

E.g. Hand-drawn sketch, with the aid of our bolting survey or as a CAD file.



We will use your information to create a 3D model on our own CAD system. This enables us to recommend the optimum tools for your needs. Where appropriate, we can customise a bolting system for your individual needs.



You will receive our recommended solution in the form of a printout and a 3D animation (use "Autodesk" dwf viewer).



Our wide range of products enables us to find the most economical solution for you.

# Special solutions



## Offset drive

For nutrunner when space is limited (e.g. plate heat exchangers)



## Speedy

Pneumatic speedy nutrunner: fast operation in low torque applications

## XB 1

Hydraulic power pack with protective shields and an extra manometer



## Threaded column connection mechanism

for pre-stressed concrete reinforcement







Our support service includes financial analysis of your project, instruction on the operation of the equipment, loan equipment, equipment calibration, maintenance and more.



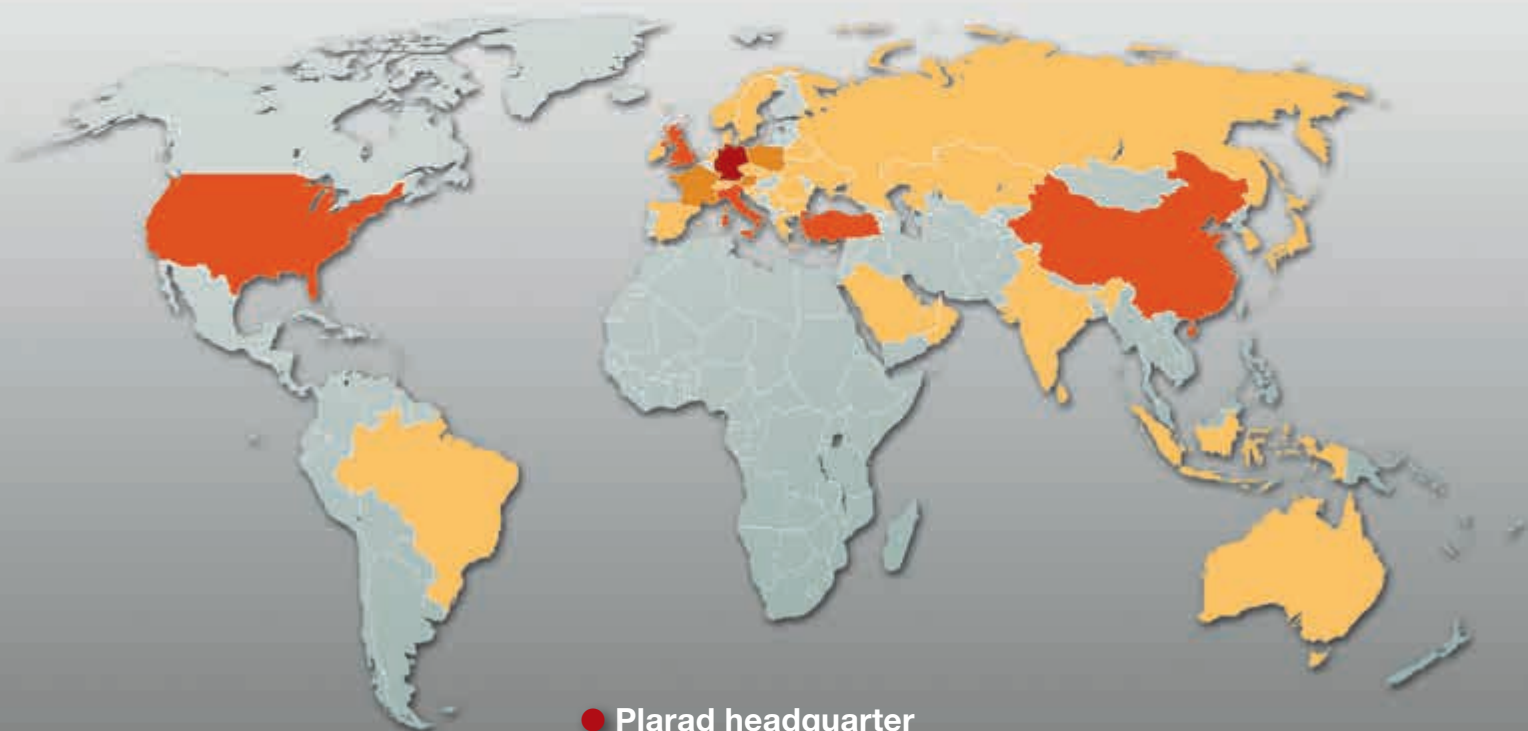
We check your bolting needs by means of precise measurement of torque while bolts are being tightened.

# 24/7 support and service

Competent expert help available throughout the world, at any time

- Economic and technical security, thanks to expert consultation anywhere in the world.
- We offer provision for service and maintenance, a reliable supply of spares as well as calibration services.
- One call is enough!  
Our 24/7-service team will provide clear quick no-nonsense support.

**[www.plarad.de](http://www.plarad.de) | [info@plarad.de](mailto:info@plarad.de) | +49 (0) 172 461 42 79**



- Plarad headquarter
- Plarad's foreign subsidiaries
- Plarad staff
- Plarad distributors



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E-mail: info@plarad-americas.com

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



... a successful  
connection!

**Maschinenfabrik Wagner GmbH & Co. KG**  
Birrenbachshöhe · 53804 Much · Germany

**Phone national:** +49 (0)2245 62-0  
**Fax national:** +49 (0)2245 62-66  
**Phone international:** +49 (0)2245 62-10  
**Fax international:** +49 (0)2245 62-22

info@plarad.de · www.plarad.de



# PULVARAD



**Technische Daten**  
***Technical data***

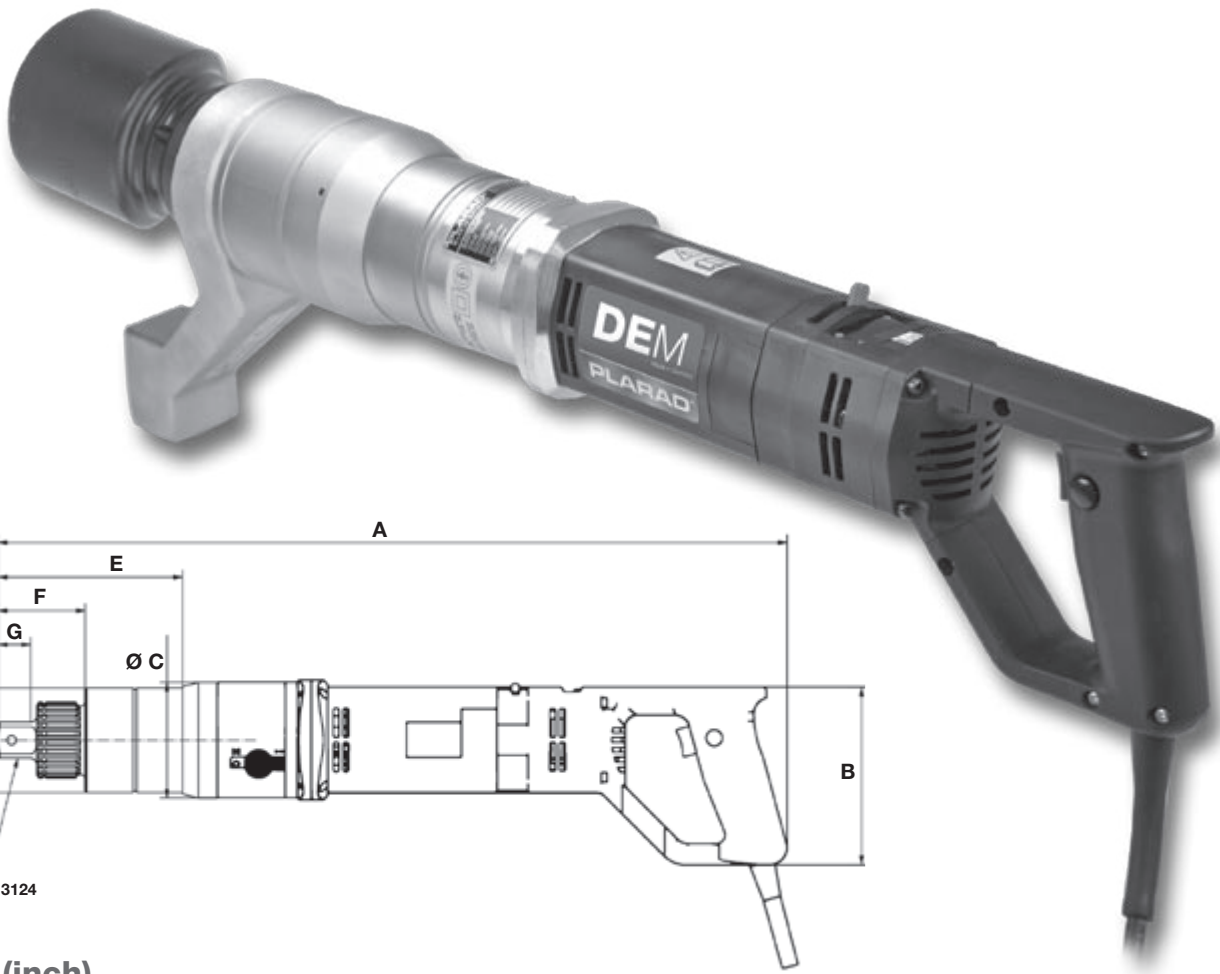
**Maßsystem imperial · *Imperial system***





<b>DEA/DEM Drehschrauber</b>	<b>3</b>
<i>DEA/DEM Nutrunner</i>	
<b>DPA/DPM Drehschrauber</b>	<b>6</b>
<i>DPA/DPM Nutrunner</i>	
<b>STX/ST Seitentrieb</b>	<b>9</b>
<i>STX/ST Offset gear</i>	
<b>MX-EC/MSX Hydraulikschrauber</b>	<b>17</b>
<i>MX-EC/MSX Hydraulic tool</i>	
<b>FSX Hydraulikschrauber</b>	<b>28</b>
<i>FSX Hydraulic tool</i>	
<b>Hydraulik-Aggregate</b>	<b>47</b>
<i>Hydraulic Power Packs</i>	
<b>Spannzylinder</b>	<b>50</b>
<i>Tensioner</i>	
<b>K-Gerät</b>	<b>51</b>
<i>K-series tool</i>	
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<i>HPR + CTK 3.5 EFS</i>	
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<i>XVR/XVK Multiplier</i>	
<b>Nüsse</b>	<b>67</b>
<i>Sockets</i>	

# DEA/DEM



**Maße (inch)**  
*dimensions (inch)*

Typ/Type	A	B	C	D	E	F	G	■ inch
DEA 08 TLX/TSX	21.97	4.72	3.23	2.91	4.92	2.24	0.95	3/4
DEA 12 TLX/TSX	23.35	4.72	3.23	2.91	5.12	2.44	1.06	1
DEA 17 TLX/TSX	23.62	4.72	3.23	3.66	5.52	2.40	1.06	1
DEA 28 TLX/TSX	25.52	4.72	3.23	3.86	5.91	2.87	1.06	1
DEA 47 TLX/TSX	26.30	4.72	3.23	3.90	6.38	3.39	1.58	1 1/2
DEA 65 TLX/TSX	28.20	4.72	3.23	4.72	8.58	3.86	1.65	1 1/2
DEA 80 TSX	29.25	4.72	4.33	4.33	11.89	3.98	1.65	1 1/2

**TLX: Gehäuse des Planetenradgetriebes aus leichtem Aluminium**  
**TSX: Gehäuse des Planetenradgetriebes aus Stahl**  
*TLX: Housing of planetary drive made of lightweight aluminium*  
*TSX: Housing of planetary drive made of steel*

Typ/Type	A	B	C	D	E	F	G	■ inch
DEM 08 TLX/TSX	21.81	4.72	3.23	2.91	4.92	2.24	0.95	3/4
DEM 12 TLX/TSX	22.00	4.72	3.23	2.91	5.12	2.44	1.06	1
DEM 17 TLX/TSX	22.28	4.72	3.23	3.66	5.52	2.40	1.06	1
DEM 28 TLX/TSX	24.17	4.72	3.23	3.86	5.91	2.76	1.06	1
DEM 47 TLX/TSX	24.96	4.72	3.23	3.90	6.38	3.31	1.58	1 1/2
DEM 65 TLX/TSX	26.81	4.72	3.23	4.72	8.58	3.86	1.65	1 1/2
DEM 80 TSX	27.87	4.72	4.33	4.33	11.89	3.92	1.65	1 1/2



## Leistungsspektrum / power spectrum

DEA	Typ/Type	Drehmoment- bereich/ Torque range	Drehzahl/Speed Leerlauf (U/min) idling (rpm)*	Drehzahl/Speed Lastgang (U/min) loaded (rpm)*	Gewicht/ Weight TLX / TSX
	DEA 08 TLX/TSX	221.4-590.4 lbf ft	80.0	13.5	14.3 / 16.06 lbs
	DEA 12 TLX/TSX	295.2-885.6 lbf ft	41.0	6.9	14.74 / 16.28 lbs
	DEA 17 TLX/TSX	442.8-1254.6 lbf ft	33.8	5.6	16.94 / 19.36 lbs
	DEA 28 TLX/TSX	885.6-2066.4 lbf ft	12.9	2.1	20.68 / 24.64 lbs
	DEA 47 TLX/TSX	1254.6-3468.6 lbf ft	8.3	1.4	22.44 / 26.18 lbs
	DEA 65 TLX/TSX	1476-4797 lbf ft	7.6	1.2	30.58 / 38.06 lbs
	DEA 80 TSX	2066.4-5904 lbf ft	6.3	0.9	- / 40.04 lbs

DEM	Typ/Type	Drehmoment- bereich/ Torque range	Drehzahl/Speed Gang 1 (U/min) gear 1 (rpm)*	Drehzahl/Speed Gang 2 (U/min) gear 2 (rpm)*	Gewicht/ Weight TLX / TSX
	DEM 08 TLX/TSX	221.4-590.4 lbf ft	64.0	20.5	12.32 / 14.08 lbs
	DEM 12 TLX/TSX	258.3-885.6 lbf ft	33.0	10.5	12.76 / 14.3 lbs
	DEM 17 TLX/TSX	295.2-1254.6 lbf ft	27.0	8.5	14.96 / 17.38 lbs
	DEM 28 TLX/TSX	369-2066.4 lbf ft	10.5	3.2	18.7 / 22.66 lbs
	DEM 47 TLX/TSX	590.4-3468.6 lbf ft	6.7	2.1	20.46 / 24.42 lbs
	DEM 65 TLX/TSX	738-4797 lbf ft	6.1	1.9	30.58 / 26.08 lbs
	DEM 80 TSX	1107-5904 lbf ft	5.0	1.5	- / 38.24 lbs

**TLX: Gehäuse des Planetenradgetriebes aus leichtem Aluminium**

**TSX: Gehäuse des Planetenradgetriebes aus Stahl**

**TLX: Housing of planetary drive made of lightweight aluminium**

**TSX: Housing of planetary drive made of steel**

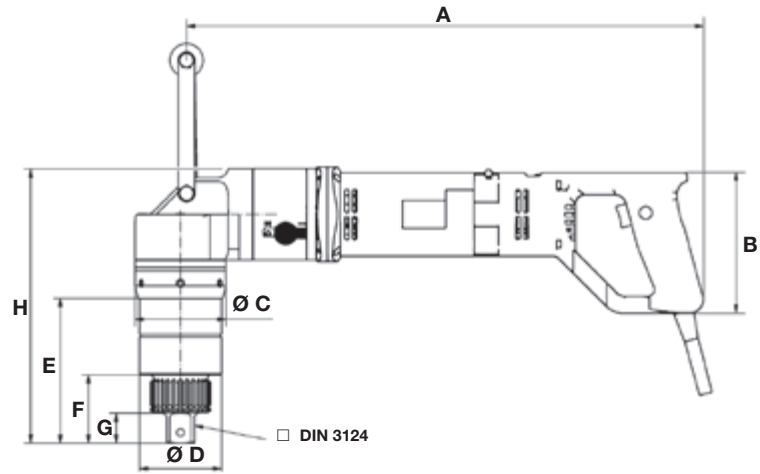
DEAW	Typ/Type	Drehmoment- bereich/ Torque range	Drehzahl/Speed Leerlauf (U/min) idling (rpm)*	Drehzahl/Speed Lastgang (U/min) loaded (rpm)*	Gewicht/ Weight TLX / TSX
	DEAW 08 TLX/TSX	221.4-590.4 lbf ft	59.0	10.0	18.04 / 19.8 lbs
	DEAW 12 TLX/TSX	295.2-885.6 lbf ft	32.0	6.0	18.48 / 20.0 lbs
	DEAW 17 TLX/TSX	442.8-1254.6 lbf ft	25.0	4.0	20.68 / 23.1 lbs
	DEAW 28 TLX/TSX	885.6-2066.4 lbf ft	10.0	1.6	24.42 / 28.38 lbs
	DEAW 47 TLX/TSX	1254.6-3468.6 lbf f	6.5	1.0	26.18 / 30.58 lbs
	DEAW 65 TLX/TSX	1476-4797 lbf ft	5.3	0.8	34.32 / 41.8 lbs
	DEAW 80 TSX	2066.4-5904 lbf ft	4.7	0.6	- / 43.78 lbs

DEMW	Typ/Type	Drehmoment- bereich/ Torque range	Drehzahl/Speed Gang 1 (U/min) gear 1 (rpm)*	Drehzahl/Speed Gang 2 (U/min) gear 2 (rpm)*	Gewicht/ Weight TLX / TSX
	DEMW 08 TLX/TSX	221.4-590.4 lbf ft	48.0	15.0	16.06 / 17.82 lbs
	DEMW 12 TLX/TSX	258.3-885.6 lbf ft	23.0	8.0	16.5 / 18.04 lbs
	DEMW 17 TLX/TSX	295.2-1254.6 lbf ft	20.0	6.5	18.7 / 21.12 lbs
	DEMW 28 TLX/TSX	369-2066.4 lbf ft	8.0	2.5	22.44 / 26.4 lbs
	DEMW 47 TLX/TSX	590.4-3468.6 lbf ft	5.0	1.5	24.42 / 28.16 lbs
	DEMW 65 TLX/TSX	738-4797 lbf ft	4.6	1.4	32.34 / 39.82 lbs
	DEMW 80 TSX	1107-5904 lbf ft	3.7	1.1	- / 42.02 lbs

\* Bei Antriebszahl / with input speed:  
DE 08 - DE 65:  
14.000 U/min. / 14.000 rpm..  
DE 80:  
18.000 U/min. / 18.000 rpm.

Leistungsdaten gelten nur für  
Schrauber mit 220/230 Volt. /  
Performance data is valid only to  
Nutrunners with 220/230 volts.

Gewichte ohne Abstützung. /  
Weight without reaction arm.



**Maße (inch)**  
*dimensions (inch)*

Typ/Type	A	B	C	D	E	F	G	H	■ inch
DEAW 08 TLX/TSX	20.08	4.72	3.23	2.91	4.92	2.24	0.95	9.6	3/4
DEAW 12 TLX/TSX	20.08	4.72	3.23	2.91	5.12	2.44	1.06	9.7	1
DEAW 17 TLX/TSX	20.08	4.72	3.23	3.66	5.52	2.40	1.06	10.2	1
DEAW 28 TLX/TSX	20.08	4.72	3.23	3.86	5.91	2.87	1.06	11.9	1
DEAW 47 TLX/TSX	20.08	4.72	3.23	3.90	6.38	3.39	1.58	12.9	1 1/2
DEAW 65 TLX/TSX	20.08	4.72	3.23	4.72	8.58	3.86	1.65	14.0	1 1/2
DEAW 80 TSX	20.08	4.72	4.33	4.33	11.89	3.98	1.65	15.7	1 1/2

**TLX: Gehäuse des Planetenradgetriebes aus leichtem Aluminium**

**TSX: Gehäuse des Planetenradgetriebes aus Stahl**

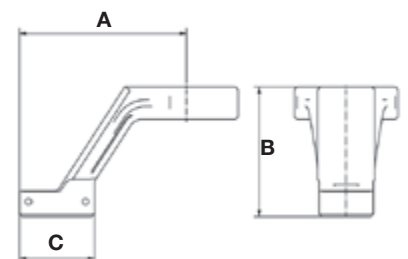
**TLX: Housing of planetary drive made of lightweight aluminium**

**TSX: Housing of planetary drive made of steel**

Typ/Type	A	B	C	D	E	F	G	H	■ inch
DEMW 08 TLX/TSX	18.74	4.72	3.23	2.91	4.92	2.24	0.95	9.6	3/4
DEMW 12 TLX/TSX	18.74	4.72	3.23	2.91	5.12	2.44	1.06	9.7	1
DEMW 17 TLX/TSX	18.74	4.72	3.23	3.66	5.52	2.40	1.06	10.2	1
DEMW 28 TLX/TSX	18.74	4.72	3.23	3.86	5.91	2.76	1.06	11.9	1
DEMW 47 TLX/TSX	18.74	4.72	3.23	3.90	6.38	3.31	1.58	12.9	1 1/2
DEMW 65 TLX/TSX	18.74	4.72	3.23	4.72	8.58	3.86	1.65	14.0	1 1/2
DEMW 80 TSX	18.74	4.72	4.33	4.33	11.89	3.92	1.65	15.7	1 1/2

**Standard-Abstützungen DE / DP**  
*Standard reaction arm DE / DP*

Typ/Type	A	B	C	Gewicht/ Weight	Code Nr./ code no.
DE / DP 08 TLX/TSX	4.33	3.15	1.97	0.55 lbs	F16-003-3-00103
DE / DP 12 TLX/TSX	5.12	3.94	2.36	1.32 lbs	F16-010-3-12203
DE / DP 17 TLX/TSX	5.12	3.94	2.36	1.32 lbs	F16-010-3-12203
DE / DP 28 TLX/TSX	6.69	5.12	2.36	2.2 lbs	F16-025-3-00106
DE / DP 47 TLX/TSX	6.69	5.12	2.36	2.2 lbs	F16-045-3-03605
DE / DP 65 TLX/TSX	7.48	5.91	3.15	4.4 lbs	F16-060-3-02901



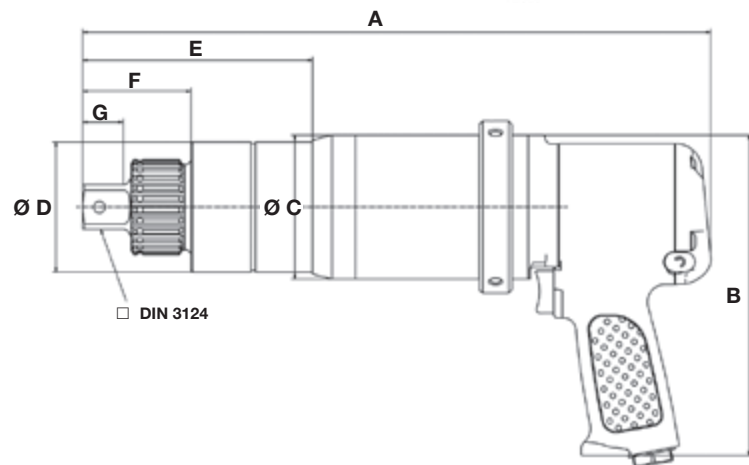


# DPA/DPM



Die technischen Daten der DP-ATEX-Modelle entsprechen den Daten der DP-Baureihe.

*The technical specifications of the DP-ATEX types are commensurate to those of the DP model range.*



## Maße (inch) dimensions (inch)

Typ/Type	A	B	C	D	E	F	G	■ inch
DPA 08 TLX/TSX	13.2	7.5	3.2	2.9	4.9	2.3	1.0	3/4
DPA 12 TLX/TSX	13.4	7.5	3.2	2.9	5.1	2.4	1.1	1
DPA 17 TLX/TSX	13.7	7.5	3.2	3.7	5.5	2.4	1.1	1
DPA 28 TLX/TSX	15.5	7.5	3.2	3.9	5.9	2.9	1.1	1
DPA 47 TLX/TSX	17.2	7.5	3.2	3.9	6.4	3.4	1.9	1 1/2
DPA 65 TLX/TSX	18.5	7.5	3.2	4.7	9.0	3.9	1.7	1 1/2

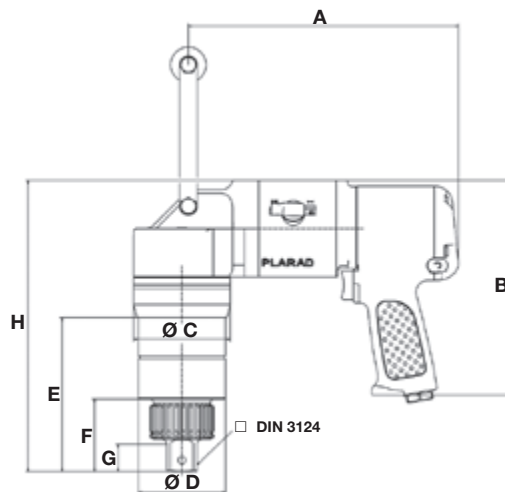
**TLX:** Gehäuse des Planetenradgetriebes aus leichtem Aluminium

**TSX:** Gehäuse des Planetenradgetriebes aus Stahl

**TLX:** Housing of planetary drive made of lightweight aluminium

**TSX:** Housing of planetary drive made of steel

Typ/Type	A	B	C	D	E	F	G	■ inch
DPM 08 TLX/TSX	12.1	7.5	3.2	2.9	4.9	2.3	1.0	3/4
DPM 12 TLX/TSX	12.3	7.5	3.2	2.9	5.1	2.4	1.1	1
DPM 17 TLX/TSX	12.6	7.5	3.2	3.7	5.5	2.4	1.1	1
DPM 28 TLX/TSX	14.5	7.5	3.2	3.9	5.9	2.9	1.1	1
DPM 47 TLX/TSX	15.9	7.5	3.2	3.9	6.4	3.4	1.6	1 1/2
DPM 65 TLX/TSX	17.1	7.5	3.2	4.7	8.6	3.9	1.7	1 1/2



**Maße (inch)**  
*dimensions (inch)*

Typ/Type	A	B	C	D	E	F	G	H	■ inch
DPAW 08 TLX/TSX	10.5	7.5	3.2	2.9	4.9	2.2	1.0	9.6	3/4
DPAW 12 TLX/TSX	10.5	7.5	3.2	2.9	5.1	2.4	1.1	9.7	1
DPAW 17 TLX/TSX	10.5	7.5	3.2	3.7	5.5	2.4	1.1	10.1	1
DPAW 28 TLX/TSX	10.5	7.5	3.2	3.9	5.9	2.9	1.1	11.9	1
DPAW 47 TLX/TSX	10.5	7.5	3.2	3.9	6.4	3.4	1.6	12.9	1 1/2
DPAW 65 TLX/TSX	10.5	7.5	3.2	4.7	8.6	3.9	1.7	14.0	1 1/2

**TLX: Gehäuse des Planetenradgetriebes aus leichtem Aluminium**

**TSX: Gehäuse des Planetenradgetriebes aus Stahl**

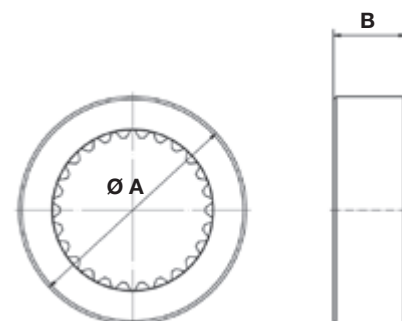
**TLX: Housing of planetary drive made of lightweig aluminium**

**TSX: Housing of planetary drive made of steel**

Typ/Type	A	B	C	D	E	F	G	H	■ inch
DPMW 08 TLX/TSX	9.0	7.5	3.2	2.9	4.9	2.3	1.0	9.6	3/4
DPMW 12 TLX/TSX	9.0	7.5	3.2	2.9	5.1	2.4	1.1	9.7	1
DPMW 17 TLX/TSX	9.0	7.5	3.2	3.7	5.5	2.4	1.1	10.1	1
DPMW 28 TLX/TSX	9.0	7.5	3.2	3.9	5.9	2.9	1.1	11.9	1
DPMW 47 TLX/TSX	9.0	7.5	3.2	3.9	6.4	3.4	1.6	12.9	1 1/2
DPMW 65 TLX/TSX	9.0	7.5	3.2	4.7	8.6	3.9	1.7	14.0	1 1/2

**Anschweißringe für Abstützungen DE / DP**  
*Welding ring for reaction arms DE / DP*

Typ/Type	A	B	Gewicht/ Weight	Code Nr./ code no.
DE / DP 08 TLX/TSX	3	1	1.1 lb	F17-010-3-12401
DE / DP 12 TLX/TSX	3	1	1.1 lb	F17-010-3-12401
DE / DP 17 TLX/TSX	3	1	1.1 lb	F17-010-3-12401
DE / DP 28 TLX/TSX	3.9	1.3	2.4 lb	F17-045-3-02101
DE / DP 47 TLX/TSX	3.9	1.3	2.4 lb	F16-045-3-02101
DE / DP 65 TLX/TSX	4.3	2	3.7 lb	F08-060-3-01401





## Leistungsspektrum / power spectrum

DPA	Typ/Type	Drehmoment- bereich/ Torque range	Drehzahl/Speed Leerlauf (U/min) idling (rpm)	Drehzahl/Speed Lastgang (U/min) loaded (rpm)	Gewicht/ Weight TLX / TSX
	DPA 08 TLX/TSX	92 – 608 ft lbs	79.0	13.0	12.8 / 14.5 lb
	DPA 12 TLX/TSX	200 – 900 fb lbs	41.0	7.0	13.0 / 16.9 lb
	DPA 17 TLX/TSX	221 – 1290 ft lbs	34.0	6.0	14.3 / 17.2 lb
	DPA 28 TLX/TSX	442 – 2102 ft lbs	15.0	2.5	18.9 / 22.4 lb
	DPA 47 TLX/TSX	811 – 3466 ft lbs	11.0	2.0	20.5 / 24.2 lb
	DPA 65 TLX/TSX	959 – 4794 ft lbs	8.0	1.4	29.3 / 33.2 lb

DPM	Typ/Type	Drehmoment- bereich/ Torque range	Drehzahl/Speed Gang 1 (U/min) gear 1 (rpm)	Drehzahl/Speed Gang 2 (U/min) gear 2 (rpm)	Gewicht/ Weight TLX / TSX
	DPM 08 TLX /TSX	44 – 608 ft lbs	52.0	17.0	9.7 / 11.4 lb
	DPM 12 TLX/TSX	60 – 900 ft lbs	27.0	9.0	11.0 / 12.8 lb
	DPM 17 TLX/TSX	80 – 1291 ft lbs	24.0	8.0	13.2 / 16.0 lb
	DPM 28 TLX/TSX	110 – 2102 ft lbs	10.0	3.2	16.9 / 20.5 lb
	DPM 47 TLX/TSX	160 – 3466 ft lbs	8.0	2.7	18.9 / 22.9 lb
	DPM 65 TLX/TSX	220 – 4794 ft lbs	6.0	2.0	27.3 / 31.2 lb

**TLX: Gehäuse des Planeten-  
radgetriebes aus leichtem  
Aluminium**

**TSX: Gehäuse des Planeten-  
radgetriebes aus Stahl**

**TLX: Housing of planetary  
drive made of lightweigt  
aluminium**

**TSX: Housing of planetary  
drive made of steel**

DPAW	Typ/Type	Drehmoment- bereich/ Torque range	Drehzahl/Speed Leerlauf (U/min) idling (rpm)	Drehzahl/Speed Lastgang (U/min) loaded (rpm)	Gewicht/ Weight TLX / TSX
	DPAW 08 TLX /TSX	92 – 608 ft lbs	70.0	8.0	16.5 / 18.3 lb
	DPAW 12 TLX/TSX	200 – 900 ft lbs	36.0	5.0	16.7 / 18.5 lb
	DPAW 17 TLX/TSX	221 – 1290 ft lbs	30.0	4.5	19.4 / 22.0 lb
	DPAW 28 TLX/TSX	442 – 2102 ft lbs	11.0	2.0	22.7 / 26.2lb
	DPAW 47 TLX/TSX	811 – 3466 ft lbs	8.0	1.5	24.2 / 28.2 lb
	DPAW 65 TLX/TSX	960 – 4794 ft lbs	7.0	1.0	33.0 / 35.2 lb

DPMW	Typ/Type	Drehmoment- bereich/ Torque range	Drehzahl/Speed Gang 1 (U/min) gear 1 (rpm)	Drehzahl/Speed Gang 2 (U/min) gear 2 (rpm)	Gewicht/ Weight TLX / TSX
	DPMW 08 TLX/TSX	44 – 608 ft lbs	41.0	13.0	14.5 / 16.3 lb
	DPMW 12 TLX/TSX	60 – 900 ft lbs	21.0	7.0	14.7 / 16.7 lb
	DPMW 17 TLX/TSX	80 – 1291 ft lbs	17.0	6.0	16.9 / 19.8 lb
	DPMW 28 TLX/TSX	110 – 2102 ft lbs	7.0	2.5	20.7 / 24.2 lb
	DPMW 47 TLX/TSX	160 – 3466 ft lbs	5.0	2.0	22.7 / 26.6 lb
	DPMW 65 TLX/TSX	220 – 4749 ft lbs	4.0	1.5	31.0 / 35.0 lb

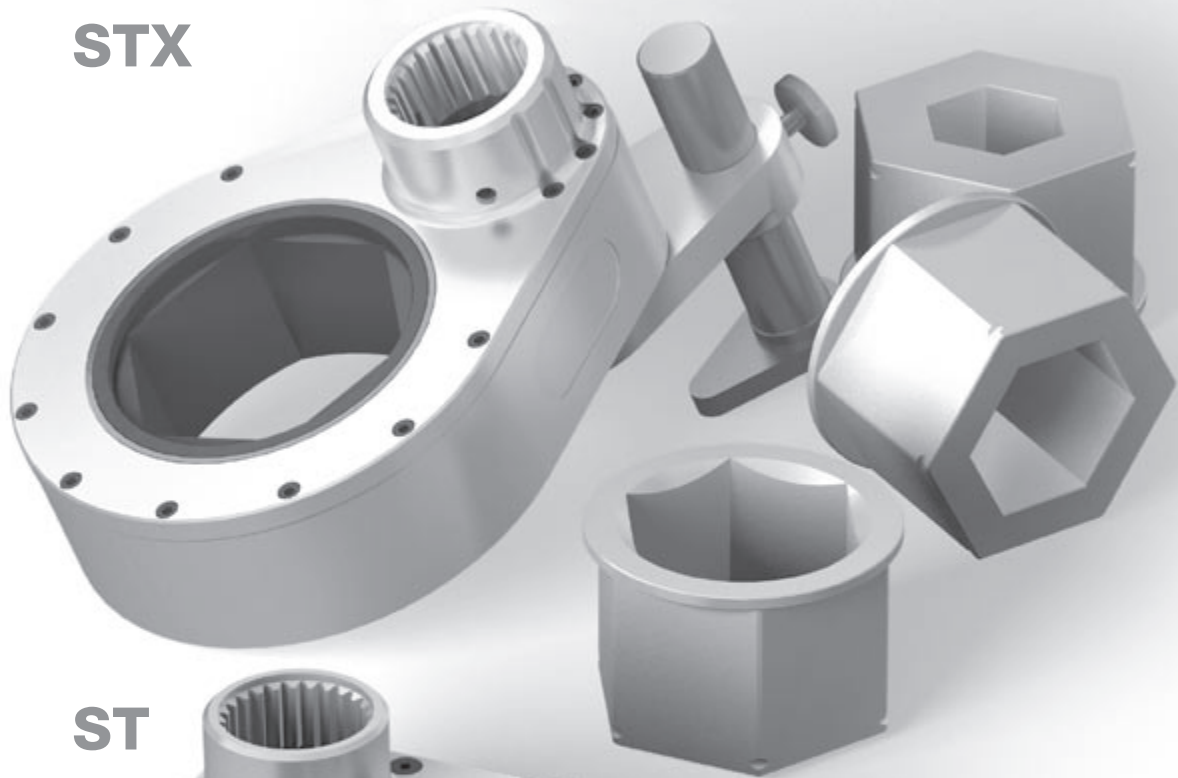
Auf Anfrage auch bis 8856 ft lbs  
(12.000 Nm) erhältlich.  
On request available up to 8856 ft lbs  
(12.000 Nm).

Gewichte ohne Abstützung. /  
Weight without reaction arm.

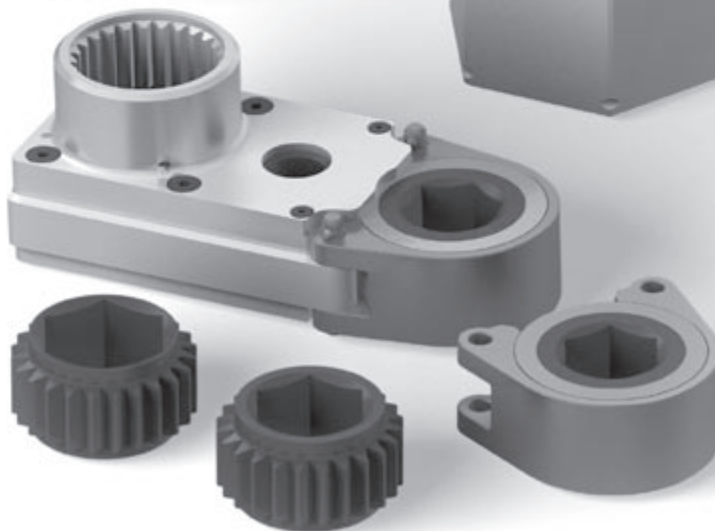
# Seitentriebe

## *Offset gears*

**STX**

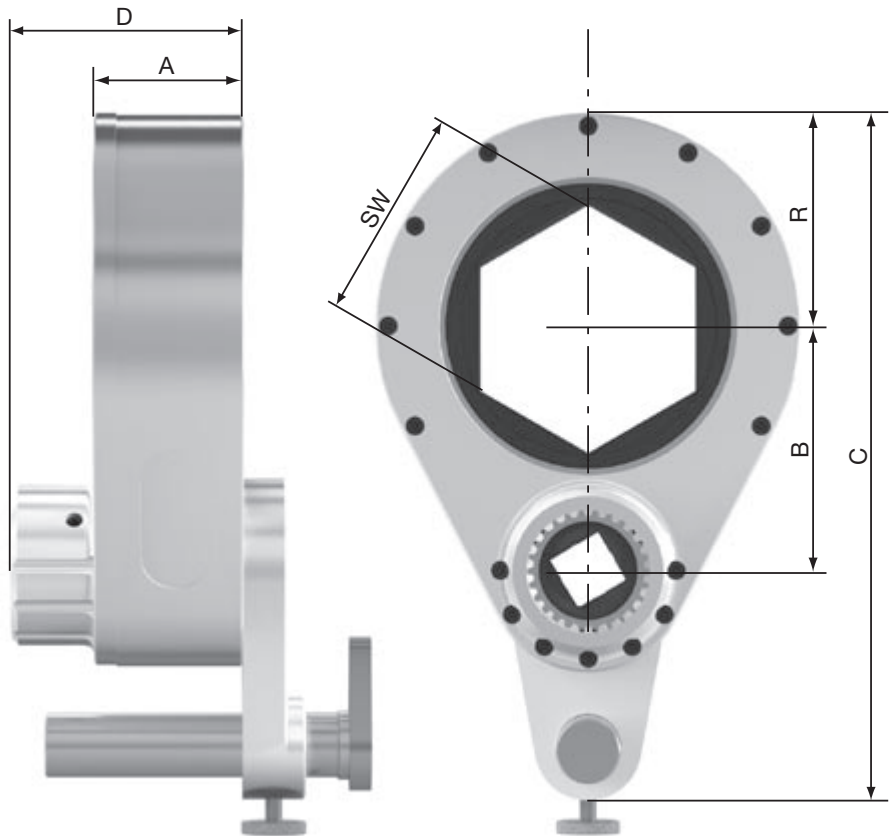


**ST**



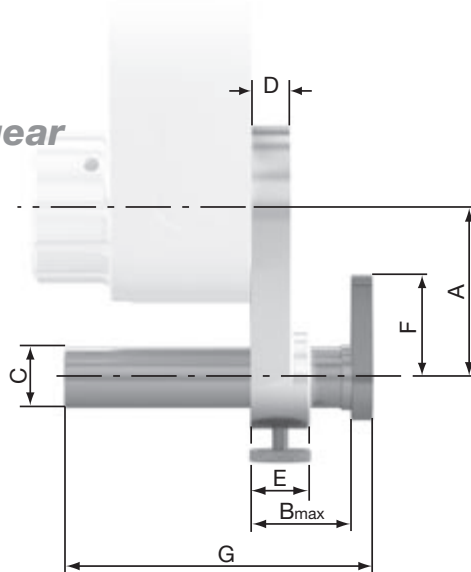


# STX



Typ Type	Für Drehschrauber For nut runner	Code Nr. Code no.	SW <sub>max</sub> A/F <sub>max</sub> mm	D inch	B inch	C inch	A inch	R inch	MT <sub>max</sub> fb lbs	Gewicht Weight lbs
STX 05-02 TL	DE 03/DP 03	G10-005-0-00501	46	3.15	2.75	6.69	1.65	2.36	369.0	4.4
STX 22-02 TL	DE 17/DP 17	G10-022-0-00501	65	4.1	3.2	7.49	2.6	2.52	1623.6	7.0
STX 36-02 TL	DE 17/DP 17	G10-036-0-00501	100	4.17	4.38	10,0	2.67	3.82	2656.8	11.4
STX 60-02 TL	DE 28/DP 28	G10-060-0-01001	150	4.53	6.38	14.37	2.91	5.31	4428.0	26.4

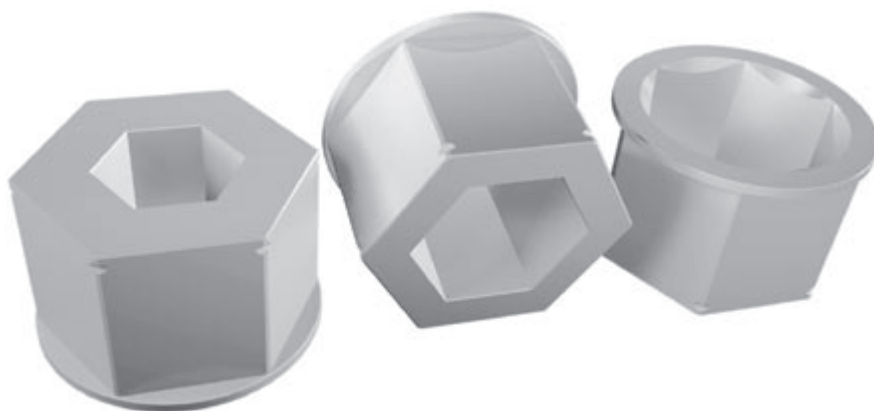
## Seitentriebabstützung Reaction arm for offset gear



Typ Type	Code Nr. Code no.	A inch	B <sub>max</sub> inch	C inch	D inch	E inch	F inch	G inch	Gewicht Weight lbs
STX 05-02 TL	B10-005-1-00101	2.76	3.94	0.6	0.4	0.79	1.38	4.25	1.54
STX 22-02 TL	G10-022-1-00101	3.27	5.51	0.79	0.79	1.18	1.97	5.9	2.64
STX 36-02 TL	G10-036-1-00101	3.27	5.51	1.18	0.79	1.18	1.97	5.9	2.97
STX 60-02 TL	G10-060-1-00101	5.51	6.3	1.57	1.18	1.57	2.76	7.09	5.5

**Sechskant-Reduzier-  
einsatz für STX**

*Hexagonal reducing  
insert for STX*



**STX 05-02 TL**

Typ <i>Type</i>	Code Nr. <i>Code no.</i>	SW außen (mm) <i>Outer A/F (mm)</i>	SW innen (mm) <i>Inner A/F (mm)</i>
STX 05-02 H 46/24	F10-005-3-01301	46	24
STX 05-02 H 46/27	F10-005-3-01401	46	27
STX 05-02 H 46/30	F10-005-3-01501	46	30
STX 05-02 H 46/32	F10-005-3-01601	46	32
STX 05-02 H 46/36	F10-005-3-01701	46	36
STX 05-02 H 46/41	F10-005-3-01801	46	41

**STX 22-02 TL**

Typ <i>Type</i>	Code Nr. <i>Code no.</i>	SW außen (mm) <i>Outer A/F (mm)</i>	SW innen (mm) <i>Inner A/F (mm)</i>
STX 22-02 H 55/24	F10-022-3-01901	55	24
STX 22-02 H 55/30	F10-022-3-01701	55	30
STX 22-02 H 55/32	F10-022-3-01801	55	32
STX 22-02 H 55/36	F10-022-3-01301	55	36
STX 22-02 H 55/41	F10-022-3-01201	55	41
STX 22-02 H 55/46	F10-022-3-01101	55	46

**STX 36-02 TL**

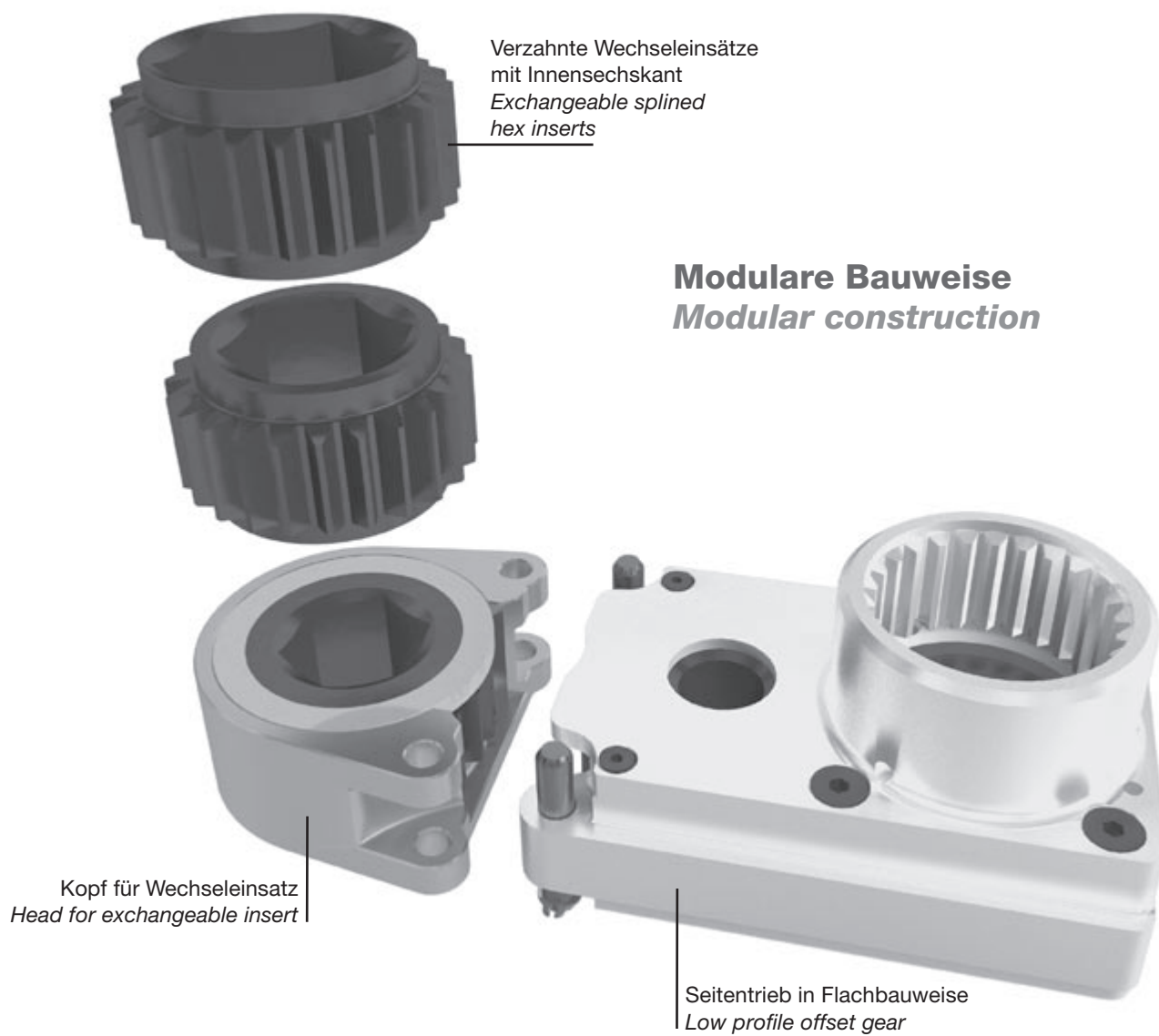
Typ <i>Type</i>	Code Nr. <i>Code no.</i>	SW außen (mm) <i>Outer A/F (mm)</i>	SW innen (mm) <i>Inner A/F (mm)</i>
STX 36-02 H 100/36	F10-036-3-04402	100	36
STX 36-02 H 100/46	F10-036-3-04302	100	46
STX 36-02 H 100/50	F10-036-3-04702	100	50
STX 36-02 H 100/55	F10-036-3-04002	100	55
STX 36-02 H 100/60	F10-036-3-03902	100	60
STX 36-02 H 100/65	F10-036-3-03802	100	65
STX 36-02 H 100/70	F10-036-3-03702	100	70
STX 36-02 H 100/75	F10-036-3-03602	100	75
STX 36-02 H 100/80	F10-036-3-03502	100	80

**STX 60-02 TL**

Typ <i>Type</i>	Code Nr. <i>Code no.</i>	SW außen (mm) <i>Outer A/F (mm)</i>	SW innen (mm) <i>Inner A/F (mm)</i>
STX 60-02 H 150/75	F10-060-3-02201	150	75
STX 60-02 H 150/80	F10-060-3-02101	150	80
STX 60-02 H 150/85	F10-060-3-02001	150	85
STX 60-02 H 150/90	F10-060-3-01901	150	90
STX 60-02 H 150/95	F10-060-3-01801	150	95
STX 60-02 H 150/100	F10-060-3-01701	150	100
STX 60-02 H 150/105	F10-060-3-01601	150	105
STX 60-02 H 150/110	F10-060-3-01501	150	110
STX 60-02 H 150/115	F10-060-3-01401	150	115
STX 60-02 H 150/120	F10-060-3-01301	150	120
STX 60-02 H 150/125	F10-060-3-01201	150	125
STX 60-02 H 150/130	F10-060-3-01101	150	130

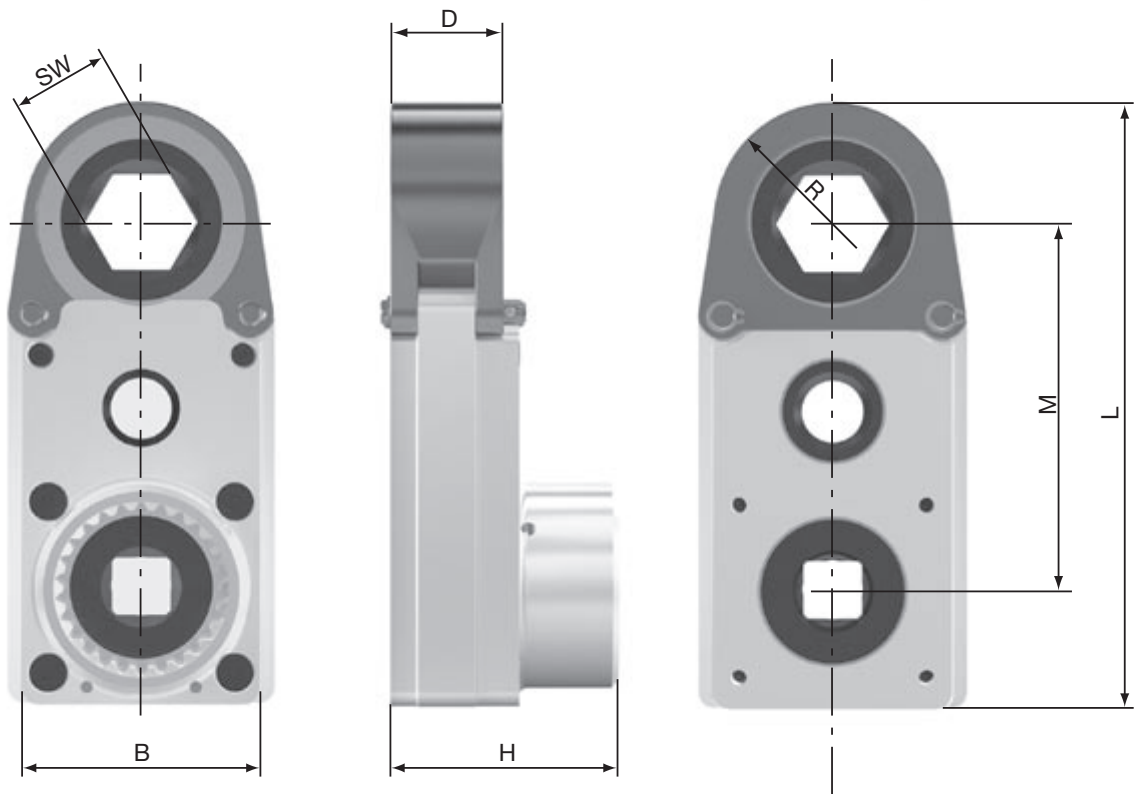


## ST



Typ <i>Type</i>	Code Nr. <i>Code no.</i>	■ ■ inch	SW <sub>max</sub> A/F <sub>max</sub> mm	Für Drehschrauber <i>For nut runner</i>	Eingangsdrehmoment max. <i>Input torque max.</i> lbf ft
ST 06-03	G10-006-0-00103	3/4	55	DE 08/DP 08	590.4
ST 10-03	G10-010-0-00203	1	75	DE 12/DP 12	885.6
ST 20-03	G10-020-0-00203	1	100	DE 17/DP 17	1254.6
ST 30-03	G10-030-0-00303	1	130	DE 28/DP 28	2066.4

ST 06-03



Seitentrieb Offset gear		Kopf für Wechseleinsatz Head for exchangeable inserts					Wechseleinsatz Exchangeable inserts		
Typ/Type		B (inch)	D (inch)	H (inch)	M <sub>max</sub> (lbf ft) Typ / Type Code Nr. / Code no.	L (inch)	M (inch)	R (inch)	SW / A/F (mm) Typ / Type Code Nr./Code no.
<b>ST 06-03</b>		3.39	1.42	2.87	280.5 WK 06/30 B10-006-1-00201	7.0	4.33	1.18	24 WE 06/30-24 F10-006-3-05501
					27 WE 06/30-27 F10-006-3-05601				
					30 WE 06/30-30 F10-006-3-04501				
					391 WK 06/41 B10-006-1-00101	7.6	4.63	1.5	32 WE 06/41-32 F10-006-3-05701
									36 WE 06/41-36 F10-006-3-05801
									41 WE 06/41-41 F10-006-3-04301
					443 WK 06/55 B10-006-1-00301	8.17	4.92	1.77	46 WE 06/55-46 F10-006-3-05901
									50 WE 06/55-50 F10-006-3-06001
									55 WE 06/55-55 F10-006-3-04401

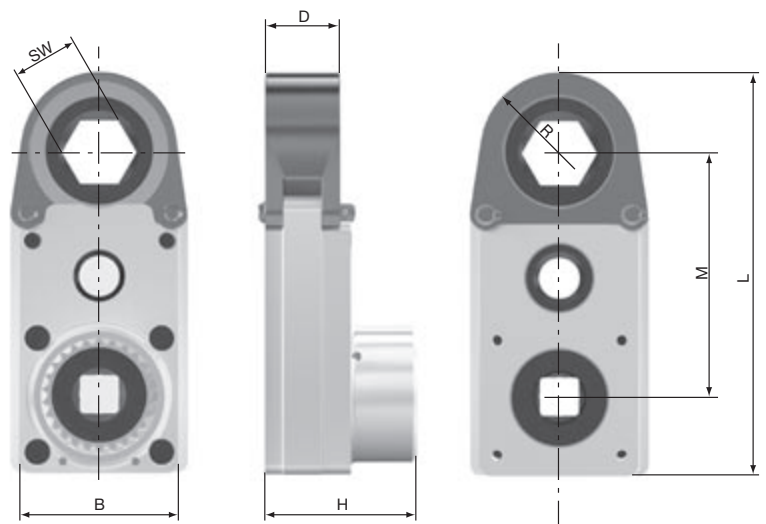


## ST 10-03

Seitentrieb Offset gear				Kopf für Wechseleinsatz Head for exchangeable inserts				Wechseleinsatz Exchangeable inserts				
Typ/Type	B (inch)	D (inch)	H (inch)	M <sub>max</sub> (lbf ft)	L (inch)	M (inch)	R (inch)	SW / A/F (mm)				
				Typ / Type				Typ / Type				
Typ/Type	B (inch)	D (inch)	H (inch)	Code Nr. / Code no.	L (inch)	M (inch)	R (inch)	Code Nr./Code no.				
<b>ST 10-03</b>	4.13	1.65	3.11	465	9.02	5.67	1.54	30				
				WK 10/36				WE 10/36-30				
				B10-010-1-00101				F10-010-3-05701				
								32				
								WE 10/36-32				
								F10-010-3-05801				
								30				
								WE 10/36-36				
								F10-010-3-04101				
								664	9.72	6.02	1.9	46
								WK 10/55	WE 10/55-46			
								B10-010-1-00201	F10-010-3-03201			
		50										
		WE 10/55-50										
		F10-010-3-03101										
		55										
		WE 10/55-55										
		F10-010-3-03001										
		885.5	10.83	6.55	2.46	65						
		WK 10/75	WE 10/75-65									
		B10-010-1-00301	F10-010-3-05901									
			70									
			WE 10/75-70									
			F10-010-3-06001									
			75									
			WE 10/75-75									
			F10-010-3-04201									

ST 20-03

Seitentrieb Offset gear				Kopf für Wechseleinsatz Head for exchangeable inserts					Wechseleinsatz Exchangeable inserts						
Typ/Type	B (inch)	D (inch)	H (inch)	M <sub>max</sub> (lbf ft)	L (inch)	M (inch)	R (inch)	SW / A/F (mm)	Code Nr./Code no.						
				Typ / Type				Typ / Type							
ST 20-03	5.95	1.97	3.66	664	12.74	8.11	2.17	46	F10-020-3-04001						
				WK 20/55				WE 20/55-46							
				B10-020-1-00101											
								50							
								WE 20/55-50							
								F10-020-3-04101							
								55							
								WE 20/55-55							
								F10-020-3-02601							
								885.5		13.7	8.58	2.66	65	WE 20/75-65	F10-020-3-01301
								WK 20/75					70	WE 20/75-70	F10-020-3-01201
								B10-020-1-00201					75	WE 20/75-75	F10-020-3-01101
					90	WE 20/100-90	F10-020-3-04201								
					1254.5	14.67	9.06	3.15	95	WE 20/100-95	F10-020-3-04301				
					WK 20/100				100	WE 20/100-100	F10-020-3-02501				
					B10-020-1-00301										

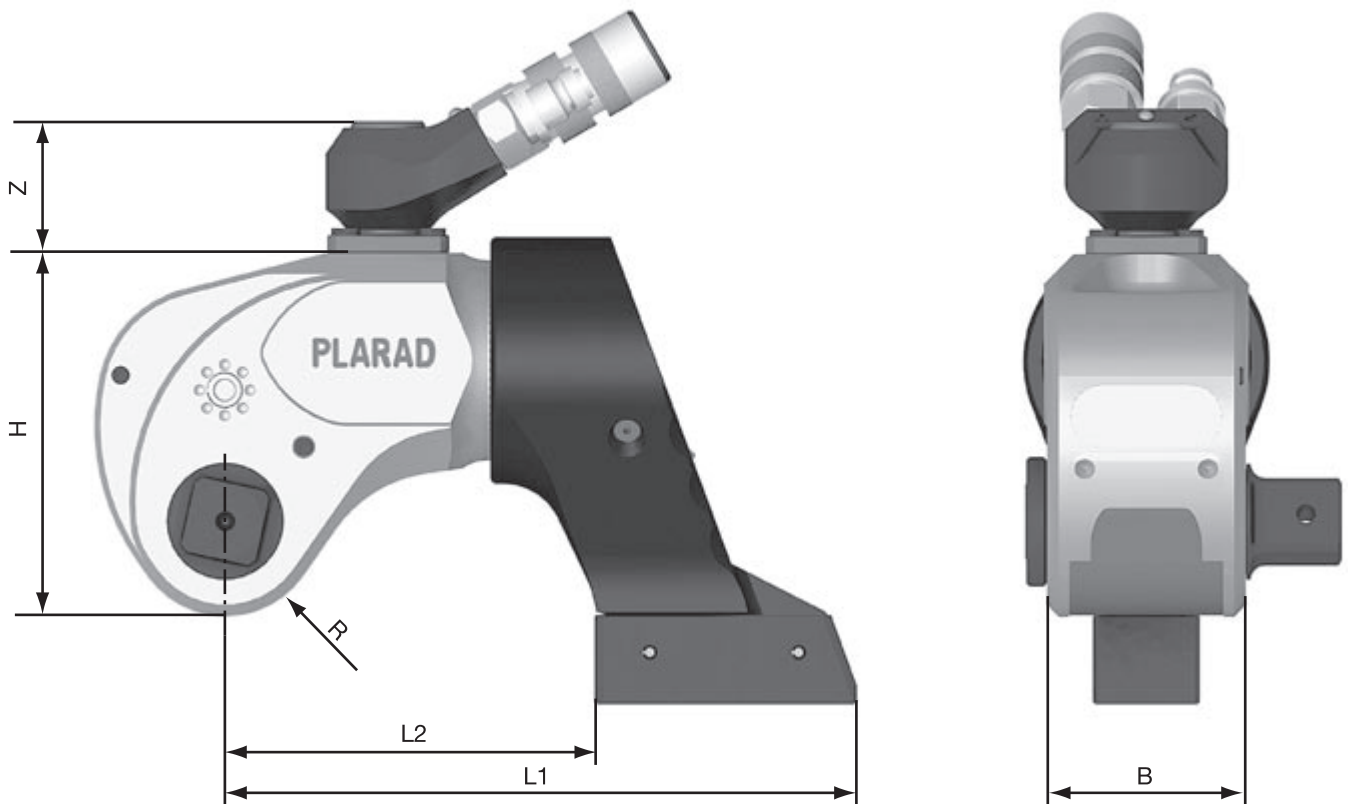
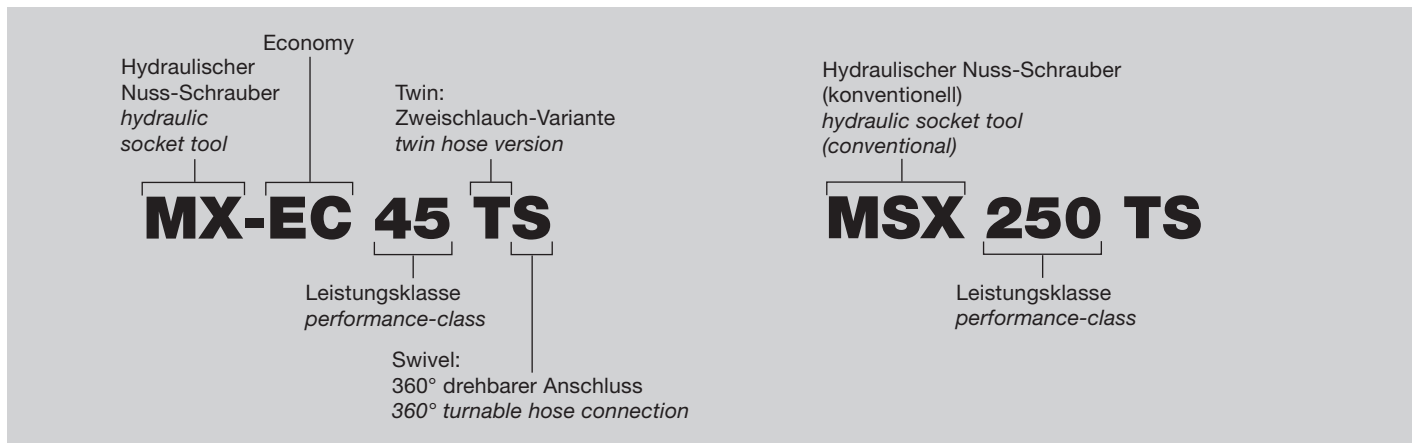


## ST 30-03

Seitentrieb Offset gear				Kopf für Wechseleinsatz Head for exchangeable inserts				Wechseleinsatz Exchangeable inserts				
Typ/Type	B (inch)	D (inch)	H (inch)	M <sub>max</sub> (lbf ft)	L (inch)	M (inch)	R (inch)	SW / A/F (mm)				
				Typ / Type				Typ / Type				
Typ/Type	B (inch)	D (inch)	H (inch)	Code Nr. / Code no.	L (inch)	M (inch)	R (inch)	Code Nr./Code no.				
<b>ST 30-03</b>	7.09	2.36	4.21	1476	10.12	4.41	2.76	65				
				WK 30/75				WE 30/75-65				
				B10-030-1-00301				F10-030-3-03101				
								70				
								WE 30/75-70				
								F10-030-3-03201				
								75				
								WE 30/75-75				
								F10-030-3-03001				
								1992.5	11.08	4.88	3.25	90
								WK 30/100	WE 30/100-90			
								B10-030-1-00401	F10-030-3-03401			
		95										
		WE 30/100-95										
		F10-030-3-03501										
		100										
		WE 30/100-100										
		F10-030-3-03301										
		2583	12.64	5.67	4.02	120						
		WK 30/130	WE 30/130-120									
		B10-030-1-00501	F10-030-3-03701									
			125									
			WE 30/130-125									
			F10-010-3-06001									
			75									
			WE 10/75-75									
			F10-030-3-03801									

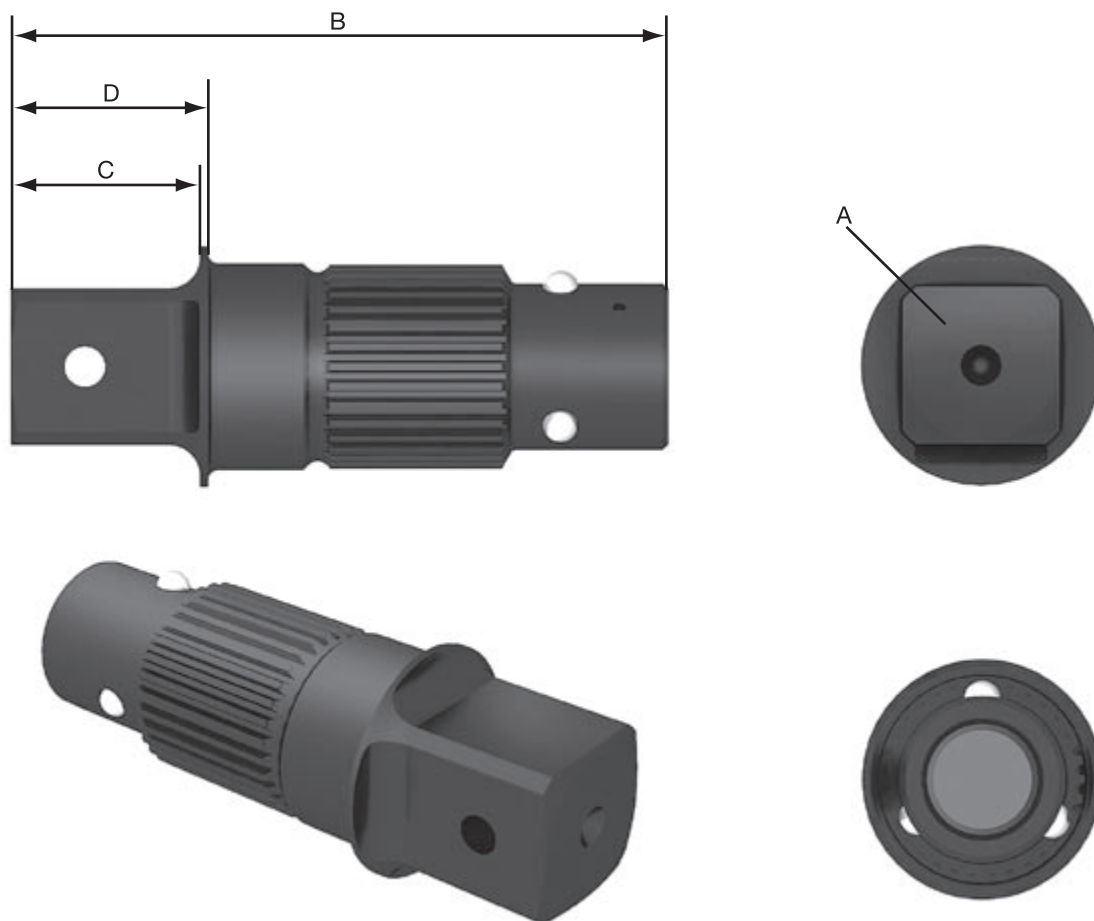


# MX-EC/MSX



## Gerät Tool

Typ Type	Antriebsvierkant Square drive	Leistungsbereich Performance range (ft lbs)	L2 - L1 (inch)	B (inch)	H (inch)	R (inch)	Z (inch)	Gewicht Weight (lbs)
MX-EC 20 TS	1 (3/4)	155 - 1550	3.93 - 6.3	1.97	3.66	0.95	1.73	6.38
MX-EC 45 TS	1	332.1 - 3321	4.88 - 8.35	2.64	4.8	1.26	1.73	10.78
MX-EC 75 TS	1 1/2	553.5 - 5535	5.35 - 9.96	3.15	5.47	1.47	1.73	16.06
MX-EC 95 TS	1 1/2	701.1 - 7011	6.18 - 10.12	3.35	6.06	1.65	1.73	20.9
MX-EC 120 TS	1 1/2	885.6 - 8856	6.89 - 10.83	3.54	6.42	1.69	1.73	23.1
MX-EC 155 TS	1 1/2	1143.9 - 11439	7.68 - 11.61	3.93	7.13	1.93	1.73	29.7
MX-EC 200 TS	2 1/2	1476 - 14760	8.27 - 12.72	4.41	8.27	2.17	1.73	45.1
MSX 250 TS	2 1/2	1845 - 18450	7.28 - 11.41	4.65	9.04	2.26	3.07	64.9
MSX 400 TS	2 1/2	2952 - 29520	9.02 - 14.25	5.35	10.77	2.62	3.07	108.9
MSX 650 TS	3 1/2	4797 - 47970	10.24 - 16.34	6.1	12.74	3.07	3.07	170.94

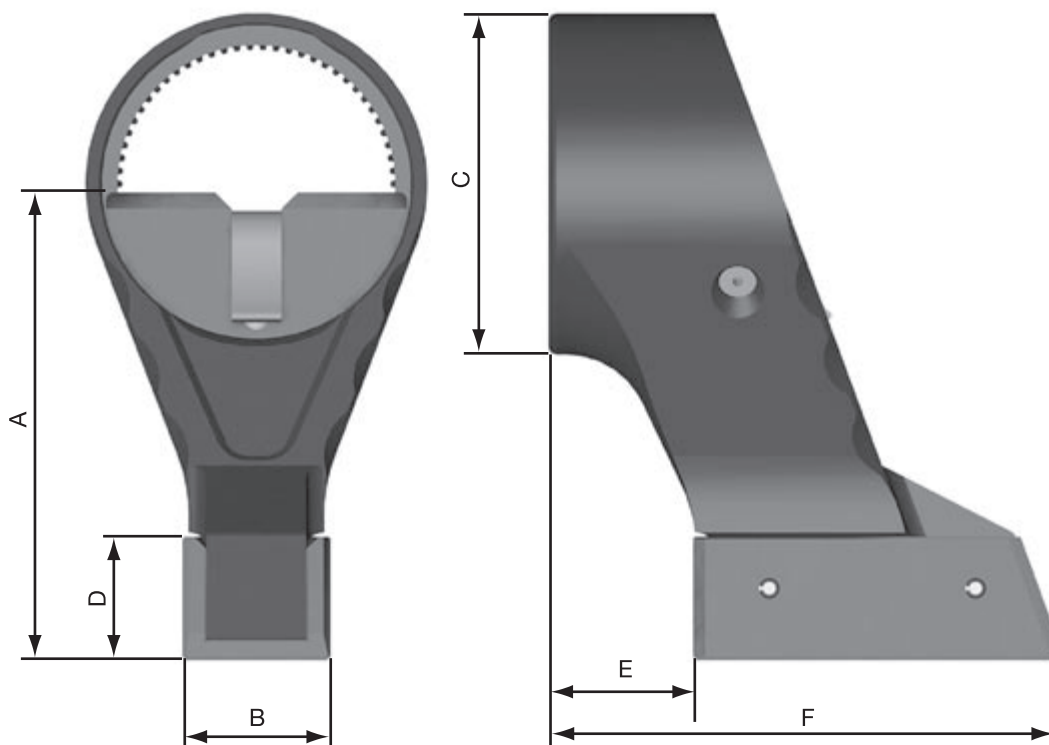


## Vierkantadapter Square drive adapters

Typ Type		Code Nr. Code no.	A ■	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
MX-EC 20 TS	AP 075	B93-042-1-00002	$\frac{3}{4}$	3.43	0.9	1.1	959	0.77
	AP 100	B93-042-1-00001	1	3.58	1.06	1.26	1550	0.99
MX-EC 45 TS	AP 100	B93-032-1-00001	1	4.19	1.06	1.26	3321	1.43
	AP 150	B93-032-1-00002	$1\frac{1}{2}$	4.7	1.57	1.77	3321	2.09
MX-EC 75 TS	AP 150	B93-038-1-00005	$1\frac{1}{2}$	5.22	1.57	1.77	5535	2.75
MX-EC 95 TS	AP 150	B93-041-1-00500	$1\frac{1}{2}$	5.37	1.61	1.73	7011	2.71
MX-EC 120 TS	AP 150	B93-046-1-00081	$1\frac{1}{2}$	5.67	1.61	1.73	8856	4.18
MX-EC 155 TS	AP 150	B93-048-1-00011	$1\frac{1}{2}$	6.16	1.57	1.77	11439	4.62
	AP 250	B93-048-1-00019	$2\frac{1}{2}$	6.75	2.16	2.36	11439	7.26
MX-EC 200 TS	AP 200	B93-058-1-00046	$2\frac{1}{2}$	7.46	2.16	2.36	14760	10.45
MSX 250 TS	AP 250	B93-058-1-00001	$2\frac{1}{2}$	7.46	2.16	2.36	18450	10.45
MSX 400 TS	AP 250	B93-068-1-00001	$2\frac{1}{2}$	8.19	2.16	2.36	29520	13.64
MSX 650 TS	AP 250	B93-080-2-06405	$2\frac{1}{2}$	9.13	2.16	2.36	36900	19.14
	AP 350	B93-080-2-08905	$3\frac{1}{2}$	10.31	3.35	3.54	47970	26.4

### Abstützungen mit Sicherheitsverriegelung

### Reaction arms with safety latch

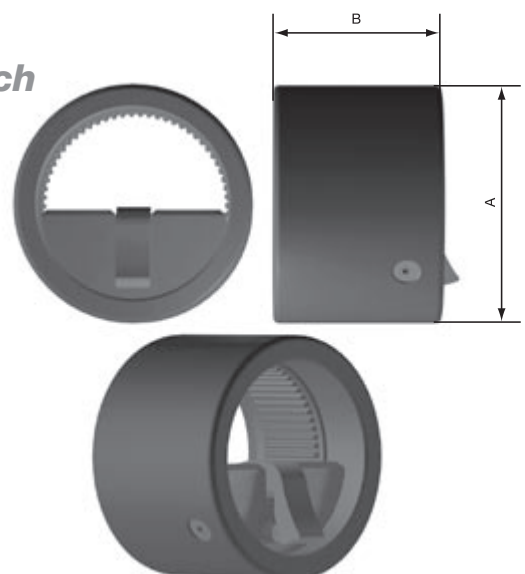


Typ/ Type	Code Nr. Code no.	A (inch)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	Gewicht Weight (lbs)
MX-EC 20 TS	B50-020-1-00420	3.94	1.42	2.76	1.1	2.36	3.54	1.54
MX-EC 45 TS	B50-045-1-05601	4.37	1.42	3.27	1.38	1.38	4.84	2.42
MX-EC 75 TS	B50-075-1-04711	5.39	1.57	3.74	1.38	1.46	6.1	3.96
MX-EC 95 TS	B50-095-1-00500	6.3	1.57	4.21	1.38	2.36	6.22	4.18
MX-EC 120 TS	B50-120-1-00115	6.3	1.81	4.41	1.38	2.44	6.42	5.72
MX-EC 155 TS	B50-155-1-00140	6.65	1.81	5.04	1.61	2.91	6.85	7.04
MX-EC 200 TS	B50-200-1-00240	7.87	2.4	5.75	2.09	3.35	6.18	12.32
MSX 250 TS	B50-250-1-00110	8.78	2.6	7.5	2.09	1.81	6.18	14.08
MSX 400 TS	B50-400-1-00110	9.76	3.74	8.86	2.17	2.52	7.76	23.76
MSX 650 TS	B50-650-1-00110	11.0	4.13	10.0	2.36	2.68	8.78	39.6

### Abstützringe mit Sicherheitsverriegelung

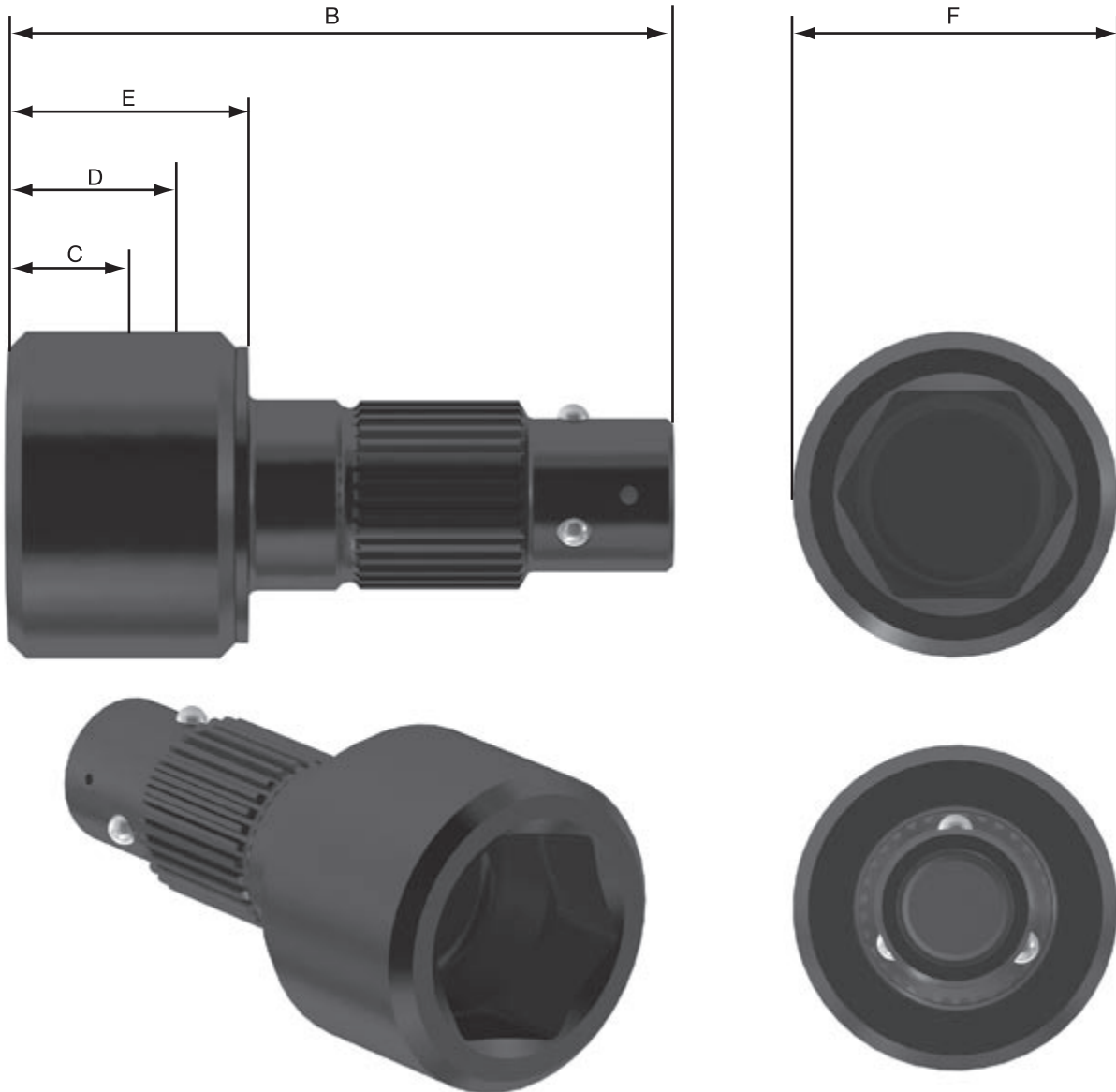
### Reaction rings with safety latch

Typ/ Type	Code Nr. Code no.	A (inch)	B (inch)
MX-EC 20 TS	B50-020-1-00520	2.76	1.97
MX-EC 45 TS	B50-045-1-08701	3.35	2.36
MX-EC 75 TS	B50-075-1-06311	3.90	3.07
MX-EC 95 TS	B50-095-1-01000	4.33	3.15
MX-EC 120 TS	B50-120-1-03311	4.66	3.94
MX-EC 155 TS	B50-155-1-00240	3.35	3.94
MX-EC 200 TS	B50-200-1-00141	5.91	5.12





**Sicherheits-Einstecknüsse für MX-EC/MSX**  
*Splined safety sockets for MX-EC/MSX*



**Sicherheits-Einstecknüsse für MX-EC 20**  
*Splined safety sockets for MX-EC 20*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
SP 24 M	B93-042-1-00014	24	3.70	0.47	1.06	1.38	1.56	634.68	0.88
SP 27 M	B93-042-1-00015	27	3.78	0.55	1.14	1.46	1.71	848.70	0.99
SP 30 M	B93-042-1-00008	30	3.82	0.59	1.18	1.50	1.86	1018.44	1.1
SP 32 M	B93-042-1-00009	32	3.86	0.63	1.22	1.54	2.07	1476.00	1.21
SP 36 M	B93-042-1-00010	36	3.90	0.67	1.26	1.58	2.24	1549.00	1.32
SP 41 M	B93-042-1-00011	41	4.02	0.79	1.38	1.69	2.52	1549.00	1.65
SP 46 M	B93-042-1-00016	46	4.09	0.87	1.46	1.77	2.68	1549.00	1.98
SP 50 M	B93-042-1-00017	50	4.13	0.91	1.50	1.81	2.80	1549.00	2.75
SP 55 M	B93-042-1-00005	55	4.25	1.02	1.61	1.93	3.03	1549.00	2.75

**Sicherheits-Einstecknüsse für MX-EC 45**  
*Splined safety sockets for MX-EC 45*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
SP 30 M	B93-032-1-00008	30	4.41	0.59	1.18	1.48	1.86	1018.44	1.76
SP 32 M	B93-032-1-00009	32	4.45	0.63	1.18	1.52	2.07	1476.00	1.76
SP 36 M	B93-032-1-00025	36	4.49	0.67	1.26	1.65	2.24	1778.58	1.98
SP 41 M	B93-032-1-00023	41	4.71	0.79	1.38	1.77	2.52	2457.54	2.20
SP 46 M	B93-032-1-00028	46	4.78	0.87	1.46	1.85	2.76	3033.18	1.15
SP 50 M	B93-032-1-00030	50	5.06	0.91	1.50	2.13	2.95	3321.00	2.53
SP 55 M	B93-032-1-00031	55	5.18	1.02	1.61	2.24	3.15	3321.00	3.85
SP 60 M	B93-032-1-00033	60	5.26	1.10	1.69	2.32	3.35	3321.00	4.51
SP 65 M	B93-032-1-00034	65	5.37	1.22	1.81	2.44	3.54	3321.00	4.95
SP 70 M	B93-032-1-00035	70	5.57	1.26	1.85	2.64	3.82	3321.00	6.16

**Sicherheits-Einstecknüsse für MX-EC 75**  
*Splined safety sockets for MX-EC 75*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
SP 36 M	B93-038-1-00007	36	5.02	0.67	1.26	1.54	2.26	1778.58	3.52
SP 41 M	B93-038-1-00008	41	5.14	0.79	1.38	1.65	2.52	2457.54	3.52
SP 46 M	B93-038-1-00009	46	5.22	0.87	1.46	1.73	2.99	4317.30	3.74
SP 50 M	B93-038-1-00010	50	5.26	0.91	1.50	1.77	3.19	4929.84	4.29
SP 55 M	B93-038-1-00011	55	5.81	1.02	1.61	2.32	3.39	5535.00	4.51
SP 60 M	B93-038-1-00012	60	5.89	1.10	1.69	2.40	3.54	5535.00	6.71
SP 65 M	B93-038-1-00013	65	6.00	1.22	1.81	2.52	3.78	5535.00	7.59
SP 70 M	B93-038-1-00014	70	6.04	1.26	1.85	2.56	4.02	5535.00	8.03
SP 75 M	B93-038-1-00015	75	6.12	1.34	1.93	2.64	4.25	5535.00	8.58

## Sicherheits-Einstecknüsse für MX-EC 120

### *Splined safety sockets for MX-EC 120*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
SP 90 M	B93-046-1-00082	90	7.16	1.73	1.49	3.23	5.04	8856	13.2

## Sicherheits-Einstecknüsse für MX-EC 155

### *Splined safety sockets for MX-EC 155*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
SP 46 M	B93-048-1-00008	46	6.12	0.87	1.46	1.73	2.99	4317.30	4.62
SP 50 M	B93-048-1-00020	50	6.16	0.91	1.50	1.77	3.19	4929.84	5.17
SP 55 M	B93-048-1-00009	55	6.71	1.02	1.61	2.32	3.43	6103.26	5.39
SP 60 M	B93-048-1-00021	60	6.79	1.10	1.69	2.40	3.70	7505.46	7.59
SP 65 M	B93-048-1-00010	65	6.91	1.22	1.81	2.52	3.94	8988.84	8.45
SP 70 M	B93-048-1-00022	70	6.95	1.26	1.85	2.56	4.17	9992.52	8.91
SP 75 M	B93-048-1-00012	75	7.22	1.34	1.93	2.84	4.41	11387.34	9.46
SP 80 M	B93-048-1-00013	80	7.38	1.50	2.09	2.99	4.69	11439.00	11.22
SP 85 M	B93-048-1-00014	85	7.50	1.61	2.21	3.11	4.92	11439.00	12.32
SP 90 M	B93-048-1-00015	90	7.62	1.73	2.32	3.23	5.16	11439.00	13.20
SP 95 M	B93-048-1-00016	95	7.74	1.85	2.05	3.35	5.20	11439.00	13.64
SP 100 M	B93-048-1-00023	100	7.93	1.93	2.52	3.54	5.67	11439.00	15.18
SP 105 M	B93-048-1-00017	105	8.05	2.05	2.64	3.66	5.91	11439.00	16.72
SP 110 M	B93-048-1-00027	110	8.17	2.17	2.76	3.78	6.14	11439.00	18.26

## Sicherheits-Einstecknüsse für MSX 250

### *Splined safety sockets for MSX 250*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
SP 50 M	B93-058-1-00017	50	6.87	0.91	1.50	1.77	3.19	4929.84	8.80
SP 55 M	B93-058-1-00018	55	7.42	1.02	1.61	2.32	3.43	6103.26	9.57
SP 60 M	B93-058-1-00019	60	7.50	1.10	1.69	2.40	3.70	7505.46	10.78
SP 65 M	B93-058-1-00020	65	7.62	1.22	1.81	2.52	3.94	8988.84	12.10
SP 70 M	B93-058-1-00021	70	7.93	1.26	2.05	2.84	4.41	13247.10	13.09
SP 75 M	B93-058-1-00022	75	8.01	1.34	2.13	2.91	46.46	14501.70	13.86
SP 80 M	B93-058-1-00023	80	8.17	1.50	2.28	3.07	4.92	17896.50	15.40
SP 85 M	B93-058-1-00012	85	8.29	1.61	2.40	3.19	5.16	18450.00	16.50
SP 90 M	B93-058-1-00024	90	8.41	1.73	2.52	3.31	5.39	18450.00	17.49
SP 95 M	B93-058-1-00006	95	8.52	1.85	2.64	3.43	5.59	18450.00	18.73
SP 100 M	B93-058-1-00025	100	8.60	1.93	2.72	3.50	5.83	18450.00	20.02
SP 105 M	B93-058-1-00013	105	8.72	2.05	2.84	3.62	6.02	18450.00	21.45
SP 110 M	B93-058-1-00007	110	8.34	2.17	2.95	3.74	6.26	18450.00	23.21
SP 115 M	B93-058-1-00026	115	8.92	2.28	3.07	3.82	6.50	18450.00	24.86



## Sicherheits-Einstecknüsse für MSX 400

### *Splined safety sockets for MSX 400*

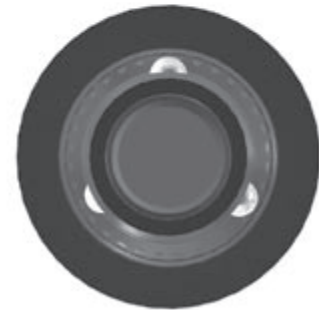
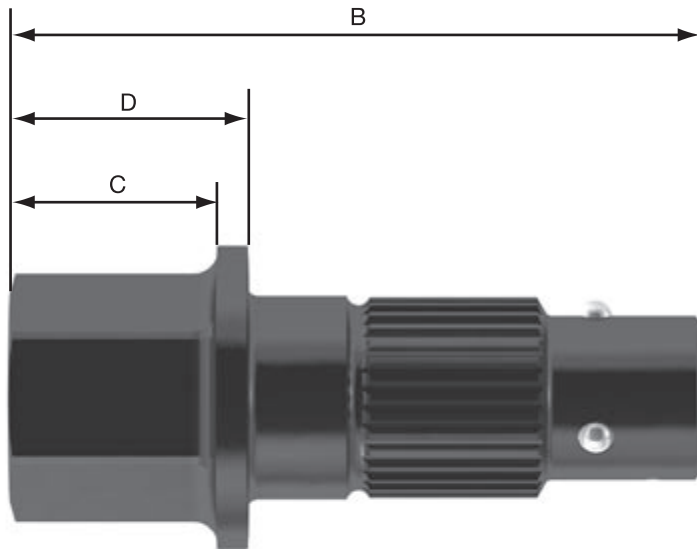
Typ Type	Code Nr. Code no.	SW A/F (inch)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
SP 70 M	B93-068-1-00002	2.76	8.90	1.30	2.21	3.07	4.41	13173.30	17.38
SP 75 M	B93-068-1-00003	2.95	8.94	1.34	2.24	3.11	4.65	14501.70	18.26
SP 80 M	B93-068-1-00004	3.15	9.05	1.50	2.40	3.27	4.92	17896.50	19.58
SP 85 M	B93-068-1-00005	3.45	9.21	1.61	2.52	3.39	5.16	20494.26	20.68
SP 90 M	B93-068-1-00006	3.54	9.29	1.69	2.60	4.47	5.39	22759.92	21.78
SP 95 M	B93-068-1-00007	3.74	9.41	1.81	2.72	3.58	5.63	25711.92	23.10
SP100 M	B93-068-1-00008	3.94	9.53	1.93	2.84	3.70	5.91	2952.00	24.86
SP105 M	B93-068-1-00009	4.13	9.65	2.05	2.95	3.82	6.14	2952.00	26.18
SP110 M	B93-068-1-00010	4.33	9.76	2.17	3.07	3.94	6.42	2952.00	28.26
SP115 M	B93-068-1-00011	4.53	9.88	2.28	3.19	4.06	6.65	2952.00	29.70
SP120 M	B93-068-1-00012	4.72	10.00	2.40	3.31	4.17	6.93	2952.00	31.68
SP125 M	B93-068-1-00013	4.92	10.08	2.48	3.39	4.25	7.09	2952.00	32.34
SP130 M	B93-068-1-00014	5.12	10.18	2.56	3.47	4.33	7.32	2952.00	33.88

## Sicherheits-Einstecknüsse für MSX 650

### *Splined safety sockets for MSX 650*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	E (inch)	F (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
SP 80 M	B93-080-9-08000	80	10.43	1.50	2.48	3.66	4.92	17896.50	25.74
SP 85 M	B93-080-9-08500	85	10.55	1.61	2.60	3.78	5.16	20494.26	27.06
SP 90 M	B93-080-9-09000	90	10.63	1.69	2.68	3.86	5.39	22759.92	28.16
SP 95 M	B93-080-9-09500	95	10.75	1.81	2.80	3.98	5.63	25711.92	29.70
SP100 M	B93-080-9-10000	100	10.87	1.93	2.91	4.10	5.91	29829.96	31.68
SP105 M	B93-080-9-10500	105	10.98	2.05	3.03	4.21	6.14	33210.00	34.32
SP110 M	B93-080-9-11000	110	11.10	2.17	3.15	4.33	6.42	38117.70	35.42
SP115 M	B93-080-9-11500	115	11.22	2.28	3.27	4.45	6.65	47970.00	37.18
SP120 M	B93-080-9-12000	120	11.34	2.40	3.39	4.57	7.01	47970.00	40.70
SP125 M	B93-080-9-12500	125	11.42	2.48	3.47	4.65	7.24	47970.00	42.46
SP130 M	B93-080-9-13000	130	11.50	2.56	3.54	4.72	7.48	47970.00	44.44
SP135 M	B93-080-9-13500	135	11.65	2.72	3.70	4.88	7.72	47970.00	46.86
SP 140 M	B93-080-9-14000	140	11.69	2.76	3.74	4.92	7.87	47970.00	47.52
SP 145 M	B93-080-9-14500	145	11.77	2.84	3.82	5.00	8.15	47970.00	50.16

**Sicherheits-Inbuseinsätze für MX-EC/MSX**  
*Splined safety hex inserts for MX-EC/MSX*



**Sicherheits-Inbuseinsätze für MX-EC 20**  
*Splined safety hex inserts for MX-EC 20*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
CP 14 M	B93-042-1-00018	14	3.11	0.59	0.79	420.66	0.55
CP 17 M	B93-042-1-00019	17	3.31	0.79	0.98	738.00	0.55
CP 19 M	B93-042-1-00020	19	3.31	0.79	0.98	1070.10	0.66
CP 22 M	B93-042-1-00003	22	3.50	0.98	1.18	1549.80	0.66
CP 24 M	B93-042-1-00021	24	3.54	1.02	1.22	1549.80	0.66
CP 27 M	B93-042-1-00006	27	3.74	1.22	1.42	1549.80	0.66

**Sicherheits-Inbuseinsätze für MX-EC 45**  
*Splined safety hex inserts for MX-EC 45*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
CP 17 M	B93-032-1-00012	17	3.12	0.79	0.98	738.00	1.10
CP 19 M	B93-032-1-00013	19	3.12	0.79	0.98	1070.10	1.21
CP 22 M	B93-032-1-00014	22	4.11	0.98	1.18	1623.60	1.21
CP 24 M	B93-032-1-00015	24	4.15	1.02	1.22	2103.30	1.32
CP 27 M	B93-032-1-00016	27	4.35	1.22	1.42	3321.00	1.43
CP 30 M	B93-032-1-00017	30	4.35	1.22	1.42	3321.00	1.54
CP 32 M	B93-032-1-00018	32	4.55	1.42	1.61	3321.00	1.76
CP 36 M	B93-032-1-00019	36	4.55	1.42	1.61	3321.00	1.87

**Sicherheits-Inbuseinsätze für MX-EC 75**  
*Splined safety hex inserts for MX-EC 75*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
CP 19 M	B93-038-1-00016	19	4.39	0.79	0.98	1070.10	1.87
CP 22 M	B93-038-1-00017	22	4.59	0.98	1.18	1623.60	1.87
CP 24 M	B93-038-1-00018	24	4.63	1.02	1.22	2103.30	2.09
CP 27 M	B93-038-1-00019	27	4.82	1.22	1.42	3025.80	2.09
CP 30 M	B93-038-1-00020	30	4.82	1.22	1.42	3719.52	2.20
CP 32 M	B93-038-1-00021	32	5.02	1.42	1.61	4442.76	2.32
CP 36 M	B93-038-1-00022	36	5.02	1.42	1.61	5535.00	2.42



## Sicherheits-Inbuseinsätze für MX-EC 120

### *Splined safety hex inserts for MX-EC 120*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
CP 36 M	B93-046-1-00083	36	5.75	1.61	1.81	7011	4.18

## Sicherheits-Inbuseinsätze für MX-EC 155

### *Splined safety hex inserts for MX-EC 155*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
CP 27 M	B93-048-1-00004	27	6.00	1.42	1.61	3025.80	3.19
CP 30 M	B93-048-1-00024	30	6.00	1.42	1.61	3719.52	3.30
CP 32 M	B93-048-1-00005	32	6.20	1.61	1.81	4442.76	3.52
CP 36 M	B93-048-1-00006	36	6.20	1.61	1.81	6420.60	3.53
CP 41 M	B93-048-1-00007	41	6.32	1.73	1.93	9409.50	8.23
CP 46 M	B93-048-1-00018	46	6.32	1.73	1.93	11439.00	3.96
CP 50 M	B93-048-1-00025	50	6.36	1.77	1.97	11439.00	4.40
CP 55 M	B93-048-1-00026	55	6.56	1.97	2.17	11439.00	4.95

## Sicherheits-Inbuseinsätze für MSX 250

### *Splined safety hex inserts for MSX 250*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
CP 32 M	B93-058-1-00027	32	6.91	1.61	1.81	4442.76	6.60
CP 36 M	B93-058-1-00028	36	6.91	1.61	1.81	5955.66	6.82
CP 41 M	B93-058-1-00029	41	7.03	1.73	1.93	9409.50	6.93
CP 46 M	B93-058-1-00030	46	7.03	1.73	1.93	13210.20	7.15
CP 50 M	B93-058-1-00031	50	7.07	1.77	1.97	16974.00	7.59
CP 55 M	B93-058-1-00032	55	7.27	1.97	2.17	18450.00	8.03
CP 60 M	B93-058-1-00033	60	7.46	2.17	2.36	18450.00	8.58
CP 55 M	B93-048-1-00026	55	6.56	1.97	2.17	11439.00	4.95

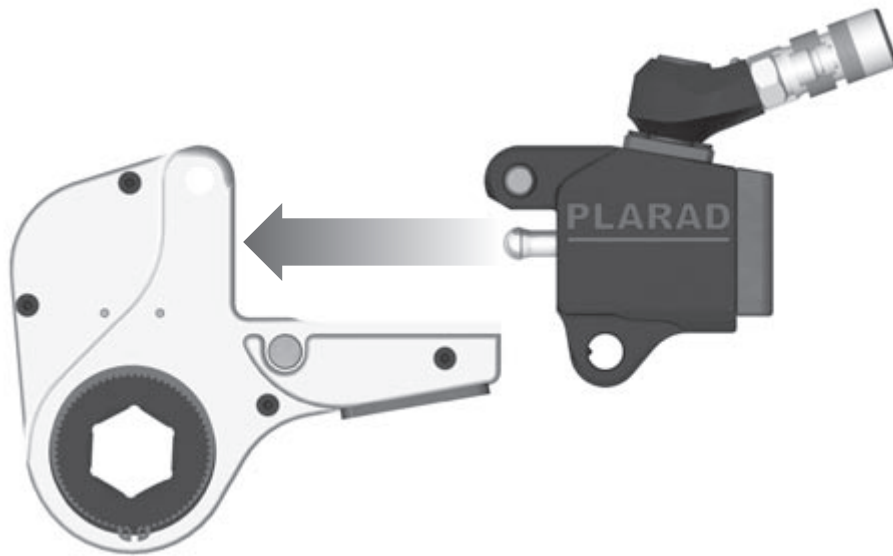
**Sicherheits-Inbuseinsätze für MSX 400**  
*Splined safety hex inserts for MSX 400*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
CP 36 M	B93-068-1-00015	36	7.64	1.61	1.81	6420.60	9.79
CP 41 M	B93-068-1-00016	41	7.76	1.73	1.93	9409.50	10.12
CP 46 M	B93-068-1-00017	46	7.76	1.73	1.93	13210.20	10.34
CP 50 M	B93-068-1-00018	50	7.80	1.77	1.97	16974.00	10.78
CP 55 M	B93-068-1-00019	55	7.99	1.97	2.17	22878.00	11.22
CP 60 M	B93-068-1-00020	60	8.19	2.17	2.36	29520.00	11.88
CP 65 M	B93-068-1-00021	65	8.39	2.36	2.56	29520.00	12.76
CP 75 M	B93-068-1-00022	75	8.58	2.56	2.76	29520.00	14.52

**Sicherheits-Inbuseinsätze für MSX 650**  
*Splined safety hex inserts for MSX 650*

Typ Type	Code Nr. Code no.	SW A/F (mm)	B (inch)	C (inch)	D (inch)	MT <sub>max</sub> (lbf ft)	Gewicht Weight (lbs)
CP 41 M	B93-068-1-00015	41	8.35	1.73	1.93	19409.50	14.30
CP 46 M	B93-068-1-00016	46	8.35	1.73	1.93	13210.20	14.30
CP 50 M	B93-068-1-00017	50	8.74	1.77	1.97	16974.00	14.96
CP 55 M	B93-068-1-00018	55	8.94	1.97	2.17	22878.00	15.62
CP 60 M	B93-068-1-00019	60	9.13	2.17	2.36	29520.00	16.28
CP 65 M	B93-068-1-00020	65	9.33	2.36	2.56	37638.00	17.16
CP 75 M	B93-068-1-00021	75	9.53	2.56	2.76	47970.00	18.70

**FSX = Ratschenkopf (HSX) + Antriebseinheit (SX)**  
*Ratchet head (HSX) + Drive unit (SX)*



**Ratschenkopf • Ratchet head**

Ratschenkopf  
*ratchet head*

Max. SW (mm)  
*max. A/F (mm)*

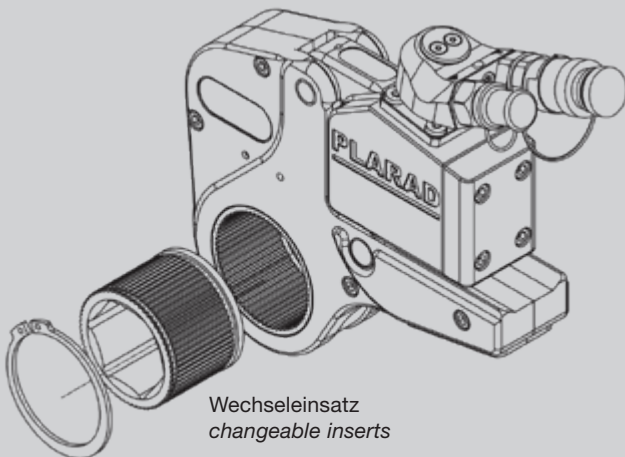
**HSX 550 F**

Für Antrieb Leistungsklasse 5  
*for drive unit performance-class 5*

Fix:  
Fester Einsatz  
*fixed insert*

Wechseleinsatz  
*changeable inserts*

**HSX 550 W**



Wechseleinsatz  
*changeable inserts*

**Antriebseinheit • Drive unit**

Antriebseinheit  
*drive unit*

hinten:  
Anschluss hinten  
*connection at the back*

**SX 1 MF-H**

Leistungsklasse  
*performance-class*

Fix:  
starrer Anschluss  
*fixed hose connection*



Mono:  
Einschlauch-  
Variante  
*single hose*

oben:  
Anschluss oben  
*connection on top*

**SX 1 MS-O**

Swivel:  
360° drehbarer Anschluss  
*360° turnable hose connection*



Economy

Twin:  
Zweischlauch-Variante  
*twin hose version*

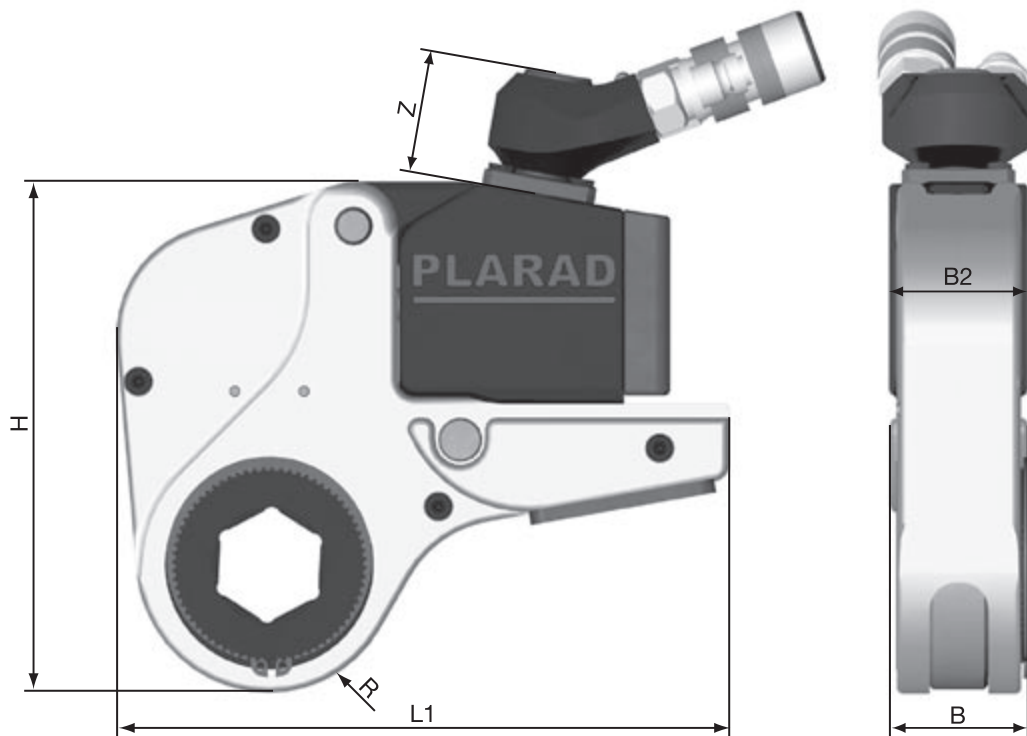
**SX-EC 2 TS**



konventionelle Baureihe  
*conventional series*

**SX 20 TST**





**SX - EC 1**

Antriebseinheit Drive unit		Code Nr. Code no.	Leistungsbereich Performance range			B2	Gewicht Weight		
SX - EC 1 MF		G52-010-0-00114	37.76 - 737.57 ft lbs			1.65 inch	2.20 lbs		

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm) A/F (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 127 F	G51-010-0-00120	27	5.87	1.28	4.37	1.57	0.95	590.05	1.54
HSX 136 F	G51-010-0-00320	36	5.87	1.28	4.57	1.57	1.16	737.57	1.76
HSX 141 F	G51-010-0-00220	41	5.87	1.28	4.69	1.57	1.26	737.57	1.98

**SX - EC 2**

Antriebseinheit Drive unit		Code Nr. Code no.	Leistungsbereich Performance range			B2	Gewicht Weight		
SX - EC 2 TS		G52-025-0-00840	184.39 - 1843.91 ft lbs			1.62 inch	2.86 lbs		
SX - EC 2 MS-O		G52-025-0-00740	184.39 - 1843.91 ft lbs			1.56 inch	2.20 lbs		
SX - EC 2 MS-H		G52-025-0-00340	184.39 - 1843.91 ft lbs			1.56 inch	2.20 lbs		
SX - EC 2 MF		G52-025-0-00440	184.39 - 1843.91 ft lbs			1.56 inch	1.76 lbs		

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm) A/F (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 224 F	G51-025-0-00125	max. 24	6.82	1.36	4.91	1.57	0.85	553.17	2.75
HSX 230 F	G51-025-0-00225	max. 30	6.82	1.36	5.06	1.57	1.0	774.44	2.75
HSX 232 F	G51-025-0-00325	max. 32	6.82	1.36	5.14	1.57	1.08	921.96	2.97
HSX 236 F	G51-025-0-00425	max. 36	6.82	1.36	5.26	1.57	1.18	1106.35	2.97
HSX 241 F	G51-025-0-00525	max. 41	6.82	1.36	5.39	1.57	1.34	1475.13	3.19
HSX 246 F	G51-025-0-00725	max. 46	6.82	1.36	5.55	1.57	1.5	1733.28	3.19
HSX 250 F	G51-025-0-00825	max. 50	6.82	1.36	5.65	1.57	1.57	1843.91	3.19
HSX 255 F	G51-025-0-00121	max. 55	6.82	1.36	5.77	1.57	1.71	1843.91	3.19
HSX 260 F	G51-025-0-01025	max. 60	6.9	1.36	6.05	1.57	1.79	1843.91	3.30
HSX 265 F	G51-025-0-01810	65	7.5	1.36	6.25	1.57	1.89	1843.91	3.41
HSX 270 F	G51-025-0-05710	70	7.9	1.36	6.42	1.57	2.09	1843.91	3.85

<b>Ratschenkopf</b> <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 224 F</b>	HX 224 H 20 M	F93-060-9-02026	20	
	HX 224 H 24 M	F93-060-9-02426	24	
<b>HSX 230 F</b>	HX 230 H 24 M	F93-072-9-02407	24	
	HX 230 H 30 M	F93-072-9-03007	30	
<b>HSX 232 F</b>	HX 232 H 24 M	F93-076-9-02452	24	
	HX 232 H 27 M	F93-076-9-02752	27	
	HX 232 H 32 M	F93-076-9-03252	32	
<b>HSX 236 F</b>	HX 236 H 24 M	F93-050-9-02407	24	
	HX 236 H 27 M	F93-050-9-02707	27	
	HX 236 H 30 M	F93-050-9-03007	30	
	HX 236 H 32 M	F93-050-9-03207	32	
	HX 236 H 36 M	F93-050-9-03607	36	
<b>HSX 241 F</b>	HX 241 H 27 M	F93-056-9-02755	27	
	HX 241 H 30 M	F93-056-9-03055	30	
	HX 241 H 32 M	F93-056-9-03255	32	
	HX 241 H 36 M	F93-056-9-03655	36	
	HX 241 H 41 M	F93-056-9-04155	41	
<b>HSX 246 F</b>	HX 246 H 30 M	F93-062-9-03002	30	
	HX 246 H 32 M	F93-062-9-03202	32	
	HX 246 H 36 M	F93-062-9-03602	36	
	HX 246 H 41 M	F93-062-9-04102	41	
	HX 246 H 46 M	F93-062-9-04602	46	
<b>HSX 250 F</b>	HX 250 H 30 M	F93-068-9-03005	30	
	HX 250 H 32 M	F93-068-9-03205	32	
	HX 250 H 36 M	F93-068-9-03605	36	
	HX 250 H 41 M	F93-068-9-04105	41	
	HX 250 H 46 M	F93-068-9-04605	46	
	HX 250 H 50 M	F93-068-9-05005	50	
<b>HSX 255 F</b>	HX 255 H 36 M	F93-072-9-03606	36	
	HX 255 H 41 M	F93-072-9-04106	41	
	HX 255 H 46 M	F93-072-9-04606	46	
	HX 255 H 50 M	F93-072-9-05006	50	
	HX 255 H 55 M	F93-072-9-05506	55	
<b>HSX 260 F</b>	HX 260 H 36 M	F93-078-9-03604	36	
	HX 260 H 41 M	F93-078-9-04104	41	
	HX 260 H 46 M	F93-078-9-04604	46	
	HX 260 H 50 M	F93-078-9-05004	50	
	HX 260 H 55 M	F93-078-9-05504	55	
	HX 260 H 58 M	F93-078-9-05804	58	
	HX 260 H 60 M	F93-078-9-06004	60	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (inch) A/F (inch)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 224 F	G51-025-0-00126	1 <sup>5</sup> / <sub>16</sub>	6.82	1.36	4.9	1.57	0.85	553.17	2.75
HSX 230 F	G51-025-0-00226	1 <sup>1</sup> / <sub>8</sub>	6.82	1.36	5.06	1.57	1.0	774.44	2.75
HSX 232 F	G51-025-0-00326	1 <sup>1</sup> / <sub>4</sub>	6.82	1.36	5.14	1.57	1.08	921.96	2.97
HSX 236 F	G51-025-0-00426	1 <sup>3</sup> / <sub>8</sub>	6.82	1.36	5.26	1.57	1.18	1106.35	2.97
HSX 241 F	G51-025-0-00526	1 <sup>9</sup> / <sub>16</sub>	6.82	1.36	5.4	1.57	1.34	1475.13	3.19
HSX 246 F	G51-025-0-00726	1 <sup>13</sup> / <sub>16</sub>	6.82	1.36	5.5	1.57	1.5	1733.28	3.19
HSX 250 F	G51-025-0-00826	1 <sup>15</sup> / <sub>16</sub>	6.82	1.36	5.65	1.57	1.57	1843.91	3.19
HSX 255 F	G51-025-0-00926	2 <sup>1</sup> / <sub>8</sub>	6.82	1.36	5.77	1.57	1.7	1843.91	3.19
HSX 260 F	G51-025-0-01026	2 <sup>3</sup> / <sub>8</sub>	6.9	1.36	6.05	1.57	1.79	1843.91	3.30
HSX 265 F	G51-025-0-01526	2 <sup>1</sup> / <sub>2</sub>	7.05	1.36	6.25	1.57	1.89	1843.91	3.41

<b>Ratschenkopf</b> <i>Ratcheted head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (inch) A/F (inch)	Bemerkung notice
<b>HSX 241 F</b>	HX 241 H 156	F93-056-9-04056	1 <sup>9/16</sup>	
<b>HSX 246 F</b>	HX 246 H 181	F93-062-9-04702	1 <sup>13/16</sup>	
<b>HSX 250 F</b>	HX 250 H 200	F93-068-9-05106	1 <sup>15/16</sup>	
<b>HSX 255 F</b>	HX 255 H 163	F93-072-9-04109	1 <sup>5/8</sup>	
	HX 255 H 169	F93-072-9-04309	1 <sup>11/16</sup>	
	HX 255 H 175	F93-072-9-04509	1 <sup>3/4</sup>	
	HX 255 H 181	F93-072-9-04609	1 <sup>13/16</sup>	
	HX 255 H 188	F93-072-9-04809	1 <sup>7/8</sup>	
	HX 255 H 194	F93-072-9-04909	1 <sup>15/16</sup>	
	HX 255 H 200	F93-072-9-05109	2	
	HX 255 H 206	F93-072-9-05209	2 <sup>1/16</sup>	
	HX 255 H 213	F93-072-9-05409	2 <sup>1/8</sup>	
	HX 255 H 219	F93-072-9-05609	2 <sup>3/16</sup>	
<b>HSX 255 F</b>	HX 260 H 238	F93-078-9-06104	2 <sup>3/8</sup>	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm) A/F (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 224 W	G51-025-0-00824	max. 24	6.81	1.49	5.06	1.57	1.0	774.44	3.41
HSX 227 W	G51-025-0-00124	max. 27	6.81	1.49	5.28	1.57	1.08	912.96	3.41
HSX 232 W	G51-025-0-00224	max. 32	6.81	1.5	5.24	1.57	1.18	1106.35	3.41
HSX 236 W	G51-025-0-00324	max. 36	6.74	1.52	5.65	1.57	1.46	1843.91	3.63
HSX 241 W	G51-025-0-00424	max. 41	6.81	1.52	5.55	1.57	1.5	1733.28	3.85
HSX 246 W	G51-025-0-00524	max. 46	6.81	1.52	5.83	1.57	1.63	1843.91	3.85
HSX 250 W	G51-025-0-00624	max. 50	6.81	1.54	5.91	1.57	1.71	1843.91	4.07
HSX 255 W	G51-025-0-00724	max. 55	6.9	1.54	6.05	1.57	1.79	1843.91	4.18

<b>Ratschenkopf</b> <i>Ratcheted head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 224 W</b>	HXW 224 H 20 M	F93-034-9-02015	20	
	HXW 224 H 22 M	F93-034-9-02215	22	
	HXW 224 H 24 M	F93-034-9-02415	24	
<b>HSX 232 W</b>	HXW 232 H 20 M	F93-041-9-02031	20	
	HXW 232 H 24 M	F93-041-9-02431	24	
	HXW 232 H 27 M	F93-041-9-02731	27	
	HXW 232 H 30 M	F93-041-9-03031	30	
	HXW 232 H 32 M	F93-041-9-03231	32	
<b>HSX 236 W</b>	HXW 236 H 24 M	F93-048-9-02465	24	
	HXW 236 H 27 M	F93-048-9-02765	27	
	HXW 236 H 30 M	F93-048-9-03065	30	
	HXW 236 H 32 M	F93-048-9-03265	32	
	HXW 236 H 36 M	F93-048-9-03665	36	
<b>HSX 241 W</b>	HXW 241 H 24 M	F93-052-9-02405	24	
	HXW 241 H 27 M	F93-052-9-02705	27	
	HXW 241 H 30 M	F93-052-9-03005	30	
	HXW 241 H 32 M	F93-052-9-03205	32	
	HXW 241 H 36 M	F93-052-9-03605	36	
	HXW 241 H 41 M	F93-052-9-04105	41	
<b>HSX 246 W</b>	HXW 246 H 30 M	F93-058-9-03006	30	
	HXW 246 H 32 M	F93-058-9-03206	32	
	HXW 246 H 36 M	F93-058-9-03606	36	
	HXW 246 H 41 M	F93-058-9-04106	41	
	HXW 246 H 46 M	F93-058-9-04606	46	



<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 250 W</b>	HXW 250 H 24 M	F93-062-9-02401	24	
	HXW 250 H 27 M	F93-062-9-02701	27	
	HXW 250 H 30 M	F93-062-9-03001	30	
	HXW 250 H 32 M	F93-062-9-03201	32	
	HXW 250 H 36 M	F93-062-9-03601	36	
	HXW 250 H 41 M	F93-062-9-04101	41	
	HXW 250 H 46 M	F93-062-9-04601	46	
	HXW 250 H 50 M	F93-062-9-05001	50	
<b>HSX 255 W</b>	HXW 255 H 32 M	F93-068-9-03203	32	
	HXW 255 H 36 M	F93-068-9-03603	36	
	HXW 255 H 41 M	F93-068-9-04103	41	
	HXW 255 H 46 M	F93-068-9-04603	46	
	HXW 255 H 50 M	F93-068-9-05003	50	
	HXW 255 H 55 M	F93-068-9-05503	55	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (inch) A/F (inch)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 224 W	G51-025-0-00824	max. 1 <sup>5</sup> / <sub>16</sub>	6.82	1.49	5.06	1.57	1.0	774.44	3.41
HSX 227 W	G51-025-0-00124	max. 1 <sup>1</sup> / <sub>16</sub>	6.82	1.49	5.28	1.57	1.08	912.96	3.41
HSX 232 W	G51-025-0-00224	max. 1 <sup>1</sup> / <sub>4</sub>	6.82	1.5	5.24	1.57	1.18	1106.35	3.41
HSX 236 W	G51-025-0-00324	max. 1 <sup>3</sup> / <sub>8</sub>	6.74	1.52	5.65	1.57	1.46	1843.91	3.63
HSX 241 W	G51-025-0-00424	max. 1 <sup>9</sup> / <sub>16</sub>	6.82	1.52	5.55	1.57	1.5	1733.28	3.85
HSX 246 W	G51-025-0-00524	max. 1 <sup>13</sup> / <sub>16</sub>	6.82	1.52	5.83	1.57	1.64	1843.91	3.85
HSX 250 W	G51-025-0-00624	max. 1 <sup>15</sup> / <sub>16</sub>	6.82	1.54	5.91	1.57	1.71	1843.91	4.07
HSX 255 W	G51-025-0-00724	max. 2 <sup>1</sup> / <sub>8</sub>	6.9	1.54	6.05	1.57	1.79	1843.91	4.18

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (inch) A/F (inch)	Bemerkung notice
<b>HSX 236 W</b>	HXW 236 H 106	F93-048-9-02766	1 <sup>1</sup> / <sub>16</sub>	
	HXW 236 H 113	F93-048-9-02966	1 <sup>1</sup> / <sub>8</sub>	
	HXW 236 H 119	F93-048-9-03066	1 <sup>3</sup> / <sub>16</sub>	
	HXW 236 H 125	F93-048-9-03266	1 <sup>1</sup> / <sub>4</sub>	
	HXW 236 H 131	F93-048-9-03366	1 <sup>5</sup> / <sub>16</sub>	
	HXW 236 H 136	F93-048-9-03566	1 <sup>3</sup> / <sub>8</sub>	
<b>HSX 241 W</b>	HXW 241 H 150	F93-052-9-03805	1 <sup>1</sup> / <sub>2</sub>	
<b>HSX 246 W</b>	HXW 246 H 131	F93-058-9-03306	1 <sup>5</sup> / <sub>16</sub>	
<b>HSX 250 W</b>	HXW 250 H 119	F93-062-9-03003	1 <sup>3</sup> / <sub>16</sub>	
	HXW 250 H 125	F93-062-9-03203	1 <sup>1</sup> / <sub>4</sub>	
	HXW 250 H 131	F93-062-9-03303	1 <sup>5</sup> / <sub>16</sub>	
	HXW 250 H 138	F93-062-9-03503	1 <sup>3</sup> / <sub>8</sub>	
	HXW 250 H 144	F93-062-9-03703	1 <sup>7</sup> / <sub>16</sub>	
	HXW 250 H 150	F93-062-9-03803	1 <sup>1</sup> / <sub>2</sub>	
	HXW 250 H 156	F93-062-9-04003	1 <sup>9</sup> / <sub>16</sub>	
	HXW 250 H 163	F93-062-9-04103	1 <sup>5</sup> / <sub>8</sub>	
	HXW 250 H 169	F93-062-9-04303	1 <sup>11</sup> / <sub>16</sub>	
	HXW 250 H 175	F93-062-9-04503	1 <sup>3</sup> / <sub>4</sub>	
	HXW 250 H 181	F93-062-9-04603	1 <sup>13</sup> / <sub>16</sub>	
	HXW 250 H 188	F93-062-9-04803	1 <sup>7</sup> / <sub>8</sub>	
	HXW 250 H 194	F93-062-9-04903	1 <sup>15</sup> / <sub>16</sub>	
<b>HSX 255 W</b>	HXW 255 H 188	F93-068-9-04808	1 <sup>7</sup> / <sub>8</sub>	
	HXW 255 H 200	F93-068-9-05108	2	
	HXW 255 H 213	F93-068-9-05408	2 <sup>1</sup> / <sub>8</sub>	

**SX - EC 5**

Antriebseinheit Drive unit	Code Nr. Code no.	Leistungsbereich Performance range	B2	Gewicht Weight
SX - EC 5 TS	G52-050-0-00540	368.78 - 4056.61 ft lbs	1.97 inch	7.04 lbs
SX - EC 5 MS-O	G52-050-0-00220	368.78 - 4056.61 ft lbs	1.97 inch	4.40 lbs
SX - EC 5 MS-H	G52-050-0-00520	368.78 - 4056.61 ft lbs	1.97 inch	4.40 lbs
SX - EC 5 MF	G52-050-0-00320	368.78 - 4056.61 ft lbs	1.97 inch	4.18 lbs

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 532 F	G51-050-0-00125	32	8.47	1.77	6.52	1.44	1.08	1290.73	5.39
HSX 536 F	G51-050-0-01325	36	8.47	1.77	6.64	1.44	1.2	1475.13	5.50
HSX 541 F	G51-050-0-00225	41	8.7	1.77	6.8	1.44	1.36	1991.43	5.61
HSX 546 F	G51-050-0-00325	46	8.67	1.77	6.92	1.44	1.48	2286.45	5.61
HSX 550 F	G51-050-0-00425	50	8.7	1.77	7.01	1.44	1.58	3024.02	5.83
HSX 555 F	G51-050-0-00121	55	8.7	1.77	7.25	1.44	1.81	4056.61	5.83
HSX 560 F	G51-050-0-00525	60	8.7	1.77	7.33	1.44	1.89	4056.61	6.05
HSX 565 F	G51-050-0-00625	65	8.96	1.77	7.4	1.44	1.97	4056.61	6.05
HSX 570 F	G51-050-0-00221	70	8.96	1.77	7.62	1.44	2.19	4056.91	6.05
HSX 575 F	G51-050-0-01225	75	8.98	1.77	7.9	1.44	2.23	4056.91	6.27
HSX 580 F	G51-050-0-00852	80	8.98	1.77	7.96	1.44	2.3	4056.91	6.27
HSX 585 F	G51-050-0-01425	85	9.18	1.77	8.15	1.44	2.48	4056.91	6.60

Ratschenkopf <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 532 F</b>	HX 532 H 32 M	F93-076-9-03253	32	
<b>HSX 536 F</b>	HX 536 H 36 M	F93-050-9-03608	36	
<b>HSX 541 F</b>	HX 541 H 36 M	F93-092-9-03614	36	
	HX 541 H 41 M	F93-092-9-04114	41	
<b>HSX 546 F</b>	HX 546 H 30 M	F93-062-9-03004	30	
	HX 546 H 41 M	F93-062-9-04104	41	
	HX 546 H 46 M	F93-062-9-04604	46	
<b>HSX 550 F</b>	HX 550 H 32 M	F93-068-9-03202	32	
	HX 550 H 36 M	F93-068-9-03602	36	
	HX 550 H 41 M	F93-068-9-04102	41	
	HX 550 H 46 M	F93-068-9-04602	46	
	HX 550 H 50 M	F93-068-9-05002	50	
<b>HSX 555 F</b>	HX 555 H 30 M	F93-074-9-03013	30	
	HX 555 H 32 M	F93-074-9-03213	32	
	HX 555 H 36 M	F93-074-9-03613	36	
	HX 555 H 41 M	F93-074-9-04113	41	
	HX 555 H 46 M	F93-074-9-04613	46	
	HX 555 H 50 M	F93-074-9-05013	50	
	HX 555 H 51 M	F93-074-9-05113	51	
HX 555 H 55 M	F93-074-9-05522	55		

<b>Ratschenkopf</b> <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 560 F</b>	HX 560 H 55 M	F93-080-9-05501	55	
	HX 560 H 58 M	F93-080-9-05801	58	
	HX 560 H 60 M	F93-080-9-06001	60	
<b>HSX 565 F</b>	HX 565 H 46 M	F93-085-9-04600	46	
	HX 565 H 55 M	F93-085-9-05500	55	
	HX 565 H 60 M	F93-085-9-06000	60	
	HX 565 H 63 M	F93-085-9-06300	63	
	HX 565 H 65 M	F93-085-9-06500	65	
<b>HSX 570 F</b>	HX 570 H 55 M	F93-092-9-05512	55	
	HX 570 H 60 M	F93-092-9-06012	60	
	HX 570 H 65 M	F93-092-9-06512	65	
	HX 570 H 70 M	F93-092-9-07012	70	
	HX 570 H 71 M	F93-092-9-07112	71	
<b>HSX 575 F</b>	HX 575 H 60 M	F93-097-9-06000	60	
	HX 575 H 65 M	F93-097-9-06500	65	
	HX 575 H 75 M	F93-097-9-07500	75	
<b>HSX 580 F</b>	HX 580 H 75 M	F93-102-9-07505	75	
	HX 580 H 77 M	F93-102-9-07705	77	
	HX 580 H 80 M	F93-102-9-08005	80	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (inch) A/F (inch)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 532 F	G51-050-0-00127	1 <sup>1</sup> / <sub>4</sub>	8.47	1.77	6.52	1.48	1.08	1290.74	5.39
HSX 536 F	G51-050-0-01327	1 <sup>3</sup> / <sub>8</sub>	8.47	1.77	6.64	1.48	1.2	1475.13	5.50
HSX 541 F	G51-050-0-00227	1 <sup>9</sup> / <sub>16</sub>	8.7	1.77	6.8	1.48	1.36	1991.43	5.61
HSX 546 F	G51-050-0-00327	1 <sup>13</sup> / <sub>16</sub>	8.67	1.77	6.92	1.48	1.48	2286.45	5.61
HSX 550 F	G51-050-0-00427	1 <sup>15</sup> / <sub>16</sub>	8.7	1.77	7.01	1.48	1.58	3024.02	5.83
HSX 555 F	G51-050-0-00727	2 <sup>1</sup> / <sub>8</sub>	8.7	1.77	7.25	1.48	1.81	4056.61	5.83
HSX 560 F	G51-050-0-00527	2 <sup>1</sup> / <sub>4</sub>	8.7	1.77	7.33	1.48	1.89	4056.61	6.05
HSX 565 F	G51-050-0-00627	2 <sup>1</sup> / <sub>2</sub>	8.96	1.77	7.41	1.48	1.97	4056.61	6.05
HSX 570 F	G51-050-0-00927	2 <sup>3</sup> / <sub>4</sub>	8.96	1.77	7.62	1.48	2.19	4056.61	6.05
HSX 575 F	G51-050-0-01227	2 <sup>15</sup> / <sub>16</sub>	8.98	1.77	7.9	1.48	2.23	4056.61	6.27
HSX 580 F	G51-050-0-00827	3 <sup>1</sup> / <sub>8</sub>	8.98	1.77	7.96	1.48	2.3	4056.61	6.27
HSX 585 F	G51-050-0-02325	3 <sup>1</sup> / <sub>4</sub>	9.18	1.77	8.16	1.48	2.48	4056.61	6.60

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (inch) A/F (inch)	Bemerkung notice
<b>HSX 541 F</b>	HX 541 H 156	F93-092-9-04014	1 <sup>9</sup> / <sub>16</sub>	
<b>HSX 555 F</b>	HX 555 H 163	F93-074-9-04116	1 <sup>5</sup> / <sub>8</sub>	
	HX 555 H 169	F93-074-9-04316	1 <sup>11</sup> / <sub>16</sub>	
	HX 555 H 175	F93-074-9-04516	1 <sup>3</sup> / <sub>4</sub>	
	HX 555 H 181	F93-074-9-04616	1 <sup>13</sup> / <sub>16</sub>	
	HX 555 H 188	F93-074-9-04816	1 <sup>7</sup> / <sub>8</sub>	
	HX 555 H 194	F93-074-9-04916	1 <sup>15</sup> / <sub>16</sub>	
	HX 555 H 200	F93-074-9-05116	2	
	HX 555 H 206	F93-074-9-05216	2 <sup>1</sup> / <sub>16</sub>	
	HX 555 H 213	F93-074-9-05416	2 <sup>1</sup> / <sub>8</sub>	
<b>HSX 560 F</b>	HX 560 H 238	F93-080-9-06102	2 <sup>3</sup> / <sub>8</sub>	
<b>HSX 565 F</b>	HX 565 H 250	F93-085-9-06405	2 <sup>1</sup> / <sub>2</sub>	
	HX 565 H 256	F93-085-9-06605	2 <sup>9</sup> / <sub>16</sub>	



<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (inch) A/F (inch)	Bemerkung notice
<b>HSX 570 F</b>	HX 570 H 213	F93-092-9-05415	2 <sup>1</sup> / <sub>8</sub>	
	HX 570 H 219	F93-092-9-05615	2 <sup>1</sup> / <sub>4</sub>	
	HX 570 H 225	F93-092-9-05715	2 <sup>1</sup> / <sub>4</sub>	
	HX 570 H 238	F93-092-9-06015	2 <sup>3</sup> / <sub>8</sub>	
	HX 570 H 244	F93-092-9-06215	2 <sup>7</sup> / <sub>16</sub>	
	HX 570 H 250	F93-092-9-06415	2 <sup>1</sup> / <sub>2</sub>	
	HX 570 H 256	F93-092-9-06515	2 <sup>9</sup> / <sub>16</sub>	
	HX 570 H 263	F93-092-9-06715	2 <sup>5</sup> / <sub>8</sub>	
	HX 570 H 269	F93-092-9-06815	2 <sup>11</sup> / <sub>16</sub>	
	HX 570 H 275	F93-092-9-07015	2 <sup>3</sup> / <sub>4</sub>	
<b>HSX 580 F</b>	HX 580 H 313	F93-102-9-07905	3 <sup>1</sup> / <sub>8</sub>	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm) A/F (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 536 W	G51-050-0-00124	max. 36	8.71	1.93	6.8	1.44	1.36	1991.43	6.27
HSX 550 W	G51-050-0-00324	max. 50	8.71	1.93	7.25	1.44	1.81	3687.83	6.49
HSX 555 W	G51-050-0-00424	max. 55	8.96	1.93	7.33	1.44	1.89	4056.61	6.71
HSX 560 W	G51-050-0-00524	max. 60	8.96	1.93	7.45	1.44	2.0	4056.61	6.71
HSX 565 W	G51-050-0-00624	max. 65	8.96	1.93	7.62	1.44	2.19	4056.61	6.71
HSX 570 W	G51-050-0-00824	max. 70	8.98	1.93	7.9	1.44	2.23	4056.61	7.15
HSX 575 W	G51-050-0-00724	max. 75	8.98	1.93	7.96	1.44	2.3	4056.61	7.15
HSX 580 W	G51-050-0-00924	max. 80	9.18	1.77	8.16	1.44	2.48	4056.61	6.60

<b>Ratschenkopf</b> <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 536 W</b>	HXW 536 H 24 M	F93-046-9-02405	24	
	HXW 536 H 27 M	F93-046-9-02705	27	
	HXW 536 H 30 M	F93-046-9-03005	30	
	HXW 536 H 32 M	F93-046-9-03205	32	
	HXW 536 H 36 M	F93-046-9-03605	36	
<b>HSX 550 W</b>	HXW 550 H 30 M	F93-063-9-03001	30	
	HXW 550 H 32 M	F93-063-9-03201	32	
	HXW 550 H 36 M	F93-063-9-03601	36	
	HXW 550 H 41 M	F93-063-9-04101	41	
	HXW 550 H 46 M	F93-063-9-04601	46	
	HXW 550 H 50 M	F93-063-9-05001	50	
<b>HSX 555 W</b>	HXW 555 H 30 M	F93-068-9-03001	30	
	HXW 555 H 32 M	F93-068-9-03201	32	
	HXW 555 H 36 M	F93-068-9-03601	36	
	HXW 555 H 41 M	F93-068-9-04101	41	
	HXW 555 H 46 M	F93-068-9-04601	46	
	HXW 555 H 50 M	F93-068-9-05001	50	
	HXW 555 H 55 M	F93-068-9-05501	55	
<b>HSX 560 W</b>	HXW 560 H 42 M	F93-076-9-04233	42	
	HXW 560 H 46 M	F93-076-9-04633	46	
	HXW 560 H 50 M	F93-076-9-05033	50	
	HXW 560 H 55 M	F93-076-9-05533	55	
	HXW 560 H 60 M	F93-076-9-06033	60	

<b>Ratschenkopf</b> <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 565 W</b>	HXW 565 H 46 M	F93-080-9-04603	46	
	HXW 565 H 50 M	F93-080-9-05003	50	
	HXW 565 H 54 M	F93-080-9-05403	54	
	HXW 565 H 55 M	F93-080-9-05503	55	
	HXW 565 H 58 M	F93-080-9-05803	58	
	HXW 565 H 60 M	F93-080-9-06003	60	
	HXW 565 H 63 M	F93-080-9-06303	63	
	HXW 565 H 65 M	F93-080-9-06503	65	
<b>HSX 570 W</b>	HXW 570 H 46 M	F93-085-9-04601	46	
	HXW 570 H 50 M	F93-085-9-05001	50	
	HXW 570 H 55 M	F93-085-9-05501	55	
	HXW 570 H 60 M	F93-085-9-06001	60	
	HXW 570 H 65 M	F93-085-9-06501	65	
	HXW 570 H 70 M	F93-085-9-07001	70	
<b>HSX 575 W</b>	HXW 575 H 24 M	F93-092-9-02420	24	
	HXW 575 H 27 M	F93-092-9-02720	27	
	HXW 575 H 30 M	F93-092-9-03020	30	
	HXW 575 H 32 M	F93-092-9-03220	32	
	HXW 575 H 36 M	F93-092-9-03620	36	
	HXW 575 H 41 M	F93-092-9-04120	41	
	HXW 575 H 46 M	F93-092-9-04620	46	
	HXW 575 H 50 M	F93-092-9-05020	50	
	HXW 575 H 55 M	F93-092-9-05520	55	
	HXW 575 H 60 M	F93-092-9-06020	60	
	HXW 575 H 65 M	F93-092-9-06520	65	
	HXW 575 H 70 M	F93-092-9-07020	70	
	HXW 575 H 75 M	F93-092-9-07520	75	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (inch) A/F (inch)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 536 W	G51-050-0-00124	max. 1 <sup>3</sup> / <sub>8</sub>	8.7	1.93	6.8	1.44	1.36	1991.43	6.27
HSX 550 W	G51-050-0-00324	max. 1 <sup>15</sup> / <sub>16</sub>	8.7	1.93	7.25	1.44	1.81	3687.83	5.83
HSX 555 W	G51-050-0-00424	max. 2 <sup>1</sup> / <sub>8</sub>	8.96	1.95	7.33	1.44	1.89	4056.61	6.71
HSX 560 W	G51-050-0-00524	max. 2 <sup>5</sup> / <sub>16</sub>	8.96	1.95	7.45	1.44	2.01	4056.61	6.71
HSX 565 W	G51-050-0-00624	max. 2 <sup>1</sup> / <sub>2</sub>	8.97	1.97	7.62	1.44	2.19	4056.61	6.71
HSX 570 W	G51-050-0-00824	max. 2 <sup>3</sup> / <sub>4</sub>	8.98	1.97	7.9	1.44	2.23	4056.61	7.15
HSX 575 W	G51-050-0-00724	max. 2 <sup>15</sup> / <sub>16</sub>	8.98	1.97	7.96	1.44	2.31	4056.61	7.15
HSX 580 W	G51-050-0-00924	max. 3 <sup>1</sup> / <sub>8</sub>	9.18	1.77	8.16	1.44	2.48	4056.61	6.60

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (inch) A/F (inch)	Bemerkung notice
<b>HSX 536 W</b>	HXW 536 H 094	F93-046-9-02406	1 <sup>5</sup> / <sub>16</sub>	
	HXW 536 H 100	F93-046-9-02506	1	
	HXW 536 H 106	F93-046-9-02706	1 <sup>1</sup> / <sub>16</sub>	
	HXW 536 H 113	F93-046-9-02906	1 <sup>1</sup> / <sub>8</sub>	
	HXW 536 H 119	F93-046-9-03006	1 <sup>3</sup> / <sub>16</sub>	
	HXW 536 H 125	F93-046-9-03206	1 <sup>1</sup> / <sub>4</sub>	
	HXW 536 H 131	F93-046-9-03306	1 <sup>5</sup> / <sub>16</sub>	
	HXW 536 H 138	F93-046-9-03506	1 <sup>3</sup> / <sub>8</sub>	
<b>HSX 550 W</b>	HXW 550 H 163	F93-063-9-04102	1 <sup>5</sup> / <sub>8</sub>	
	HXW 550 H 169	F93-063-9-04302	1 <sup>11</sup> / <sub>16</sub>	
	HXW 550 H 175	F93-063-9-04502	1 <sup>3</sup> / <sub>4</sub>	
	HXW 550 H 181	F93-063-9-04602	1 <sup>13</sup> / <sub>16</sub>	
	HXW 550 H 188	F93-063-9-04802	1 <sup>7</sup> / <sub>8</sub>	
	HXW 550 H 194	F93-063-9-04902	1 <sup>15</sup> / <sub>16</sub>	

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (inch) A/F (inch)	Bemerkung notice
<b>HSX 555 W</b>	HXW 555 H 181	F93-068-9-04604	1 <sup>13</sup> / <sub>16</sub>	
	HXW 555 H 188	F93-068-9-04804	1 <sup>7</sup> / <sub>8</sub>	
	HXW 555 H 194	F93-068-9-04904	1 <sup>15</sup> / <sub>16</sub>	
	HXW 555 H 200	F93-068-9-05104	2	
	HXW 555 H 206	F93-068-9-05204	2 <sup>1</sup> / <sub>16</sub>	
	HXW 555 H 213	F93-068-9-05404	2 <sup>1</sup> / <sub>8</sub>	
	HXW 555 H 219	F93-068-9-05604	2 <sup>3</sup> / <sub>16</sub>	
<b>HSX 560 W</b>	HXW 560 H 219	F93-076-9-05633	2 <sup>3</sup> / <sub>16</sub>	
<b>HSX 565 W</b>	HXW 565 H 194	F93-080-9-04904	1 <sup>15</sup> / <sub>16</sub>	
	HXW 565 H 200	F93-080-9-05104	2	
	HXW 565 H 206	F93-080-9-05204	2 <sup>1</sup> / <sub>16</sub>	
	HXW 565 H 213	F93-080-9-05404	2 <sup>1</sup> / <sub>8</sub>	
	HXW 565 H 219	F93-080-9-05604	2 <sup>3</sup> / <sub>16</sub>	
	HXW 565 H 225	F93-080-9-05704	2 <sup>1</sup> / <sub>4</sub>	
	HXW 565 H 238	F93-080-9-06004	2 <sup>3</sup> / <sub>8</sub>	
	HXW 565 H 244	F93-080-9-06204	2 <sup>7</sup> / <sub>16</sub>	
	HXW 565 H 250	F93-080-9-06404	2 <sup>1</sup> / <sub>2</sub>	
	HXW 565 H 256	F93-080-9-06504	2 <sup>9</sup> / <sub>16</sub>	
<b>HSX 570 W</b>	HXW 570 H 238	F93-085-9-06002	2 <sup>3</sup> / <sub>8</sub>	
	HXW 570 H 256	F93-085-9-06502	2 <sup>9</sup> / <sub>16</sub>	
	HXW 570 H 263	F93-085-9-06702	2 <sup>5</sup> / <sub>8</sub>	
	HXW 570 H 269	F93-085-9-06802	2 <sup>11</sup> / <sub>16</sub>	
	HXW 570 H 275	F93-085-9-07002	2 <sup>3</sup> / <sub>4</sub>	
<b>HSX 575 W</b>	HXW 575 H 238	F93-092-9-06022	2 <sup>3</sup> / <sub>8</sub>	
	HXW 575 H 244	F93-092-9-06222	2 <sup>7</sup> / <sub>16</sub>	
	HXW 575 H 250	F93-092-9-06422	2 <sup>1</sup> / <sub>2</sub>	
	HXW 575 H 256	F93-092-9-06522	2 <sup>9</sup> / <sub>16</sub>	
	HXW 575 H 263	F93-092-9-06722	2 <sup>5</sup> / <sub>8</sub>	
	HXW 575 H 269	F93-092-9-06822	2 <sup>11</sup> / <sub>16</sub>	
	HXW 575 H 275	F93-092-9-07022	2 <sup>3</sup> / <sub>4</sub>	
	HXW 575 H 281	F93-092-9-07122	2 <sup>13</sup> / <sub>16</sub>	
	HXW 575 H 294	F93-092-9-07522	2 <sup>15</sup> / <sub>16</sub>	



## SX - EC 12

Antriebseinheit Drive unit	Code Nr. Code no.	Leistungsbereich Performance range	B2	Gewicht Weight
SX - EC 12 TS	G52-120-0-00315	885.08 - 8850.79 ft lbs	2.52 inch	8.36 lbs
SX - EC 12 MS-O	G52-120-0-00115	885.08 - 8850.79 ft lbs	2.52 inch	8.58 lbs
SX - EC 12 MS-H	G52-120-0-00415	885.08 - 8850.79 ft lbs	2.52 inch	8.58 lbs
SX - EC 12 MF	G52-120-0-00215	885.08 - 8850.79 ft lbs	2.52 inch	8.36 lbs

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm) A/F (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 12055 F	G51-120-0-00520	55	11.43	2.0	8.45	1.28	1.93	5531.74	8.58
HSX 12060 F	G51-120-0-00620	60	11.56	2.0	8.57	1.28	2.05	5531.74	8.58
HSX 12065 F	G51-120-0-01320	65	11.68	2.0	8.67	1.28	2.15	5900.52	5.58
HSX 12070 F	G51-120-0-00720	70	11.74	2.0	8.9	1.28	2.4	8482.00	8.80
HSX 12075 F	G51-120-0-01520	75	11.74	2.0	8.98	1.28	2.4	8850.79	8.80
HSX 12080 F	G51-120-0-00120	80	11.74	2.0	9.14	1.28	2.6	8850.79	9.02
HSX 12085 F	G51-120-0-01120	85	11.82	2.0	9.24	1.28	2.72	8850.79	9.24
HSX 12090 F	G51-120-0-01220	90	11.82	2.0	9.37	1.28	2.86	8850.79	9.24
HSX 12095 F	G51-120-0-00220	95	11.82	2.0	9.37	1.28	2.86	8850.79	9.46
HSX 12100 F	G51-120-0-00326	100	11.82	2.0	9.67	1.28	2.95	8850.79	9.68
HSX 12105 F	G51-120-0-01620	105	11.84	2.0	9.73	1.28	3.01	8850.79	9.90
HSX 12110 F	G51-120-0-00826	110	12.02	2.0	10.17	1.28	3.27	8850.79	10.12
HSX 12120 F	G51-120-0-01420	120	12.25	2.0	10.42	1.28	3.35	8850.79	10.12

Ratschenkopf <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 12060 F</b>	HX 12060 H 50 M	F93-086-9-05022	50	
	HX 12060 H 51 M	F93-086-9-05122	51	
	HX 12060 H 55 M	F93-086-9-05522	55	
	HX 12060 H 56 M	F93-086-9-05622	56	
	HX 12060 H 60 M	F93-086-9-06022	60	
<b>HSX 12065 F</b>	HX 12065 H 50 M	F93-090-9-05007	50	
	HX 12060 H 55 M	F93-090-9-05507	55	
	HX 12060 H 60 M	F93-090-9-06007	60	
	HX 12060 H 63 M	F93-090-9-06307	63	
	HX 12060 H 65 M	F93-090-9-06507	65	
<b>HSX 12070 F</b>	HX 12070 H 50 M	F93-098-9-05003	50	
	HX 12070 H 55 M	F93-098-9-05503	55	
	HX 12070 H 60 M	F93-098-9-06003	60	
	HX 12070 H 65 M	F93-098-9-06503	65	
	HX 12070 H 67 M	F93-098-9-06703	67	
	HX 12070 H 70 M	F93-098-9-07003	70	
<b>HSX 12075 F</b>	HX 12075 H 46 M	F93-102-9-04610	46	
	HX 12075 H 55 M	F93-102-9-05510	55	
	HX 12075 H 60 M	F93-102-9-06010	60	
	HX 12075 H 65 M	F93-102-9-06510	65	
	HX 12075 H 70 M	F93-102-9-07010	70	
	HX 12075 H 75 M	F93-102-9-07510	75	
<b>HSX 12080 F</b>	HX 12080 H 57 M	F93-108-9-05710	57	
	HX 12080 H 65 M	F93-108-9-06510	65	
	HX 12080 H 70 M	F93-108-9-07010	70	
	HX 12080 H 71 M	F93-108-9-07110	71	
	HX 12080 H 75 M	F93-108-9-07510	75	
	HX 12080 H 77 M	F93-108-9-07710	77	
	HX 12080 H 80 M	F93-108-9-08010	80	

<b>Ratschenkopf</b> <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 12085 F</b>	HX 12085 H 80 M	F93-108-9-05710	57	
	HX 12085 H 85 M	F93-108-9-06510	65	
<b>HSX 12090 F</b>	HX 12090 H 75 M	F93-122-9-07522	75	
	HX 12090 H 80 M	F93-122-9-08022	80	
	HX 12090 H 85 M	F93-122-9-08522	85	
	HX 12090 H 90 M	F93-122-9-09022	90	
<b>HSX 12095 F</b>	HX 12095 H 65 M	F93-123-9-06501	65	
	HX 12095 H 70 M	F93-123-9-07001	70	
	HX 12095 H 75 M	F93-123-9-07501	75	
	HX 12095 H 80 M	F93-123-9-08001	80	
	HX 12095 H 85 M	F93-123-9-08501	85	
	HX 12095 H 90 M	F93-123-9-09001	90	
<b>HSX 12100 F</b>	HX 12095 H 95 M	F93-123-9-09501	95	
	HX 12100 H 70 M	F93-130-9-07005	70	
	HX 12100 H 75 M	F93-130-9-07505	75	
	HX 12100 H 80 M	F93-130-9-08005	80	
	HX 12100 H 85 M	F93-130-9-08505	85	
	HX 12100 H 90 M	F93-130-9-09005	90	
	HX 12100 H 95 M	F93-130-9-09505	95	
HX 12100 H 100 M	F93-130-9-10005	100		

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (inch) A/F (inch)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 12055 F	G51-120-0-00525	2 1/8	11.43	2.0	8.45	1.28	1.93	5531.74	8.58
HSX 12060 F	G51-120-0-00625	2 5/16	11.56	2.0	8.57	1.28	2.05	5531.74	8.58
HSX 12065 F	G51-120-0-01325	2 1/2	11.68	2.0	8.67	1.28	2.15	5900.52	8.58
HSX 12070 F	G51-120-0-00725	2 3/4	11.74	2.0	8.9	1.28	2.4	8482.00	8.80
HSX 12075 F	G51-120-0-01425	2 15/16	11.74	2.0	8.98	1.28	2.46	8850.79	8.80
HSX 12080 F	G51-120-0-00125	3 1/8	11.74	2.0	9.14	1.28	2.62	8850.79	9.02
HSX 12085 F	G51-120-0-01125	3 5/16	11.82	2.0	9.24	1.28	2.72	8850.79	9.24
HSX 12090 F	G51-120-0-01225	3 1/2	11.82	2.0	9.38	1.28	2.86	8850.79	9.24
HSX 12095 F	G51-120-0-00225	3 3/4	11.82	2.0	9.38	1.28	2.86	8850.79	9.46
HSX 12100 F	G51-120-0-00526	3 7/8	11.82	2.0	9.67	1.28	2.96	8850.79	9.68
HSX 12105 F	G51-120-0-01725	4 1/8	11.84	2.0	9.73	1.28	3.01	8850.79	9.90
HSX 12110 F	G51-120-0-00825	4 1/4	12.02	2.0	10.16	1.28	3.27	8850.79	10.12
HSX 12120 F	G51-120-0-01525	4 5/8	12.25	2.0	10.42	1.28	3.35	8850.79	10.12

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (inch) A/F (inch)	Bemerkung notice
<b>HSX 12100 F</b>	HX 12100 H 388	F93-130-9-09905	3 7/8	

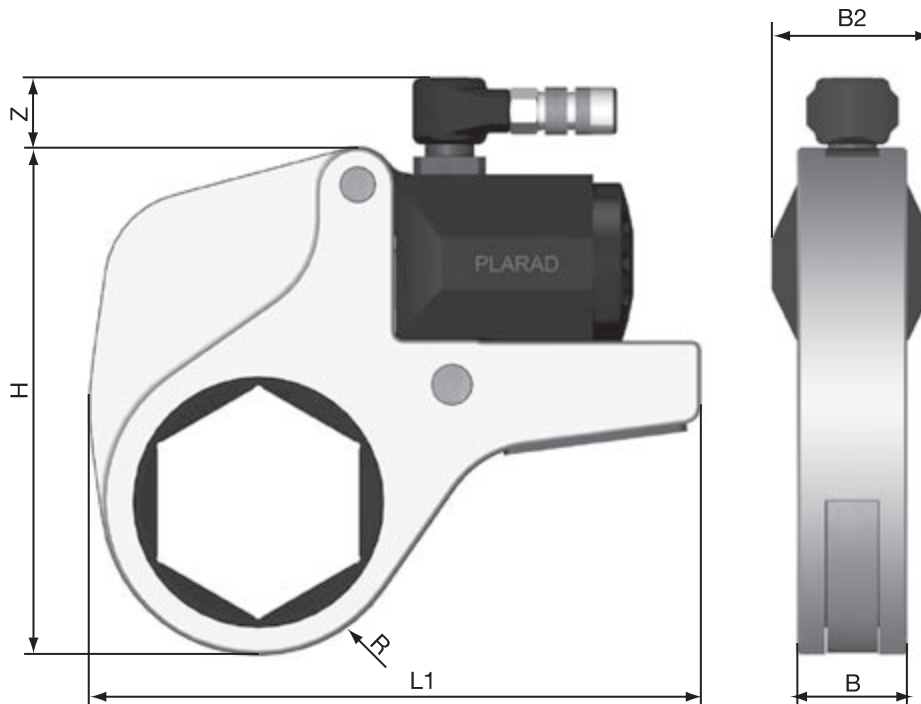
Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm) A/F (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 12055 W	G51-120-0-00924	max. 55	11.68	2.25	8.67	1.28	2.15	5900.52	9.24
HSX 12060 W	G51-120-0-01224	max. 60	11.74	2.25	8.92	1.28	2.4	5531.74	9.24
HSX 12065 W	G51-120-0-00424	max. 65	11.74	2.25	8.92	1.28	2.4	8113.22	9.46
HSX 12070 W	G51-120-0-00126	max. 70	11.82	2.29	9.24	1.28	2.72	8482.00	9.90
HSX 12075 W	G51-120-0-00324	max. 75	11.82	2.29	9.38	1.28	2.86	8850.79	9.90
HSX 12080 W	G51-120-0-00124	max. 80	11.82	2.29	9.24	1.28	2.72	8850.79	9.90
HSX 12085 W	G51-120-0-00224	max. 85	11.82	2.29	9.38	1.28	2.86	8850.79	9.90
HSX 12090 W	G51-120-0-00226	max. 90	11.82	2.29	9.67	1.28	2.95	8113.22	10.12
HSX 12095 W	G51-120-0-01124	max. 95	11.84	2.29	9.73	1.28	3.01	8850.79	10.34
HSX 12115 W	G51-120-0-01324	max. 115	12.45	2.29	10.78	1.28	3.55	8850.79	10.78

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 12055 W</b>	HXW 12055 H 41M	F93-074-9-04117	41	
	HXW 12055 H 46M	F93-074-9-04617	46	
	HXW 12055 H 50M	F93-074-9-05017	50	
	HXW 12055 H 55M	F93-074-9-05517	55	
<b>HSX 12065 W</b>	HXW 12065 H 36M	F93-082-9-03601	36	
	HXW 12065 H 41M	F93-082-9-04101	41	
	HXW 12065 H 46M	F93-082-9-04601	46	
	HXW 12065 H 50M	F93-082-9-05001	50	
	HXW 12065 H 55M	F93-082-9-05501	55	
	HXW 12065 H 60M	F93-082-9-06001	60	
	HXW 12065 H 65M	F93-082-9-06501	65	
<b>HSX 12070 W</b>	HXW 12070 H 56M	F93-096-9-05632	56	
	HXW 12070 H 70M	F93-096-9-07032	70	
<b>HSX 12075 W</b>	HXW 12075 H 55M	F93-102-9-05512	55	
	HXW 12075 H 60M	F93-102-9-06012	60	
	HXW 12075 H 65M	F93-102-9-06512	65	
	HXW 12075 H 70M	F93-102-9-07012	70	
	HXW 12075 H 75M	F93-102-9-07512	75	
<b>HSX 12080 W</b>	HXW 12080 H 46M	F93-100-9-04602	46	
	HXW 12080 H 50M	F93-100-9-05002	50	
	HXW 12080 H 55M	F93-100-9-05502	55	
	HXW 12080 H 60M	F93-100-9-06002	60	
	HXW 12080 H 65M	F93-100-9-06502	65	
	HXW 12080 H 70M	F93-100-9-07002	70	
	HXW 12080 H 75M	F93-100-9-07502	75	
	HXW 12080 H 80M	F93-100-9-08002	80	
<b>HSX 12085 W</b>	HXW 12085 H 41M	F93-106-9-04101	41	
	HXW 12085 H 46M	F93-106-9-04601	46	
	HXW 12085 H 50M	F93-106-9-05001	50	
	HXW 12085 H 55M	F93-106-9-05501	55	
	HXW 12085 H 60M	F93-106-9-06001	60	
	HXW 12085 H 65M	F93-106-9-06501	65	
	HXW 12085 H 70M	F93-106-9-07001	70	
	HXW 12085 H 75M	F93-106-9-07501	75	
	HXW 12085 H 77M	F93-106-9-07701	77	
	HXW 12085 H 80M	F93-106-9-08001	80	
	HXW 12085 H 85M	F93-106-9-08501	85	
<b>HSX 12090 W</b>	HXW 12090 H 70M	F93-114-9-07001	70	
	HXW 12090 H 75M	F93-114-9-07501	75	
	HXW 12090 H 80M	F93-114-9-08001	80	
	HXW 12090 H 85M	F93-114-9-08501	85	
	HXW 12090 H 90M	F93-114-9-09001	90	
<b>HSX 12095 W</b>	HXW 12095 H 65M	F93-118-9-06501	65	
	HXW 12095 H 75M	F93-118-9-07501	75	
	HXW 12095 H 77M	F93-118-9-07701	77	
	HXW 12095 H 80M	F93-118-9-08001	80	
	HXW 12095 H 85M	F93-118-9-08501	85	
	HXW 12095 H 90M	F93-118-9-09001	90	
<b>HSX 12115 W</b>	HXW 12115 H 75M	F93-144-9-07509	75	
	HXW 12115 H 100M	F93-144-9-10009	100	
	HXW 12115 H 115M	F93-144-9-11509	115	



Ratschenkopf Ratchet head	Code Nr. Code no.	SW (inch) A/F (inch)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 12055 W	G51-120-0-00924	max. 2 <sup>1</sup> / <sub>8</sub>	11.68	2.25	8.67	1.28	2.15	5900.52	9.24
HSX 12060 W	G51-120-0-01224	max. 2 <sup>5</sup> / <sub>16</sub>	11.74	2.25	8.92	1.28	2.4	5531.74	9.24
HSX 12065 W	G51-120-0-00424	max. 2 <sup>1</sup> / <sub>2</sub>	11.74	2.25	8.92	1.28	2.4	8113.22	9.46
HSX 12070 W	G51-120-0-00126	max. 2 <sup>3</sup> / <sub>4</sub>	11.82	2.29	9.24	1.28	2.72	8482.00	9.90
HSX 12075 W	G51-120-0-00324	max. 2 <sup>15</sup> / <sub>16</sub>	11.82	2.29	9.38	1.28	2.86	8850.79	9.90
HSX 12080 W	G51-120-0-00124	max. 3 <sup>1</sup> / <sub>8</sub>	11.82	2.29	9.24	1.28	2.72	8850.79	9.90
HSX 12085 W	G51-120-0-00224	max. 3 <sup>5</sup> / <sub>16</sub>	11.82	2.29	9.38	1.28	2.86	8850.79	9.90
HSX 12090 W	G51-120-0-00226	max. 3 <sup>1</sup> / <sub>2</sub>	11.82	2.29	9.67	1.28	2.96	8113.22	10.12
HSX 12095 W	G51-120-0-01124	max. 3 <sup>5</sup> / <sub>8</sub>	11.84	2.29	9.73	1.28	3.01	8850.79	10.34
HSX 12115 W	G51-120-0-01324	max. 4 <sup>1</sup> / <sub>2</sub>	12.45	2.29	10.78	1.28	3.55	8850.79	10.78

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (inch) A/F (inch)	Bemerkung notice
<b>HSX 12055 W</b>	HXW 12055 H 200	F93-074-9-05118	2	
<b>HSX 12065 W</b>	HXW 12065 H 256	F93-082-9-06502	2 <sup>9</sup> / <sub>16</sub>	
<b>HSX 12080 W</b>	HXW 12080 H 181	F93-100-9-04603	1 <sup>13</sup> / <sub>16</sub>	
	HXW 12080 H 188	F93-100-9-04803	1 <sup>7</sup> / <sub>8</sub>	
	HXW 12080 H 194	F93-100-9-05003	1 <sup>15</sup> / <sub>16</sub>	
	HXW 12080 H 200	F93-100-9-05103	2	
	HXW 12080 H 206	F93-100-9-05203	2 <sup>1</sup> / <sub>16</sub>	
	HXW 12080 H 213	F93-100-9-05403	2 <sup>1</sup> / <sub>8</sub>	
	HXW 12080 H 219	F93-100-9-05603	2 <sup>3</sup> / <sub>16</sub>	
	HXW 12080 H 225	F93-100-9-05703	2 <sup>1</sup> / <sub>4</sub>	
	HXW 12080 H 238	F93-100-9-06003	2 <sup>3</sup> / <sub>8</sub>	
	HXW 12080 H 244	F93-100-9-06203	2 <sup>7</sup> / <sub>16</sub>	
	HXW 12080 H 250	F93-100-9-06403	2 <sup>1</sup> / <sub>2</sub>	
	HXW 12080 H 256	F93-100-9-06503	2 <sup>9</sup> / <sub>16</sub>	
	HXW 12080 H 263	F93-100-9-06703	2 <sup>5</sup> / <sub>8</sub>	
	HXW 12080 H 269	F93-100-9-06803	2 <sup>11</sup> / <sub>16</sub>	
	HXW 12080 H 275	F93-100-9-07003	2 <sup>3</sup> / <sub>4</sub>	
	HXW 12080 H 281	F93-100-9-07103	2 <sup>13</sup> / <sub>16</sub>	
	HXW 12080 H 294	F93-100-9-07503	2 <sup>15</sup> / <sub>16</sub>	
	HXW 12080 H 300	F93-100-9-07603	3	
	HXW 12080 H 313	F93-100-9-08003	3 <sup>1</sup> / <sub>8</sub>	
<b>HSX 12085 W</b>	HXW 12085 H 300	F93-106-9-07602	3	
	HXW 12085 H 313	F93-106-9-08002	3 <sup>1</sup> / <sub>8</sub>	
	HXW 12085 H 325	F93-106-9-08302	3 <sup>1</sup> / <sub>4</sub>	
	HXW 12085 H 331	F93-106-9-08402	3 <sup>5</sup> / <sub>16</sub>	



## SX - 20

Antriebseinheit Drive unit		Code Nr. Code no.	Leistungsbereich Performance range		B2	Gewicht Weight	
SX - 20 TST		G52-200-0-00114	1475.13 - 14751.31 ft lbs		3.78 inch	12.98 lbs	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm) A/F (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 20055 F	G51-200-0-01225	55	13.4	2.58	12.05	1.6	2.09	8850.76	21.12
HSX 20065 F	G51-200-0-00225	65	13.67	2.58	10.64	1.6	2.33	9588.35	21.34
HSX 20075 F	G51-200-0-00325	75	13.95	2.58	10.74	1.6	2.42	10325.9	21.78
HSX 20080 F	G51-200-0-00925	80	13.99	2.58	10.87	1.6	2.56	11432.3	22.00
HSX 20090 F	G51-200-0-00425	90	14.07	2.58	11.09	1.6	2.78	11801.1	22.22
HSX 20095 F	G51-200-0-00525	95	14.07	2.58	11.29	1.6	2.97	14751.3	22.88
HSX 20105 F	G51-200-0-00625	105	14.18	2.58	11.66	1.6	3.25	14751.3	23.32
HSX 20110 F	G51-200-0-00725	110	14.26	2.58	11.68	1.6	3.37	14751.3	23.98
HSX 20115 F	G51-200-0-01125	115	14.18	2.58	11.76	1.6	3.45	14751.3	24.42
HSX 20120 F	G51-200-0-00825	120	14.0	2.58	11.88	1.6	3.57	14751.3	24.86
HSX 20130 F	G51-200-0-01025	130	14.46	2.58	12.37	1.6	3.74	14751.3	27.28
HSX 20135 F	G51-200-0-01325	135	14.54	2.58	12.45	1.6	3.82	14751.3	28.16
HSX 20145 F	G51-200-0-01625	145	14.85	2.58	13.12	1.6	4.14	14751.3	30.14

Ratschenkopf <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 20065 F</b>	HX 20065 H 65 M	F93-094-9-06502	65	
<b>HSX 20075 F</b>	HX 20075 H 50 M	F93-102-9-05011	50	
	HX 20075 H 55 M	F93-102-9-05511	55	
	HX 20075 H 65 M	F93-102-9-06511	65	
	HX 20075 H 70 M	F93-102-9-07011	70	
	HX 20075 H 75 M	F93-102-9-07511	75	
<b>HSX 20080 F</b>	HX 20080 H 75 M	F93-108-9-07509	75	
	HX 20080 H 77 M	F93-108-9-07709	77	
	HX 20080 H 80 M	F93-108-9-08009	80	
<b>HSX 20095 F</b>	HX 20095 H 80 M	F93-126-9-08009	80	
	HX 20095 H 85 M	F93-126-9-08509	85	
	HX 20095 H 90 M	F93-126-9-09009	90	
	HX 20095 H 95 M	F93-126-9-09509	95	

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 20105 F</b>	HX 20105 H 105 M	F93-138-9-10501	105	
<b>HSX 20110 F</b>	HX 20110 H 110 M	F93-146-9-11001	110	
<b>HSX 20115 F</b>	HX 20115 H 110 M	F93-148-9-11000	110	
	HX 20115 H 115 M	F93-148-9-11500	115	
<b>HSX 20130 F</b>	HX 20130 H 130 M	F93-166-9-13001	130	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm/) A/F (mm/)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 20065 F	G51-200-0-00227	2 1/2	13.67	2.58	10.64	1.6	2.33	9588.35	21.34
HSX 20075 F	G51-200-0-00327	2 15/16	13.95	2.58	10.74	1.6	2.42	10325.9	21.78
HSX 20080 F	G51-200-0-01327	3 1/8	13.99	2.58	10.88	1.6	2.56	11432.3	22.00
HSX 20090 F	G51-200-0-00427	3 1/2	14.07	2.58	11.09	1.6	2.78	11801.1	22.22
HSX 20095 F	G51-200-0-00527	3 5/8	14.07	2.58	11.29	1.6	2.98	14751.3	22.88
HSX 20105 F	G51-200-0-00627	4 1/8	14.18	2.58	11.66	1.6	3.25	14751.3	23.32
HSX 20110 F	G51-200-0-00727	4 5/16	14.26	2.58	11.68	1.6	3.37	14751.3	23.98
HSX 20120 F	G51-200-0-00827	4 5/8	14.3	2.58	11.88	1.6	3.57	14751.3	24.86
HSX 20130 F	G51-200-0-00927	5 1/16	14.46	2.58	12.37	1.6	3.74	14751.3	27.28
HSX 20135 F	G51-200-0-01326	5 1/4	14.54	2.58	12.45	1.6	3.82	14751.3	28.16
HSX 20145 F	G51-200-0-01626	5 3/8	14.85	2.58	13.12	1.6	4.14	14751.3	30.14
HSX 20065 W	G51-200-0-00624	max. 65	13.95	2.58	10.74	1.6	2.42	10325.9	24.20
HSX 20085 W	G51-200-0-00224	max. 85	14.07	2.58	11.29	1.6	2.98	14751.3	24.42
HSX 20095 W	G51-200-0-00324	max. 95	14.18	2.58	11.66	1.6	3.35	14751.3	24.86
HSX 20105 W	G51-200-0-01224	max. 105	14.18	2.58	11.76	1.6	3.45	14751.3	25.52
HSX 20115 W	G51-200-0-01124	max. 115	14.34	2.58	11.92	1.6	3.6	14751.3	26.18
HSX 20120 W	G51-200-0-01024	max. 120	14.46	2.58	12.37	1.6	3.74	14751.3	27.28
HSX 20135 W	G51-200-0-01324	max. 135	14.85	2.58	13.12	1.6	4.14	14751.3	28.38
HSX 20065 W	G51-200-0-00624	max. 2 1/2	13.95	2.58	10.74	1.6	2.42	10325.9	24.20
HSX 20085 W	G51-200-0-00224	max. 3 5/16	14.07	2.58	11.29	1.6	2.98	14751.3	24.42
HSX 20095 W	G51-200-0-00324	max. 3 5/8	14.18	2.58	11.66	1.6	3.35	14751.3	24.86
HSX 20105 W	G51-200-0-01224	max. 4 1/8	14.18	2.58	11.76	1.6	3.45	14751.3	25.52
HSX 20115 W	G51-200-0-01124	max. 4 1/2	14.34	2.58	11.92	1.6	3.6	14751.3	26.18
HSX 20120 W	G51-200-0-01024	max. 4 5/8	14.46	2.58	12.37	1.6	3.74	14751.3	27.28
HSX 20135 W	G51-200-0-01324	max. 5 5/8	14.85	2.58	13.12	1.6	4.14	14751.3	28.38

<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 20095 W</b>	HXW 20095 H 65 M	F93-122-9-06523	65	
	HXW 20095 H 75 M	F93-122-9-07523	75	
	HXW 20095 H 85 M	F93-122-9-08523	85	
	HXW 20095 H 95 M	F93-122-9-09523	95	
<b>HSX 20105 W</b>	HXW 20105 H 75 M	F93-132-9-07501	75	
	HXW 20105 H 77 M	F93-132-9-07701	77	
	HXW 20105 H 80 M	F93-132-9-08001	80	
	HXW 20105 H 85 M	F93-132-9-08501	85	
	HXW 20105 H 90 M	F93-132-9-09001	90	
	HXW 20105 H 95 M	F93-132-9-09501	95	
	HXW 20105 H 100 M	F93-132-9-10001	100	
	HXW 20105 H 105 M	F93-132-9-10501	105	
<b>HSX 20115 W</b>	HXW 20115 H 109 M	F93-144-9-10906	109	
	HXW 20115 H 110 M	F93-144-9-11008	110	
	HXW 20115 H 115 M	F93-144-9-11508	115	



<b>Ratschenkopf</b> <i>Ratched head</i>	Wechseleinsatz Changeable insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 20120 W</b>	HXW 20120 H 105 M	F93-150-9-10501	105	
	HXW 20120 H 110 M	F93-150-9-11001	110	
	HXW 20120 H 115 M	F93-150-9-11501	115	
	HXW 20120 H 120 M	F93-150-9-12001	120	
<b>HSX 20120 W</b>	HXW 20120 HD 105 M	F93-150-8-10501	105	
	HXW 20120 HD 110 M	F93-150-8-11001	110	
	HXW 20120 HD 115 M	F93-150-8-11501	115	
	HXW 20120 HD 120 M	F93-150-8-12001	120	

**SX - 30**

Antriebseinheit Drive unit	Code Nr. Code no.	Leistungsbereich Performance range	B2	Gewicht Weight
SX - 30 TST	G52-300-0-00114	2212.69 - 22127.0 ft lbs	4.04 inch	19.14 lbs

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm) A/F (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 30095 F	G51-300-0-00821	95	14.95	3.03	11.92	2.25	3.03	22127.0	36.52
HSX 30100 F	G51-300-0-01221	100	14.95	3.03	12.53	2.25	3.65	22127.0	36.96
HSX 30115 F	G51-300-0-00521	115	14.95	3.03	12.53	2.25	3.65	22127.0	37.84
HSX 30130 F	G51-300-0-00621	130	15.31	3.03	12.9	2.25	3.92	22127.0	39.16
HSX 30145 F	G51-300-0-00721	145	15.96	3.03	13.79	2.25	4.41	22127.0	40.48

<b>Ratschenkopf</b> <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 30115 F</b>	HX 30115 H 115 M	F93-152-9-11502	115	
<b>HSX 30130 F</b>	HX 30130 H 130 M	F93-168-9-13000	130	
<b>HSX 30145 F</b>	HX 30145 H 145 M	F93-188-9-14500	145	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm/ A/F (mm/))	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 30095 F	G51-300-0-00822	3 <sup>3</sup> / <sub>4</sub>	14.95	3.03	11.92	2.25	3.03	22127.0	36.52
HSX 30100 F	G51-300-0-01224	3 <sup>7</sup> / <sub>8</sub>	14.95	3.03	12.53	2.25	3.65	22127.0	36.96
HSX 30115 F	G51-300-0-00124	4 <sup>1</sup> / <sub>2</sub>	14.95	3.03	12.53	2.25	3.65	22127.0	37.84
HSX 30130 F	G51-300-0-00222	5	15.31	3.03	12.9	2.25	3.92	22127.0	39.16
HSX 30145 F	G51-300-0-00725	5 <sup>5</sup> / <sub>8</sub>	15.96	3.03	13.79	2.25	4.41	22127.0	40.48
HSX 30115 W	G51-300-0-00521	max. 115	15.31	3.03	12.9	2.25	3.92	22127.0	38.50
HSX 30130 W	G51-300-0-00621	max. 130	15.96	3.03	13.79	2.25	4.41	22127.0	40.26
HSX 30115 W	G51-300-0-00521	max. 4 <sup>1</sup> / <sub>2</sub>	15.31	3.03	12.9	2.25	3.92	22127.0	38.50
HSX 30130 W	G51-300-0-00621	max. 5	15.96	3.03	13.79	2.25	4.41	22127.0	40.26

<b>Ratschenkopf</b> <i>Ratched head</i>	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 30115 W</b>	HXW 30115 H 80 M	F93-147-9-08000	80	
	HXW 30115 H 95 M	F93-147-9-09500	95	
	HXW 30115 H 105 M	F93-147-9-10500	105	
	HXW 30115 H 110 M	F93-147-9-11000	110	
	HXW 30115 H 115 M	F93-147-9-11500	115	
<b>HSX 30130 W</b>	HXW 30130 H 130 M	F93-166-9-13003	130	

**SX - 45**

Antriebseinheit Drive unit	Code Nr. Code no.	Leistungsbereich Performance range	B2	Gewicht Weight
SX - 45 TST	G52-450-0-00114	3319.04 - 33190.4 ft lbs	43.73 inch	28.9 lbs

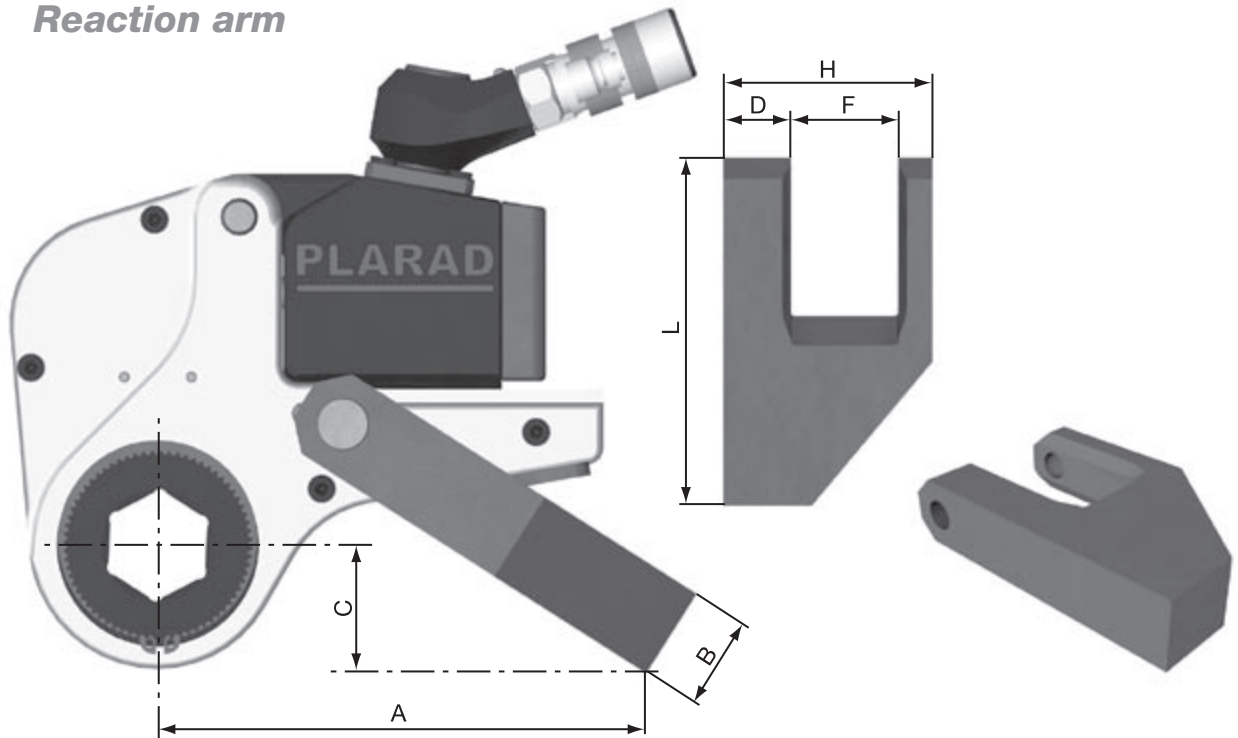
Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm)	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 45120 F	G51-450-0-00320	120	15.5	3.39	13.18	1.85	3.78	33190.4	43.78
HSX 45135 F	G51-450-0-00520	135	15.8	3.39	14.03	1.85	4.3	33190.4	46.42
HSX 45155 F	G51-450-0-00220	155	16.78	3.39	14.81	1.85	4.69	33190.4	48.40
HSX 45165 F	G51-450-0-00521	165	16.92	3.39	14.95	1.85	4.83	33190.4	50.60
HSX 45185 F	G51-450-0-00820	185	17.87	3.39	15.78	1.85	5.22	33190.4	53.24

Ratschenkopf Ratched head	Sechskanteinsatz Hexagon key insert	Code Nr. Code no.	SW (mm) A/F (mm)	Bemerkung notice
<b>HSX 45120 F</b>	HX 45120 H 120 M	F93-160-9-12000	120	
<b>HSX 45135 F</b>	HX 45135 H 135 M	F93-178-9-13500	135	
<b>HSX 45155 F</b>	HX 45155 H 155 M	F93-200-9-15500	155	

Ratschenkopf Ratchet head	Code Nr. Code no.	SW (mm/ A/F (mm/))	L1 (inch)	B (inch)	H (inch)	Z (inch)	R (inch)	MT <sub>max</sub> (ft lbs)	Gewicht Weight (lbs)
HSX 45120 F	G51-450-0-00320	120	15.5	3.39	13.18	1.85	3.78	33190.4	43.78
HSX 45135 F	G51-450-0-00520	135	15.8	3.39	14.03	1.85	4.3	33190.4	46.42
HSX 45155 F	G51-450-0-00220	155	16.78	3.39	14.81	1.85	4.69	33190.4	48.40
HSX 45165 F	G51-450-0-00521	165	16.92	3.39	14.95	1.85	4.83	33190.4	50.60
HSX 45185 F	G51-450-0-00820	185	17.87	3.39	15.78	1.85	5.22	33190.4	53.24
HSX 45120 F	G51-450-0-00325	4 <sup>5/8</sup>	15.5	3.39	13.18	1.85	3.78	33190.4	43.78
HSX 45155 F	G51-450-0-00224	5 <sup>3/4</sup>	16.78	3.39	14.81	1.85	4.69	33190.4	48.40
HSX 45185 F	G51-450-0-00823	7 <sup>1/4</sup>	17.87	3.39	15.78	1.85	5.22	33190.4	53.24
HSX 45145 W	G51-450-0-00130	max. 145	16.92	3.39	14.95	1.85	4.83	33190.4	52.36
HSX 45145 W	G51-450-0-00130	max. 5 <sup>3/8</sup>	16.92	3.39	14.95	1.85	4.83	33190.4	52.36

## Abstützung

### Reaction arm



Abstützung Reaction arm	Code Nr. Code no.	A (inch)	B (inch)	C (inch)	D (inch)	F (inch)	H (inch)	L (inch)	Gewicht Weight (lbs)
HSX 1 .. AR	B51-010-1-00120	5.28	0.79	0.91	0.79	1.28	2.38	4.53	0.99
HSX 2 .. AR	B51-025-1-00800	6.86	1.18	2.05	1.14	1.58	3.11	6.3	1.65
HSX 5 .. AR	B51-050-1-01201	7.57	1.34	1.42	1.16	1.97	3.44	6.38	3.08
HSX 12 .. AR	B51-120-1-00100	13.16	1.95	3.27	1.24	2.13	4.18	11.82	7.04
HSX 20 .. AR	B51-200-1-00100	11.11	2.17	1.97	2.36	2.59	5.73	9.06	9.02
HSX 30 .. AR	B51-300-1-00100	13.2	2.56	1.85	2.76	3.05	6.8	11.13	12.32
HSX 45 .. AR	B51-450-1-00100	14.66	3.35	2.86	3.15	3.41	8.33	13.2	25.30

## In-Out-Nuss

### In-out socket



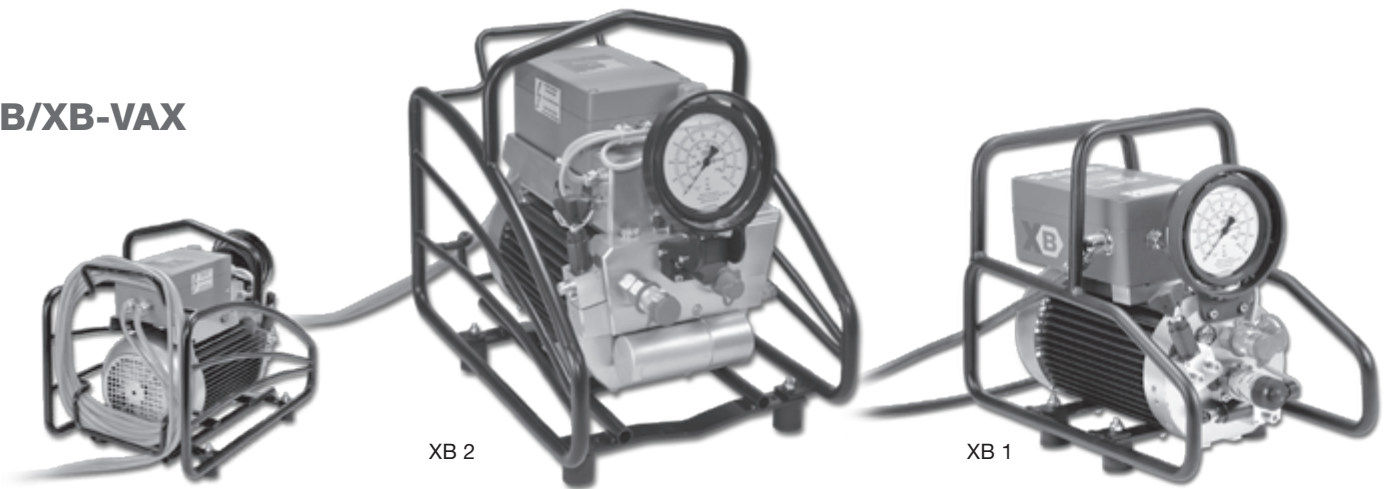
In-Out-Nüsse sind in allen Abmaßen  
und Schlüsselweiten erhältlich.  
*In-out sockets are available in all sizes  
and dimensions.*



# Hydraulik-Aggregate

## Hydraulic Power Packs

### XB/XB-VAX



Typ/ type	Betriebs- art operation mode	Förder- stufen flow stages	Abmessungen L. x B. x H. (mm) dimensions l. x w. x h. (inch)	Gewicht (kg) weight (lb)	maximaler Betriebsdruck (bar) max. operating pressure (psi)	Antrieb drive	Antriebs- leistung (kW) nominal power (kW)	Förderleistung (l/min) flow rate (cu. in./min)
<b>XB 1</b>	manuell <i>manual</i>	1	441 x 245 x 353	19	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup> <i>electrical 230 V. 50 HZ, alternate current*<sup>1</sup></i>	0.75	0.8
			17.4 x 9.6 x 13.9	42	11.600			48.8
<b>XB 2</b>	manuell <i>manual</i>	1	495 x 307 x 411	29	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup> <i>electrical 230 V. 50 HZ, alternate current*<sup>1</sup></i>	1.1	1.2
			17.4 x 12.1 x 16.2	64	11.600			73.3
<b>XB 2-Z</b>	manuell <i>manual</i>	2	495 x 307 x 411	29	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup> <i>electrical 230 V. 50 HZ, alternate current*<sup>1</sup></i>	1.1	8.0/1.2
			17.4 x 12.1 x 16.2	64	11.600			488.2/73.3
<b>XB 3.5</b>	manuell <i>manual</i>	1	495 x 307 x 411	33	800	elektrisch 400 V. 50 HZ, Drehstrom <i>electrical 400 V. 50 HZ, three phase current</i>	2.2	3.5
			17.4 x 12.1 x 16.2	73	11.600			213.6
<b>XB 3.5-Z</b>	manuell <i>manual</i>	2	495 x 307 x 411	33	800	elektrisch 400 V. 50 HZ, Drehstrom <i>electrical 400 V. 50 HZ, three phase current</i>	2.2	13.2/3.0
			17.4 x 12.1 x 16.2	73	11.600			805.5/183
<b>XB-VAX 2</b>	vollauto- matisch <i>fully auto- mated</i>	1	495 x 307 x 411	29	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup> <i>electrical 230 V. 50 HZ, alternate current*<sup>1</sup></i>	1.1	1.2
			17.4 x 12.1 x 16.2	64	11.600			73.3
<b>XB-VAX 3.5</b>	vollauto- matisch <i>fully auto- mated</i>	1	495 x 307 x 411	33	800	elektrisch 400 V. 50 HZ, Drehstrom <i>electrical 400 V. 50 HZ, three phase current</i>	2.2	3.5
			17.4 x 12.1 x 16.2	73	11.600			213.6

\*<sup>1</sup> alternativ auch für folgende Spannungen erhältlich/  
*alternatively available for following voltages:*

Wechselstrom/ <i>alternating current</i>	Drehstrom/ <i>three phase current</i>
100 V. 50 HZ, 100 V. 60 HZ,	200 V. 50 HZ, 200 V. 60 HZ,
110 V. 50 HZ, 110 V. 60 HZ,	400 V. 50 HZ, 400 V. 60 HZ,
220 V. 60 Hz	

Bei diesen Spannungen können die genannten Förderleistungen abweichen.  
*In these voltages. the listed flow rates can differ.*

## IQ-VX/IQ-VAX

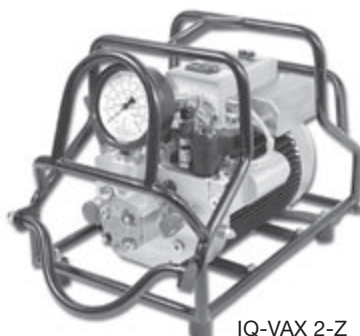
Typ/ type	Betriebs- art operation mode	Förder- stufen flow stages	Abmessungen L. x B. x H. (mm) dimensions l. x w. x h. (inch)	Gewicht (kg) weight (lb)	maximaler Betriebsdruck (bar) max. operating pressure (psi)	Antrieb drive	Antriebs- leistung (kW) nominal power (kW)	Förderleistung (l/min) flow rate (cu. in./min)
<b>IQ-VX 1-Z</b>	manuell manual	2	470 x 300 x 335	22	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup>	0.75	5.3/0.75
			18.5 x 11.8 x 13.1	48.5	11.600	electrical 230 V. 50 HZ, alternate current* <sup>1</sup>		323.5/45.8
<b>IQ-VX 2-Z</b>	manuell manual	2	490 x 315 x 370	29	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup>	1.1	8.0/1.2
			19.3 x 12.4 x 14.6	64	11.600	electrical 230 V. 50 HZ, alternate current* <sup>1</sup>		488.2/73.3
<b>IQ-VX 3.5-Z</b>	manuell manual	2	490 x 315 x 370	33	800	elektrisch 400 V. 50 HZ, Drehstrom	2.2	13.2/3.0
			19.7 x 12.4 x 14.6	73	11.600	electrical 400 V. 50 HZ, three phase current		805.5/183.0
<b>IQ-VAX 2</b>	vollauto- matisch fully auto- mated	1	490 x 315 x 370	29	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup>	1.1	1.2
			19.3 x 12.4 x 14.6	64	11.600	electrical 230 V. 50 HZ, alternate current* <sup>1</sup>		73.3
<b>IQ-VAX 3.5</b>	vollauto- matisch fully auto- mated	1	490 x 315 x 370	33	800	elektrisch 400 V. 50 HZ, Drehstrom	2.2	3.5
			19.3 x 12.4 x 14.6	73	11.600	electrical 400 V. 50 HZ, three phase current		213.6
<b>IQ-VAX 1-Z</b>	vollauto- matisch fully auto- mated	2	470 x 300 x 335	22	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup>	0.75	5.3/0.75
			18.5 x 11.8 x 13.1	48.5	11.600	electrical 230 V. 50 HZ, alternate current* <sup>1</sup>		323.5/45.8
<b>IQ-VAX 2-Z</b>	vollauto- matisch fully auto- mated	2	490 x 315 x 370	29	800	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup>	1.1	8.0/1.2
			19.3 x 12.4 x 14.6	64	11.600	electrical 230 V. 50 HZ, alternate current* <sup>1</sup>		488.2/73.3
<b>IQ-VAX 3.5-Z</b>	vollauto- matisch fully auto- mated	2	490 x 315 x 370	33	800	elektrisch 400 V. 50 HZ, Drehstrom	2.2	13.2/3.0
			19.3 x 12.4 x 14.6	73	11.600	electrical 400 V. 50 HZ, three phase current		805.5/183.0
<b>IQ-VAX 2-Z D 2100</b>	vollauto- matisch fully auto- mated	2	490 x 351 x 400	38.5	2100	elektrisch 230 V. 50 HZ, Wechselstrom* <sup>1</sup>	1.1	8.0/1.2 (800 bar)
			19.3 x 13.8 x 15.7	85	30.450	electrical 230 V. 50 HZ, alternate current* <sup>1</sup>		8.0/0.4 (2100 bar)
<b>IQ-VAX 3.5-Z D 2100</b>	vollauto- matisch fully auto- mated	2	490 x 351 x 400	38.5	2100	elektrisch 400 V. 50 HZ, Drehstrom	2.2	13.2/3.0 (800 bar)
			19.3 x 13.8 x 15.7	85	30.450	electrical 400 V. 50 HZ, three phase current		13.2/1.0 (2100 bar)
								805.5/183.0 (11.600 psi)
								805.5/61.0 (30.450 psi)

\*<sup>1</sup> alternativ auch für folgende Spannungen erhältlich/  
alternatively available for following voltages:

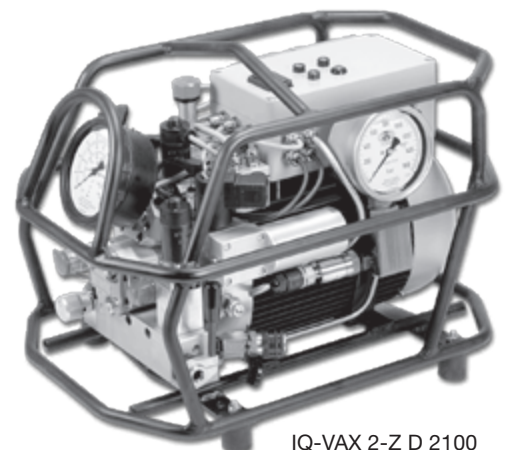
Wechselstrom/alternating current  
100 V. 50 HZ, 100 V. 60 HZ,  
110 V. 50 HZ, 110 V. 60 HZ,  
220 V. 60 Hz

Drehstrom/three phase current  
200 V. 50 HZ, 200 V. 60 HZ,  
400 V. 50 HZ, 400 V. 60 HZ,

Bei diesen Spannungen können die  
genannten Förderleistungen abweichen.  
In these voltages, the listed  
flow rates can differ.

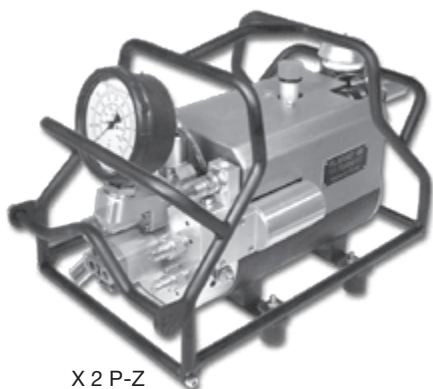


IQ-VAX 2-Z



IQ-VAX 2-Z D 2100

## Pneumatische Hydraulikaggregate Pneumatic Power Packs



X 2 P-Z



IQ-VAX 2 P-Z

Typ/ type	Betriebs- art operation mode	Förder- stufen flow stages	Abmessungen L. x B. x H. (mm) dimensions l. x w. x h. (inch)	Gewicht (kg) weight (lb)	maximaler Betriebsdruck (bar) max. operating pressure (psi)	Antrieb drive	Förderleistung (l/min) flow rate (cu. in./min)
<b>X 2 P-Z</b>	manuell	2	640 x 235 x 385	31.5	800	pneumatisch. 4 - 7 bar. 40 - 65 l/s	7.0/1.6
	manual		25.2 x 9.3 x 15.2	69	11.600	pneumatisch. 58 - 101.5 psi. 23.6 - 38.4 cfm	724.2/97.6
<b>IQ-VAX 2 P-Z</b>	vollauto- matisch	2	500 x 330 x 420	36	800	pneumatisch. 4 - 7 bar. 40 - 65 l/s	7.0/1.6
	fully auto- mated		19.7 x 13 x 16.5	79.4	11.600	pneumatisch. 58 - 101.5 psi. 23.6 - 38.4 cfm	724.2/97.6

Alle Plarad-Aggregate sind aufrüstbar und erweiterbar, z.B. mit Zusatztanks beim Einsatz von bis zu 4 Schraubgeräten und mehr an einem Aggregat.

All Plarad power packs are upgradeable and extensible, for example with additional oil tank for drive of 4 or more tools by one pump.

## Hochdruck-Hydraulikschläuche High pressure hydraulic hoses

**NW 6, 800 bar, Kupplung & Nippel beidseitig, R 1/4, SW 22 mm**  
NW 6, 800 bar, coupling & nipple both sites, R 1/4, A/F 22 mm

Code Nr. Code no.	Länge m	Length inch
B20-000-1-00430	4	157.5
B20-000-1-00630	6	236.2
B20-000-1-00830	8	315.0
B20-000-1-01030	10	393.7

**Twin, NW 6, 800 bar, Kupplung & Nippel beidseitig, R 1/4, SW 22 mm**  
Twin, NW 6, 800 bar, coupling & nipple both sites, R 1/4, A/F 22 mm

Code Nr. Code no.	Länge m	Length inch
B20-000-1-00431	4	157.5
B20-000-1-00631	6	236.2
B20-000-1-00831	8	315.0
B20-000-1-01031	10	393.7





# Spannzyylinder / Tensioner



## Mehrstufige Variante Multi Stage

**Für den Einsatz in beschränkten Platzverhältnissen (Durchmesser). Der mehrstufige Hydraulikantrieb generiert höhere Spannkraft in einem schmalen Durchmesser.**

**For use when there is an application radial restriction. Multi hydraulic cells generate extra load in a small diameter.**

Bolzen/Bolt Ø		Max. Spannkraft/ Max. Load		Spannzyylinder/ Tensioner Ø		Spannzyylinder Höhe/ Tensioner Height		Spannzyylinder Hub/ Tensioner Stroke	
Imperial/ imperial	Metrisch/ metric	lbf	kN	in	mm	in	mm	in	mm
1 1/8	M30	103.86	462	2.76	70	8.11	206	0.31	8
1 1/4	M33	128.14	570	3.03	77	8.31	211	0.31	8
1 3/8	M36	151.74	675	3.19	81	8.50	216	0.31	8
1 1/2	M39	179.84	800	3.46	88	9.45	240	0.39	10
1 5/8	M42	208.61	928	3.74	95	10.35	263	0.39	10
1 3/4	M45	242.78	1080	4.09	104	10.63	270	0.39	10
1 7/8	M48	274.26	1220	4.29	109	11.02	280	0.39	10
2	M52	325.96	1450	4.53	115	11.10	282	0.39	10
2 1/4	M56	376.54	1675	4.76	121	11.22	285	0.39	10



## Einstufige Variante Single Stage

**Für den Einsatz in beschränkten Platzverhältnissen (Höhe). Das kompakte Design verleiht dem Spannzyylinder ein Minimum an Bauhöhe.**

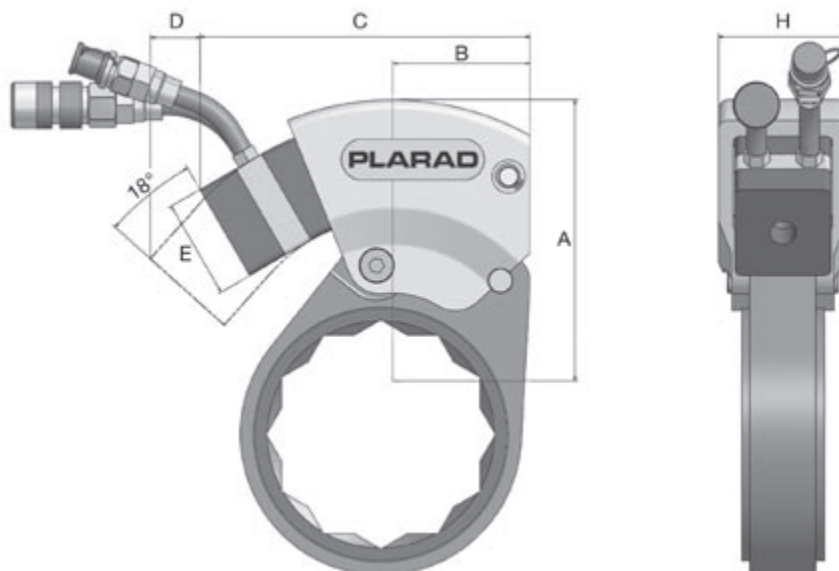
**For use when there is an application height restriction. Compact design keeps height to a minimum.**

Bolzen/Bolt Ø		Max. Spannkraft/ Max. Load		Spannzyylinder/ Tensioner Ø		Spannzyylinder Höhe/ Tensioner Height		Spannzyylinder Hub/ Tensioner Stroke	
Imperial/ imperial	Metrisch/ metric	lbf	kN	in	mm	in	mm	in	mm
1	M24	65.19	290	3.27	83	3.86	98	0.31	8
1 1/8	M30	103.41	460	3.78	96	4.21	107	0.31	8
1 1/4	M33	128.14	570	4.21	107	4.53	115	0.31	8
1 3/8	M36	150.67	670	4.49	114	4.65	118	0.31	8
1 1/2	M39	179.84	800	4.96	126	4.88	124	0.39	10
1 5/8	M42	206.82	920	5.12	130	5.20	132	0.39	10
1 3/4	M45	242.78	1080	5.51	140	5.28	134	0.39	10
1 7/8	M48	274.26	1220	5.87	149	5.43	138	0.39	10
2	M52	325.96	1450	6.30	160	5.51	140	0.39	10
2 1/4	M56	376.54	1675	6.73	171	5.91	150	0.39	10

# K-Gerät / K-series tool

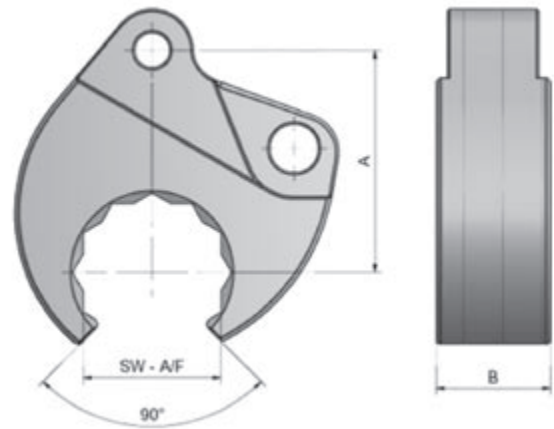


Typ	Schlüsselweiten mm	Drehmomentbereich Nm	A	B	C	D	E	H	Gewicht lbs
Type	Width across flat inch	Torque range (ft lbs)	inch	inch	inch	inch	inch	inch	Weight lbs
K 30 TF	24 - 95 (1.1/4 - 3.1/2)	300 - 3000 (221 - 2212)	5.02	2.91	6.42	0.83	1.77	2.48	10.6
K 60 TF	24 - 95 (1.1/4 - 3.1/2)	660 - 6600 (486 - 4867)	5.57	2.64	6.69	1.10	2.21	2.68	12.5
K 150 TF	27 - 110 (1.7/16 - 3.7/8)	1100 - 11000 (811 - 8113)	6.69	3.27	7.09	1.34	2.36	3.07	18.9
K 200 TF	60 - 135 (2.3/8 - 4.1/8)	2000 - 20000 (1327 - 1.276)	8.68	4.72	9.78	1.77	3.07	3.94	40.7
K 300 TF	80 - 150 (3.1/8 - 6)	3000 - 30000 (2212 - 22126)	10.73	5.83	11.63	2.34	3.70	4.72	66.0



## Ringschlüssel offen / open ring spanner

Ringschlüssel offen Open ring spanner K 30 / K 60 Code Nr./Code no	SW/ AF mm	SW/ AF inch	A inch	B inch
F94-013-8-02406	24		2.95	0.79
F94-013-8-02706	27		2.95	0.79
F94-013-8-03006	30		2.95	0.79
F94-013-8-03206	32	1.1/4	2.95	0.79
F94-013-8-03606	36	1.7/16	2.95	0.98
F94-013-8-04106	41	1.5/8	2.95	0.98
F94-013-8-04606	46	1.13/16	2.95	0.98
F94-013-8-05006	50	2	2.95	1.18
F94-013-8-05506	55	2.3/16	2.95	1.18
F94-013-8-06006	60	2.3/8	2.95	1.38
F94-013-8-06506	65	2.9/162	2.95	1.58
F94-013-8-07006	70	2.3/4	2.95	1.58
F94-013-8-07506	75	2.15/16	3.94	1.77
F94-013-8-08006	80	3.1/8	3.94	1.77
F94-013-8-08506	85		3.94	1.97
F94-013-8-09006	90	3.1/2	3.94	1.97
F94-013-8-09506	95		3.94	1.97



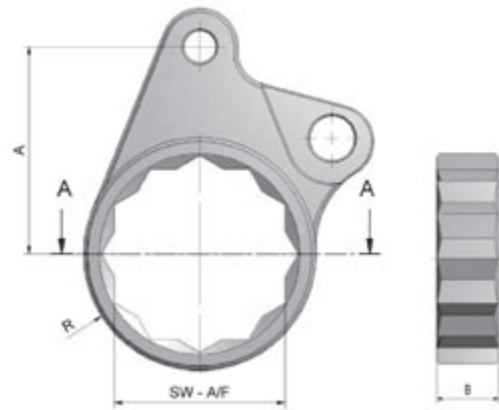
Ringschlüssel offen Open ring spanner K 150 Code Nr./Code no	SW/ AF mm	SW/ AF inch	A inch	B inch
F94-014-8-03201	32		3.82	0.79
F94-014-8-03601	36	1.7/16	3.82	0.98
F94-014-8-04101	41	1.5/8	3.82	0.98
F94-014-8-04601	46	1.13/16	3.82	0.98
F94-014-8-05001	50	2	3.82	1.18
F94-014-8-05501	55	2.3/16	3.82	1.18
F94-014-8-06001	60	2.3/8	3.82	1.38
F94-014-8-06501	65	2.9/16	3.82	1.58
F94-014-8-07001	70	2.3/4	3.82	1.58
F94-014-8-07501	75	2.15/16	3.82	1.77
F94-014-8-08001	80	3.1/8	3.82	1.77
F94-014-8-08501	85		3.82	1.77
F94-014-8-09001	90	3.1/2	4.02	1.77
F94-014-8-09501	95		4.17	1.97
F94-014-8-10001	100	3.7/8	4.33	1.97
F94-014-8-11001	110		4.65	2.17

Ringschlüssel offen Open ring spanner K 200 Code Nr./Code no	SW/ AF mm	SW/ AF inch	A inch	B inch
F94-015-8-06002	60	2.3/8	7.89	1.38
F94-015-8-06502	65	2.9/162	7.89	1.58
F94-015-8-07002	70	2.3/4	7.89	1.58
F94-015-8-07502	75	2.15/16	7.89	1.77
F94-015-8-08002	80	3.1/8	7.89	1.77
F94-015-8-08502	85		7.89	1.77
F94-015-8-09002	90	3.1/2	7.89	1.77
F94-015-8-09502	95		7.89	1.97
F94-015-8-10002	100	3.7/8	7.89	1.97
F94-015-8-10502	105	4.1/8	7.89	2.17
F94-015-8-11002	110		7.89	2.17
F94-015-8-11502	115		7.89	2.36
F94-015-8-12002	120		7.89	2.36
F94-015-8-12502	125		7.89	2.56
F94-015-8-13002	130		7.89	2.56
F94-015-8-13502	135		7.89	2.56



Ringschlüssel / ring spanner

Ringschlüssel/ Ring spanner K 30 / K 60	SW/ AF	R	A	B	Mt max
Code Nr./Code no	mm	inch	inch	inch	lbf ft
F94-013-8-02700	27	0.98	2.95	20	1.402.2
F94-013-8-03000	30	1.04	2.95	20	1.476.0
F94-013-8-03200	32	1.14	2.95	20	1.845.0
F94-013-8-03600	36	1.24	2.95	25	2.583.0
F94-013-8-04100	41	1.38	2.95	25	3.062.7
F94-013-8-04600	46	1.48	2.95	25	3.690.0
F94-013-8-05000	50	1.58	2.95	30	4.243.5
F94-013-8-05500	55	1.69	2.95	30	4.428.0
F94-013-8-06000	60	1.83	2.95	35	4.428.0
F94-013-8-06500	65	1.95	2.95	40	4.428.0
F94-013-8-07000	70	2.07	2.95	40	4.428.0
F94-013-8-07500	75	2.19	3.94	40	4.428.0
F94-013-8-08000	80	2.32	3.94	40	4.428.0
F94-013-8-08500	85	2.44	3.94	40	4.428.0
F94-013-8-09000	90	2.56	3.94	40	4.428.0
F94-013-8-09500	95	2.68	3.94	40	4.428.0



Ringschlüssel/ Ring spanner K 30 / K 60	SW/ AF	R	A	B	Mt max
Code Nr./Code no	mm	inch	inch	inch	lbf ft
F94-013-8-02900	1.1/8	1.06	2.95	0.79	1.697.4
F94-013-8-03201	1.1/4	1.14	2.95	0.79	1.845.0
F94-013-8-03800	1.1/2	1.30	2.95	0.98	2.804.4
F94-013-8-04800	1.7/8	1.54	2.95	1.18	4.243.5
F94-013-8-05600	2.3/16	1.71	2.95	1.18	4.428.0
F94-013-8-05700	2.1/4	1.13	2.95	1.18	4.428.0
F94-013-8-07001	2.3/4	1.38	2.95	1.58	4.428.0

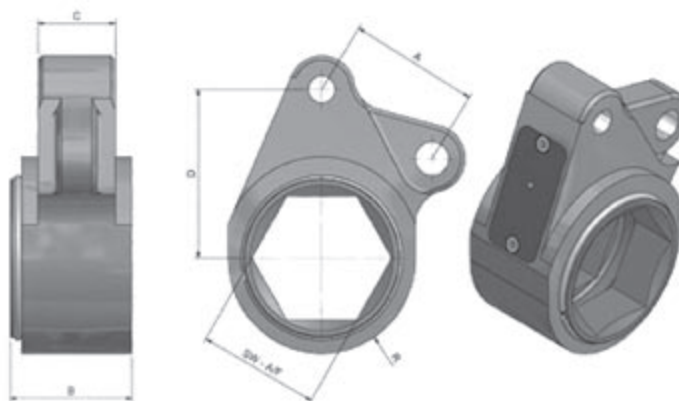
Ringschlüssel/ Ring spanner K 150	SW/ AF	R	A	B	Mt max
Code Nr./Code no	mm	inch	inch	inch	lbf ft
F94-014-8-03200	32	1.14	3.82	0.79	1.845.0
F94-014-8-03600	36	1.24	3.82	0.98	2.583.0
F94-014-8-04100	41	1.38	3.82	0.98	3.062.7
F94-014-8-04600	46	1.48	3.82	0.98	3.690.0
F94-014-8-05000	50	1.58	3.82	1.18	4.243.5
F94-014-8-05500	55	1.69	3.82	1.18	4.649.4
F94-014-8-06000	60	1.83	3.82	1.38	6.199.2
F94-014-8-06500	65	1.95	3.82	1.58	7.380.0
F94-014-8-07000	70	2.07	3.82	1.58	7.380.0
F94-014-8-07500	75	2.21	3.82	1.77	7.380.0
F94-014-8-08000	80	2.32	3.82	1.77	7.380.0
F94-014-8-08500	85	2.44	3.82	1.77	7.380.0
F94-014-8-09000	90	2.58	4.02	1.77	7.380.0
F94-014-8-09500	95	2.70	4.17	1.97	7.380.0
F94-014-8-10000	100	2.82	4.33	1.97	7.380.0
F94-014-8-11000	110	3.07	4.65	2.17	7.380.0

Ringschlüssel/ Ring spanner K 150	SW/ AF	R	A	B	Mt max
Code Nr./Code no	mm	inch	inch	inch	lbf ft
F94-014-8-03300	1.5/16	1.16	3.82	0.98	1.845.0
F94-014-8-03800	1.1/2	1.28	3.82	0.98	2.583.0
F94-014-8-04300	1.11/16	1.48	3.82	0.98	3.136.5
F94-014-8-04600	1.3/4	1.48	3.82	0.98	3.690.0
F94-014-8-05400	2.1/8	1.67	3.82	1.18	4.649.4
F94-014-8-05700	2.1/4	1.75	3.82	1.38	6.199.2
F94-014-8-06700	2.5/8	1.99	3.82	1.58	7.380.0
F94-014-8-07100	2.13/16	2.09	3.82	1.58	7.380.0
F94-014-8-07600	3	2.21	3.82	1.77	7.380.0
F94-014-8-08900	3.1/2	2.54	4.02	1.77	7.380.0
F94-014-8-09800	3.7/8	2.76	4.33	1.97	7.380.0
F94-014-8-10200	4	2.84	4.72	1.97	7.380.0
F94-014-8-10800	4.1/4	2.99	4.65	2.17	7.380.0

## Ringschlüssel / ring spanner

Ringschlüssel/ Ring spanner K 200	SW/ AF	R	A	B	Mt max
Code Nr./Code no	mm	inch	inch	inch	lbf ft
F94-003-8-06000	60	2.03	7.89	1.38	9372.6
F94-003-8-06500	65	2.15	7.89	1.58	11512.8
F94-003-8-07000	70	2.28	7.89	1.58	12767.4
F94-003-8-07500	75	2.40	7.89	1.77	15350.4
F94-003-8-08000	80	2.52	7.89	1.77	16309.8
F94-003-8-08500	85	2.64	7.89	1.77	17269.2
F94-003-8-09000	90	2.78	7.89	1.77	18450.0
F94-003-8-09500	95	2.89	7.89	1.97	18450.0
F94-003-8-10000	100	3.02	7.89	1.97	18450.0
F94-003-8-10500	105	3.11	7.89	2.17	18450.0
F94-003-8-11000	110	3.28	7.89	2.17	18450.0
F94-003-8-11500	115	3.39	7.89	2.36	18450.0
F94-003-8-12000	120	3.50	7.89	2.36	18450.0
F94-003-8-12500	125	3.62	7.89	2.56	18450.0
F94-003-8-13000	130	3.76	7.89	2.56	18450.0
F94-003-8-13500	135	3.88	7.89	2.56	18450.0

Ringschlüssel/ Ring spanner K 200	SW/ AF	R	A	B	Mt max
Code Nr./Code no	inch	inch	inch	inch	lbf ft
F94-003-8-03200	1.1/4	1.39	7.89	0.79	3099.6
F94-003-8-03500	1.3/8	1.48	7.89	0.98	3690.0
F94-003-8-03801	1.1/2	1.50	7.89	0.98	4280.4
F94-003-8-04102	1.5/8	1.58	7.89	0.98	4797.0
F94-003-8-04500	1.3/4	1.65	7.89	0.98	5018.4
F94-003-8-04800	1.7/8	1.73	7.89	1.18	5904.0
F94-003-8-05100	2	1.81	7.89	1.18	6642.0
F94-003-8-05700	2.1/4	1.95	7.89	1.38	8487.0
F94-003-8-06400	2.1/2	2.11	7.89	1.58	10701.0
F94-003-8-06700	2.5/8	2.19	7.89	1.58	12177.0
F94-003-8-07600	3	2.44	7.89	1.77	15867.0
F94-003-8-08900	3.1/2	2.78	7.89	1.77	18450.0
F94-003-8-09502	3.3/4	2.89	7.89	1.97	18450.0
F94-003-8-10503	4.1/8	3.13	7.89	2.17	18450.0
F94-003-8-10800	4.1/4	3.23	7.89	2.17	18450.0
F94-003-8-11400	4.1/2	3.39	7.89	2.36	18450.0

Ratschenkopf/  
Ratchet head

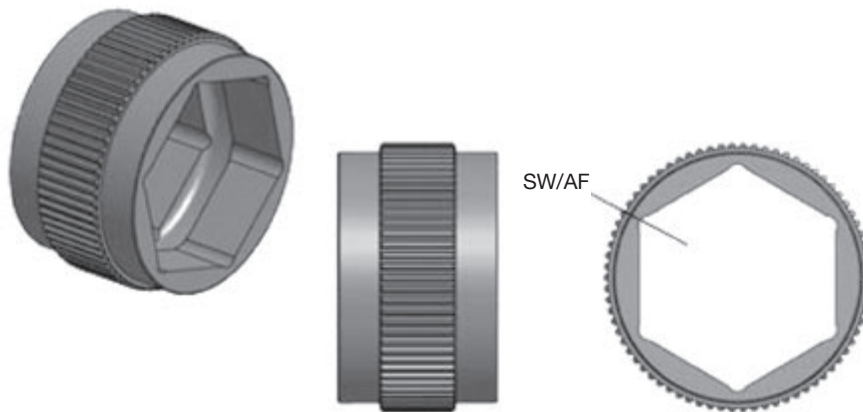
RKW K 30 / K 60	Code Nr./ Code no	max. SW/ max. AF mm	max. SW/ max. AF inch	R	A	B	C	D	Mt max
						inch			lbf ft
RKW 341	G07-003-0-00401	41	1.5/8	1.38	2.31	2.17	1.38	2.95	1845.0
RKW 355	G07-003-0-00501	55	2.3/16	1.67	2.31	2.17	1.38	2.95	3099.6
RKW 370	G07-003-0-00601	70	2.3/4	2.21	2.31	2.17	1.38	3.23	4870.8
RKW 385	G07-003-0-02301	85	3.1/4	2.68	2.31	2.17	1.38	3.78	4870.8

RKW K 150	Code Nr./ Code no	max. SW/ max. AF mm	max. SW/ max. AF inch	R	A	B	C	D	Mt max
						inch			lbf ft
RKW 1041	G07-011-0-00401	41	1.5/8	1.38	2.97	2.17	1.58	3.82	1845.0
RKW 1055	G07-011-0-00501	55	2.3/16	1.67	2.97	2.17	1.58	3.82	3099.6
RKW 1070	G07-011-0-00301	70	2.3/4	2.21	2.97	2.17	1.58	3.82	6236.1
RKW 1085	G07-011-0-00601	85	3.1/4	2.68	2.97	2.17	1.58	3.94	8118.0
RKW 1100	G07-011-0-00701	100	3.7/8	3.05	2.97	2.17	1.58	4.13	8118.0

Zwischengrößen auf Anfrage/ Intermediate sizes on request

RKW K 200	Code Nr./ Code no	max. SW/ max. AF mm	max. SW/ max. AF inch	R	A	B inch	C	D	Mt max lbf ft
RKW 18090	G07-018-0-01301	90	3	2.87	3.67	2.36	1.97	5.19	11070
RKW 18105	G07-018-0-01401	105	4	3.19	3.67	2.36	1.97	5.19	12546
RKW 18120	G07-018-0-01501	120	4.5/8	3.58	3.67	2.36	1.97	5.19	14760

**Wechseleinsätze/  
Changeable inserts**



RKW 341	max. SW/ max. AF mm	Code Nr./ Code no
W 341 H 24 M	24	F07-010-3-25201
W 341 H 27 M	27	F07-010-3-50601
W 341 H 30 M	30	F07-010-3-25301
W 341 H 32 M	32	F07-010-3-03901
W 341 H 35 M	35	F07-010-3-43801
W 341 H 36 M	36	F07-010-3-00101
W 341 H 39 M	39	F07-010-3-51101
W 341 H 40 M	40	F07-011-3-16301
W 341 H 41 M	41	F07-010-3-00201
W 341 H 42 M	42	F07-010-3-19601

RKW 341	max. SW/ max. AF inch	Code Nr./ Code no
W 341 H 063	5/8	F07-010-3-56201
W 341 H 081	13/16	F07-010-3-35301
W 341 H 075	3/4	F07-010-3-35201
W 341 H 088	7/8	F07-010-3-35401
W 341 H 094	15/16	F07-010-3-35501
W 341 H 113	1.1/8	F07-010-3-48801
W 341 H 181	1.3/16	F07-010-3-43901
W 341 H 125	1.1/4	F07-010-3-23401
W 341 H 131	1.5/16	F07-010-3-00401
W 341 H 144	1.7/16	F07-010-3-00301
W 341 H 150	1.1/2	F07-010-3-23501
W 341 H 156	1.9/16	F07-010-3-29901
W 341 H 163	1.5/8	F07-010-3-30001



## Wechseleinsätze/Changeable inserts

RKW 355	max. SW/ max. AF mm	Code Nr./ Code no
W 355 H 27 M	27	F07-010-3-41801
W 355 H 30 M	30	F07-010-3-24201
W 355 H 32 M	32	F07-010-3-15601
W 355 H 35 M	35	F07-011-3-13201
W 355 H 36 M	36	F07-010-3-15701
W 355 H 38 M	38	F07-010-3-57001
W 355 H 41 M	41	F07-010-3-15801
W 355 H 42 M	42	F07-011-3-16401
W 355 H 46 M	46	F07-010-3-00501
W 355 H 47 M	47	F07-010-3-47601
W 355 H 48 M	48	F07-010-3-59301
W 355 H 50 M	50	F07-010-3-01501
W 355 H 51 M	51	F07-010-3-11501
W 355 H 52 M	52	F07-010-3-58201
W 355 H 54 M	54	F07-010-3-33401
W 355 H 55 M	55	F07-010-3-00601
W 355 H 56 M	56	F07-010-3-50701

RKW 355	max. SW/ max. AF inch	Code Nr./ Code no
W 355 H 125	1.1/4	F07-010-3-52301
W 355 H 131	1.5/16	F07-010-3-41701
W 355 H 138	1.3/8	F07-011-3-18201
W 355 H 144	1.7/16	F07-010-3-52401
W 355 H 150	1.1/2	F07-010-3-53001
W 355 H 163	1.5/8	F07-010-3-52501
W 355 H 169	1.11/16	F07-010-3-00901
W 355 H 175	1.3/4	F07-010-3-30101
W 355 H 181	1.13/16	F07-010-3-28901
W 355 H 188	1.7/8	F07-010-3-30201
W 355 H 194	1.15/16	F07-010-3-30301
W 355 H 200	2	F07-010-3-28801
W 355 H 206	2.1/16	F07-010-3-01001
W 355 H 213	2.1/8	F07-010-3-19901
W 355 H 219	2.3/16	F07-010-3-00801
W 355 H 225	2.1/4	F07-010-3-20001

RKW 370	max. SW/ max. AF mm	Code Nr./ Code no
W 370 H 24 M	24	F07-010-3-58101
W 370 H 32 M	32	F07-010-3-58001
W 370 H 36 M	36	F07-010-3-48001
W 370 H 41 M	41	F07-010-3-43201
W 370 H 46 M	46	F07-010-3-43301
W 370 H 50 M	50	F07-010-3-43401
W 370 H 54 M	54	F07-010-3-49701
W 370 H 55 M	55	F07-010-3-43501
W 370 H 56 M	56	F07-010-3-48101
W 370 H 58 M	58	F07-010-3-46601
W 370 H 60 M	60	F07-010-3-25401
W 370 H 61 M	61	F07-010-3-58301
W 370 H 62 M	62	F07-010-3-50001
W 370 H 63 M	63	F07-010-3-48201
W 370 H 65 M	65	F07-010-3-25501
W 370 H 67 M	67	F07-010-3-26901
W 370 H 70 M	70	F07-010-3-25601

RKW 370	max. SW/ max. AF inch	Code Nr./ Code no
W 370 H 175	1.3/4	F07-010-3-48501
W 370 H 200	2	F07-010-3-48601
W 370 H 213	2.1/8	F07-010-3-48701
W 370 H 219	2.3/16	F07-010-3-56701
W 370 H 225	2.1/4	F07-010-3-44001
W 370 H 231	2.5/16	F07-010-3-44101
W 370 H 238	2.3/8	F07-010-3-44201
W 370 H 244	2.7/16	F07-010-3-58401
W 370 H 250	2.1/2	F07-010-3-44401
W 370 H 256	2.9/16	F07-010-3-44501
W 370 H 263	2.5/8	F07-010-3-44601
W 370 H 269	2.11/16	F07-010-3-56301
W 370 H 275	2.3/4	F07-010-3-44701

**Wechseleinsätze/Changeable inserts**

RKW 375	max. SW/ max. AF mm	Code Nr./ Code no
W 375 H 41 M	41	F07-006-3-18201
W 375 H 46 M	46	F07-006-3-18101
W 375 H 50 M	50	F07-006-3-23901
W 375 H 54 M	54	F07-006-3-21601
W 375 H 55 M	55	F07-006-3-18001
W 375 H 58 M	58	F07-006-3-17901
W 375 H 60 M	60	F07-006-3-12301
W 375 H 63 M	63	F07-006-3-17801
W 375 H 65 M	65	F07-006-3-12401
W 375 H 67 M	67	F07-006-3-17701
W 375 H 70 M	70	F07-006-3-12501
W 375 H 71 M	71	F07-006-3-17601
W 375 H 73 M	73	F07-006-3-57401
W 375 H 75 M	75	F07-006-3-12601

RKW 375	max. SW/ max. AF inch	Code Nr./ Code no
W 375 H 188	1.7/8	F07-006-3-22401
W 375 H 269	2.11/16	F07-010-3-45501

RKW 385	max. SW/ max. AF mm	Code Nr./ Code no
W 385 H 36 M	36	F07-010-3-56501
W 385 H 41 M	41	F07-010-3-56601
W 385 H 46 M	46	F07-010-3-53201
W 385 H 50 M	50	F07-011-3-50801
W 385 H 55 M	55	F07-010-3-42801
W 385 H 58 M	58	F07-010-3-50401
W 385 H 60 M	60	F07-011-3-06901
W 385 H 65 M	65	F07-010-3-47201
W 385 H 67 M	67	F07-010-3-50501
W 385 H 70 M	70	F07-010-3-42701
W 385 H 71 M	71	F07-011-3-08801
W 385 H 73 M	73	F07-010-3-57301
W 385 H 75 M	75	F07-010-3-25701
W 385 H 76 M	76	F07-010-3-58601
W 385 H 77 M	77	F07-011-3-07201
W 385 H 78 M	78	F07-010-3-50901
W 385 H 80 M	80	F07-010-3-25801
W 385 H 85 M	85	F07-010-3-25901

RKW 385	max. SW/ max. AF inch	Code Nr./ Code no
W 385 H 169	1.11/16	F07-011-3-05101
W 385 H 188	1.7/8	F07-011-3-05001
W 385 H 231	2.5/16	F07-010-3-44901
W 385 H 238	2.3/8	F07-010-3-57801
W 385 H 275	2.3/4	F07-010-3-58501
W 385 H 281	2.13/16	F07-010-3-57901
W 385 H 288	2.7/8	F07-010-3-44801
W 385 H 294	2.15/16	F07-010-3-52701
W 385 H 300	3	F07-010-3-45001
W 385 H 306	3.1/16	F07-010-3-51201
W 385 H 316	3.1/8	F07-010-3-45101
W 385 H 319	3.3/16	F07-010-3-45201
W 385 H 325	3.1/4	F07-010-3-45301
W 385 H 331	3.5/16	F07-010-3-45401
W 385 H 338	3.3/8	F07-010-3-45501

## Wechseleinsätze/Changeable inserts

RKW 1041	max. SW/ max. AF mm	Code Nr./ Code no
W 1041 H 24 M	24	F07-010-3-25201
W 1041 H 27 M	27	F07-010-3-50601
W 1041 H 30 M	30	F07-010-3-25301
W 1041 H 32 M	32	F07-010-3-03901
W 1041 H 35 M	35	F07-010-3-43801
W 1041 H 36 M	36	F07-010-3-00101
W 1041 H 39 M	39	F07-010-3-51101
W 1041 H 40 M	40	F07-011-3-16301
W 1041 H 41 M	41	F07-010-3-00201
W 1041 H 42 M	42	F07-010-3-19601

RKW 1041	max. SW/ max. AF inch	Code Nr./ Code no
W 1041 H 063	5/8	F07-010-3-56201
W 1041 H 081	13/16	F07-010-3-35301
W 1041 H 075	3/4	F07-010-3-35201
W 1041 H 088	7/8	F07-010-3-35401
W 1041 H 094	15/16	F07-010-3-35501
W 1041 H 113	1.1/8	F07-010-3-48801
W 1041 H 181	1.3/16	F07-010-3-43901
W 1041 H 125	1.1/4	F07-010-3-23401
W 1041 H 131	1.5/16	F07-010-3-00401
W 1041 H 144	1.7/16	F07-010-3-00301
W 1041 H 150	1.1/2	F07-010-3-23501
W 1041 H 156	1.9/16	F07-010-3-29901
W 1041 H 163	1.5/8	F07-010-3-30001

RKW 1055	max. SW/ max. AF mm	Code Nr./ Code no
W 1055 H 27 M	27	F07-010-3-41801
W 1055 H 30 M	30	F07-010-3-24201
W 1055 H 32 M	32	F07-010-3-15601
W 1055 H 35 M	35	F07-011-3-13201
W 1055 H 36 M	36	F07-010-3-15701
W 1055 H 38 M	38	F07-010-3-57001
W 1055 H 41 M	41	F07-010-3-15801
W 1055 H 42 M	42	F07-011-3-16401
W 1055 H 46 M	46	F07-010-3-00501
W 1055 H 47 M	47	F07-010-3-47601
W 1055 H 48 M	48	F07-010-3-59301
W 1055 H 50 M	50	F07-010-3-01501
W 1055 H 51 M	51	F07-010-3-11501
W 1055 H 52 M	52	F07-010-3-58201
W 1055 H 54 M	54	F07-010-3-33401
W 1055 H 55 M	55	F07-010-3-00601
W 1055 H 56 M	56	F07-010-3-50701

RKW 1055	max. SW/ max. AF inch	Code Nr./ Code no
W 1055 H 125	1.1/4	F07-010-3-52301
W 1055 H 131	1.5/16	F07-010-3-41701
W 1055 H 138	1.3/8	F07-011-3-18201
W 1055 H 144	1.7/16	F07-010-3-52401
W 1055 H 150	1.1/2	F07-010-3-53001
W 1055 H 163	1.5/8	F07-010-3-52501
W 1055 H 169	1.11/16	F07-010-3-00901
W 1055 H 175	1.3/4	F07-010-3-30101
W 1055 H 181	1.13/16	F07-010-3-28901
W 1055 H 188	1.7/8	F07-010-3-30201
W 1055 H 194	1.15/16	F07-010-3-30301
W 1055 H 200	2	F07-010-3-28801
W 1055 H 206	2.1/16	F07-010-3-01001
W 1055 H 213	2.1/8	F07-010-3-19901
W 1055 H 219	2.3/16	F07-010-3-00801
W 1055 H 225	2.1/4	F07-010-3-20001



**Wechseleinsätze/Changeable inserts**

RKW 1070	max. SW/ max. AF mm	Code Nr./ Code no
W 1070 H 24 M	24	F07-010-3-58101
W 1070 H 32 M	32	F07-010-3-58001
W 1070 H 36 M	36	F07-010-3-48001
W 1070 H 41 M	41	F07-010-3-43201
W 1070 H 46 M	46	F07-010-3-43301
W 1070 H 50 M	50	F07-010-3-43401
W 1070 H 54 M	54	F07-010-3-49701
W 1070 H 55 M	55	F07-010-3-43501
W 1070 H 56 M	56	F07-010-3-48101
W 1070 H 58 M	58	F07-010-3-46601
W 1070 H 60 M	60	F07-010-3-25401
W 1070 H 61 M	61	F07-010-3-58301
W 1070 H 62 M	62	F07-010-3-50001
W 1070 H 63 M	63	F07-010-3-48201
W 1070 H 65 M	65	F07-010-3-25501
W 1070 H 67 M	67	F07-010-3-26901
W 1070 H 70 M	70	F07-010-3-25601

RKW 1070	max. SW/ max. AF inch	Code Nr./ Code no
W 1070 H 175	1.3/4	F07-010-3-48501
W 1070 H 200	2	F07-010-3-48601
W 1070 H 213	2.1/8	F07-010-3-48701
W 1070 H 219	2.3/16	F07-010-3-56701
W 1070 H 225	2.1/4	F07-010-3-44001
W 1070 H 231	2.5/16	F07-010-3-44101
W 1070 H 238	2.3/8	F07-010-3-44201
W 1070 H 244	2.7/16	F07-010-3-58401
W 1070 H 250	2.1/2	F07-010-3-44401
W 1070 H 256	2.9/16	F07-010-3-44501
W 1070 H 263	2.5/8	F07-010-3-44601
W 1070 H 269	2.11/16	F07-010-3-56301
W 1070 H 275	2.3/4	F07-010-3-44701

RKW 1075	max. SW/ max. AF mm	Code Nr./ Code no
W 1075 H 41 M	41	F07-006-3-18201
W 1075 H 46 M	46	F07-006-3-18101
W 1075 H 50 M	50	F07-006-3-23901
W 1075 H 54 M	54	F07-006-3-21601
W 1075 H 55 M	55	F07-006-3-18001
W 1075 H 58 M	58	F07-006-3-17901
W 1075 H 60 M	60	F07-006-3-12301
W 1075 H 63 M	63	F07-006-3-17801
W 1075 H 65 M	65	F07-006-3-12401
W 1075 H 67 M	67	F07-006-3-17701
W 1075 H 70 M	70	F07-006-3-12501
W 1075 H 71 M	71	F07-006-3-17601
W 1075 H 73 M	73	F07-006-3-57401
W 1075 H 75 M	75	F07-006-3-12601

RKW 1075	max. SW/ max. AF inch	Code Nr./ Code no
W 1075 H 188	1.7/8	F07-006-3-22401
W 1075 H 269	2.11/16	F07-006-3-19301

## Wechseleinsätze/Changeable inserts

RKW 1085	max. SW/ max. AF mm	Code Nr./ Code no
W 1085 H 36 M	36	F07-010-3-56501
W 1085 H 41 M	41	F07-010-3-56601
W 1085 H 46 M	46	F07-010-3-53201
W 1085 H 50 M	50	F07-011-3-50801
W 1085 H 55 M	55	F07-010-3-42801
W 1085 H 58 M	58	F07-010-3-50401
W 1085 H 60 M	60	F07-011-3-06901
W 1085 H 65 M	65	F07-010-3-47201
W 1085 H 67 M	67	F07-010-3-50501
W 1085 H 70 M	70	F07-010-3-42701
W 1085 H 71 M	71	F07-011-3-08801
W 1085 H 73 M	73	F07-010-3-57301
W 1085 H 75 M	75	F07-010-3-25701
W 1085 H 76 M	76	F07-010-3-58601
W 1085 H 77 M	77	F07-011-3-07201
W 1085 H 78 M	78	F07-010-3-50901
W 1085 H 80 M	80	F07-010-3-25801
W 1085 H 85 M	85	F07-010-3-25901

RKW 1085	max. SW/ max. AF inch	Code Nr./ Code no
W 1085 H 169	1.11/16	F07-011-3-05101
W 1085 H 188	1.7/8	F07-011-3-05001
W 1085 H 231	2.5/16	F07-010-3-44901
W 1085 H 238	2.3/8	F07-010-3-57801
W 1085 H 275	2.3/4	F07-010-3-58501
W 1085 H 281	2.13/16	F07-010-3-57901
W 1085 H 288	2.7/8	F07-010-3-44801
W 1085 H 294	2.15/16	F07-010-3-52701
W 1085 H 300	3	F07-010-3-45001
W 1085 H 306	3.1/16	F07-010-3-51201
W 1085 H 316	3.1/8	F07-010-3-45101
W 1085 H 319	3.3/16	F07-010-3-45201
W 1085 H 325	3.1/4	F07-010-3-45301
W 1085 H 331	3.5/16	F07-010-3-45401
W 1085 H 338	3.3/8	F07-010-3-45501

RKW 1095	max. SW/ max. AF mm	Code Nr./ Code no
W 1095 H 60 M	60	F07-010-3-24601
W 1095 H 65 M	65	F07-010-3-22401
W 1095 H 70 M	70	F07-010-3-22501
W 1095 H 71 M	71	F07-010-3-59401
W 1095 H 75 M	75	F07-010-3-22001
W 1095 H 77 M	77	F07-010-3-15901
W 1095 H 80 M	80	F07-010-3-22101
W 1095 H 85 M	85	F07-010-3-10101
W 1095 H 88 M	88	F07-010-3-16001
W 1095 H 90 M	90	F07-010-3-02201
W 1095 H 95 M	95	F07-010-3-02301

RKW 1095	max. SW/ max. AF inch	Code Nr./ Code no
W 1095 H 313	3.1/8	F07-011-3-14701
W 1095 H 338	3.3/8	F07-010-3-31101
W 1095 H 344	3.7/16	F07-010-3-24301
W 1095 H 350	3.1/2	F07-010-3-31201
W 1095 H 356	3.9/16	F07-010-3-31301
W 1095 H 375	3.3/4	F07-010-3-31401

**Wechseleinsätze/Changeable inserts**

RKW 1100	max. SW/ max. AF mm	Code Nr./ Code no
W 1100 H 55 M	55	F07-010-3-47901
W 1100 H 60 M	60	F07-010-3-52801
W 1100 H 65 M	65	F07-010-3-51701
W 1100 H 70 M	70	F07-010-3-52901
W 1100 H 75 M	75	F07-010-3-43601
W 1100 H 80 M	80	F07-010-3-11601
W 1100 H 85 M	85	F07-010-3-43701
W 1100 H 90 M	90	F07-010-3-27301
W 1100 H 95 M	95	F07-010-3-32001
W 1100 H 98 M	98	F07-010-3-51001
W 1100 H 100 M	100	F07-010-3-11701

RKW 1100	max. SW/ max. AF inch	Code Nr./ Code no
W 1100 H 294	2.15/16	F07-010-3-57501
W 1100 H 313	3.1/8	F07-010-3-57601
W 1100 H 338	3.3/8	F07-010-3-51301
W 1100 H 344	3.7/16	F07-010-3-45601
W 1100 H 350	3.1/2	F07-010-3-45701
W 1100 H 356	3.9/16	F07-010-3-45801
W 1100 H 363	3.5/8	F07-010-3-45901
W 1100 H 369	3.11/16	F07-010-3-51401
W 1100 H 375	3.3/4	F07-010-3-46001
W 1100 H 381	3.13/16	F07-010-3-27401
W 1100 H 388	3.7/8	F07-010-3-51501
W 1100 H 394	3.15/16	F07-010-3-51601

RKW 18090	max. SW/ max. AF mm	Code Nr./ Code no
W 18090 H 75 M	75	F07-018-3-05601
W 18090 H 80 M	80	F07-018-3-05701
W 18090 H 85 M	85	F07-018-3-05801
W 18090 H 90 M	90	F07-018-3-05301

RKW 18090	max. SW/ max. AF inch	Code Nr./ Code no
W 18090 H 200	2	F07-018-3-09501
W 18090 H 238	2.3/8	F07-018-3-09901
W 18090 H 256	2.9/16	F07-018-3-09701
W 18090 H 275	2.3/4	F07-018-3-08901
W 18090 H 281	2.13/16	F07-018-3-09601
W 18090 H 294	2.15/16	F07-018-3-10901
W 18090 H 300	3	F07-018-3-22201
W 18090 H 313	3.1/8	F07-018-3-08301
W 18090 H 331	3.5/16	F07-018-3-08410
W 18090 H 338	3.3/8	F07-018-3-09001
W 18090 H 350	3.1/2	F07-018-3-08201



## Wechseleinsätze/Changeable inserts

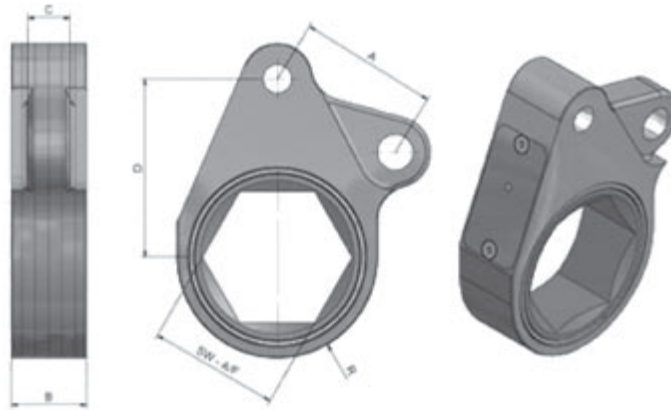
RKW 18105	max. SW/ max. AF mm	Code Nr./ Code no
W 18105 H 60 M	60	F07-018-3-07401
W 18105 H 65 M	65	F07-018-3-06901
W 18105 H 70 M	70	F07-018-3-07501
W 18105 H 75 M	75	F07-018-3-06801
W 18105 H 80 M	80	F07-018-3-07601
W 18105 H 85 M	85	F07-018-3-06701
W 18105 H 90 M	90	F07-018-3-04001
W 18105 H 95 M	95	F07-018-3-04101
W 18105 H 100 M	100	F07-018-3-04201
W 18105 H 105 M	105	F07-018-3-04301

RKW 18105	max. SW/ max. AF inch	Code Nr./ Code no
W 18105 H 350	3.1/2	F07-018-3-21101
W 18105 H 388	3.7/8	F07-018-3-09401
W 18108 H 413	4.1/8	F07-018-3-20601

RKW 18120	max. SW/ max. AF mm	Code Nr./ Code no
W 18120 H 75 M	75	F07-018-3-21301
W 18120 H 80 M	80	F07-018-3-21901
W 18120 H 85 M	85	F07-018-3-21401
W 18120 H 95 M	95	F07-018-3-20401
W 18120 H 100 M	100	F07-018-3-17701
W 18120 H 105 M	105	F07-018-3-08501
W 18120 H 110 M	110	F07-018-3-14401
W 18120 H 115 M	115	F07-018-3-14801
W 18120 H 117 M	117	F07-018-3-21201
W 18120 H 120 M	120	F07-018-3-14701

RKW 18120	max. SW/ max. AF inch	Code Nr./ Code no
W 18120 H 369	3.11/16	F07-018-3-07801
W 18120 H 375	3.3/4	F07-018-3-08601
W 18120 H 388	3.7/8	F07-018-3-07901
W 18120 H 400	4	F07-018-3-11001
W 18120 H 406	4.1/16	F07-018-3-11101
W 18120 H 413	4.1/8	F07-018-3-08701
W 18120 H 419	4.3/16	F07-018-3-11301
W 18120 H 425	4.1/4	F07-018-3-08001
W 18120 H 431	4.5/16	F07-018-3-11201
W 18120 H 438	4.3/8	F07-018-3-11401
W 18120 H 444	4.7/16	F07-018-3-11501
W 18120 H 450	4.1/2	F07-018-3-08801
W 18120 H 456	4.9/16	F07-018-3-11601
W 18120 H 463	4.5/8	F07-018-3-08101
W 18120 H 469	4.11/16	F07-018-3-11701
W 18120 H 475	4.3/4	F07-018-3-11801

**Ratschenkopf/  
Ratchet head**



RKF K 30 / K60	Code Nr./ Code no	max. SW/ max. AF	R	A	B	C	D	Mt max
		mm						lbf ft
RKF 324	G07-003-0-02201	24	0.83	2.31	1.26	0.71	2.95	664.2
RKF 327	G07-003-0-02101	27	0.9	2.31	1.26	0.71	2.95	738.0
RKF 332	G07-003-0-02001	32	1.02	2.31	1.26	0.71	2.95	885.6
RKF 336	G07-003-0-01901	36	1.18	2.31	1.26	0.71	2.95	1180.8
RKF 341	G07-003-0-01801	41	1.30	2.31	1.26	0.71	2.95	1402.2
RKF 346	G07-003-0-01701	46	1.41	2.31	1.26	0.71	2.95	1623.6
RKF 350	G07-003-0-01601	50	1.54	2.31	1.26	0.71	2.95	1697.4
RKF 355	G07-003-0-01501	55	1.65	2.31	1.26	0.71	2.95	1845.0
RKF 360	G07-003-0-01401	60	1.81	2.31	1.26	0.71	2.95	2398.5
RKF 365	G07-003-0-01301	65	1.93	2.31	1.26	0.71	2.95	2952.0
RKF 370	G07-003-0-01201	70	2.09	2.31	1.26	0.71	3.15	3690.0
RKF 375	G07-003-0-01101	75	2.21	2.31	1.26	0.71	3.50	4428.0
RKF 380	G07-003-0-01001	80	2.40	2.31	1.26	0.71	3.50	4870.8
RKF 385	G07-003-0-00901	85	2.56	2.31	1.26	0.71	3.70	4870.8
RKF 390	G07-003-0-00801	90	2.68	2.31	1.26	0.71	3.70	4870.8
RKF 395	G07-003-0-00701	95	2.80	2.31	1.26	0.71	3.90	4870.8

RKF K 30 / K60	Code Nr./ Code no	max. SW/ max. AF	R	A	B	C	D	Mt max
		inch						lbf ft
RKF 324	G07-003-0-02220	1.5/16	0.83	2.31	1.26	0.71	2.95	664.2
RKF 327	G07-003-0-02120	1.1/16	0.9	2.31	1.26	0.71	2.95	738.0
RKF 332	G07-003-0-02020	1.1/4	1.02	2.31	1.26	0.71	2.95	885.6
RKF 336	G07-003-0-01920	1.7/16	1.18	2.31	1.26	0.71	2.95	1180.8
RKF 341	G07-003-0-01820	1.5/8	1.30	2.31	1.26	0.71	2.95	1402.2
RKF 346	G07-003-0-01720	1.13/16	1.41	2.31	1.26	0.71	2.95	1623.6
RKF 350	G07-003-0-01620	2	1.54	2.31	1.26	0.71	2.95	1697.4
RKF 355	G07-003-0-01520	2.3/16	1.65	2.31	1.26	0.71	2.95	1845.0
RKF 360	G07-003-0-01420	2.3/8	1.81	2.31	1.26	0.71	2.95	2398.5
RKF 365	G07-003-0-01320	2.9/16	1.93	2.31	1.26	0.71	2.95	2952.0
RKF 370	G07-003-0-01220	2.3/4	2.09	2.31	1.26	0.71	3.15	3690.0
RKF 375	G07-003-0-01120	2.15/16	2.21	2.31	1.26	0.71	3.50	4428.0
RKF 380	G07-003-0-01020	3.1/8	2.40	2.31	1.26	0.71	3.50	4870.8
RKF 385	G07-003-0-00920	3.3/8	2.56	2.31	1.26	0.71	3.70	4870.8
RKF 390	G07-003-0-00820	3.1/2	2.68	2.31	1.26	0.71	3.70	4870.8
RKF 395	G07-003-0-00720	3.3/4	2.80	2.31	1.26	0.71	3.90	4870.8

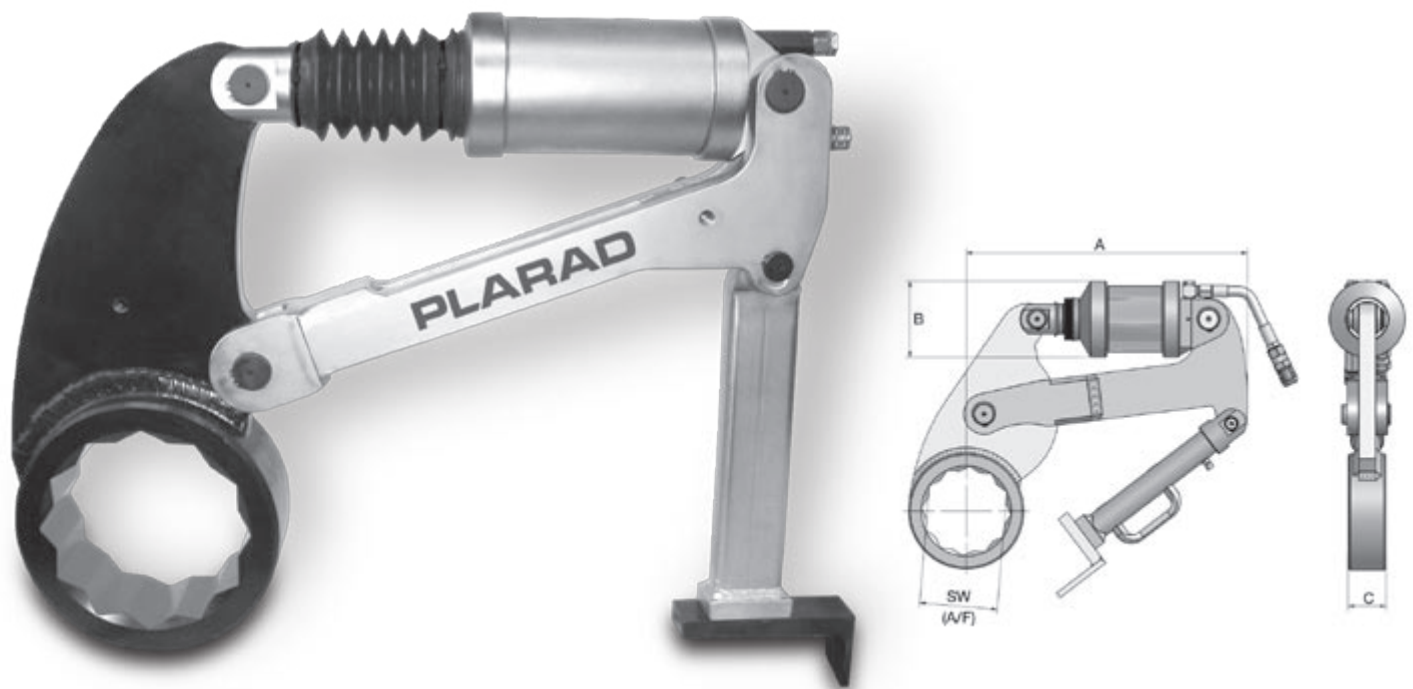
## Ratschenkopf/ Ratchet head

RKF K 150	Code Nr./ Code no	max. SW/ max. AF	R	A	B	C	D	Mt max
		mm						lbf ft
RKF 1036	G07-010-0-04220	36	1.18	2.97	1.26	0.87	3.82	1180.8
RKF 1041	G07-010-0-04120	41	1.30	2.97	1.26	0.87	3.82	1402.2
RKF 1046	G07-010-0-04020	46	1.42	2.97	1.26	0.87	3.82	1623.6
RKF 1050	G07-010-0-03920	50	1.54	2.97	1.26	0.87	3.82	1697.4
RKF 1055	G07-010-0-03820	55	1.65	2.97	1.26	0.87	3.82	1845.0
RKF 1060	G07-010-0-03720	60	1.81	2.97	1.26	0.87	3.82	2398.5
RKF 1065	G07-010-0-03620	65	1.93	2.97	1.26	0.87	3.82	2952.0
RKF 1070	G07-010-0-03520	70	2.09	2.97	1.26	0.87	3.82	3690.0
RKF 1075	G07-010-0-03420	75	2.21	2.97	1.26	0.87	3.82	4428.0
RKF 1080	G07-010-0-03320	80	2.40	2.97	1.26	0.87	3.82	5719.5
RKF 1085	G07-010-0-03320	85	2.56	2.97	1.26	0.87	4.02	6642.0
RKF 1090	G07-010-0-03320	90	2.68	2.97	1.26	0.87	4.02	7011.0
RKF 1095	G07-010-0-03320	95	2.80	2.97	1.26	0.87	4.02	7380.0
RKF 1100	G07-010-0-03320	100	2.95	2.97	1.26	0.87	4.41	8118.0

RKF K 150	Code Nr./ Code no	max. SW/ max. AF	R	A	B	C	D	Mt max
		inch						lbf ft
RKF 1036	G07-010-0-04220	1.7/16	1.18	2.97	1.26	0.87	3.82	1180.8
RKF 1041	G07-010-0-04120	1.5/8	1.30	2.97	1.26	0.87	3.82	1402.2
RKF 1046	G07-010-0-04020	1.13/16	1.42	2.97	1.26	0.87	3.82	1623.6
RKF 1050	G07-010-0-03920	2	1.54	2.97	1.26	0.87	3.82	1697.4
RKF 1055	G07-010-0-03820	2.3/16	1.65	2.97	1.26	0.87	3.82	1845.0
RKF 1060	G07-010-0-03720	2.3/8	1.81	2.97	1.26	0.87	3.82	2398.5
RKF 1065	G07-010-0-03620	2.9/16	1.93	2.97	1.26	0.87	3.82	2952.0
RKF 1070	G07-010-0-03520	2.3/4	2.09	2.97	1.26	0.87	3.82	3690.0
RKF 1075	G07-010-0-03420	2.15/16	2.21	2.97	1.26	0.87	3.82	4428.0
RKF 1080	G07-010-0-03320	3.1/8	2.40	2.97	1.26	0.87	3.82	5719.5
RKF 1085	G07-010-0-03320	3.3/8	2.56	2.97	1.26	0.87	4.02	6642.0
RKF 1090	G07-010-0-03320	3.1/2	2.68	2.97	1.26	0.87	4.02	7011.0
RKF 1095	G07-010-0-03320	3.3/4	2.80	2.97	1.26	0.87	4.02	7380.0
RKF 1100	G07-010-0-03320	3.7/8	2.95	2.97	1.26	0.87	4.41	8118.0

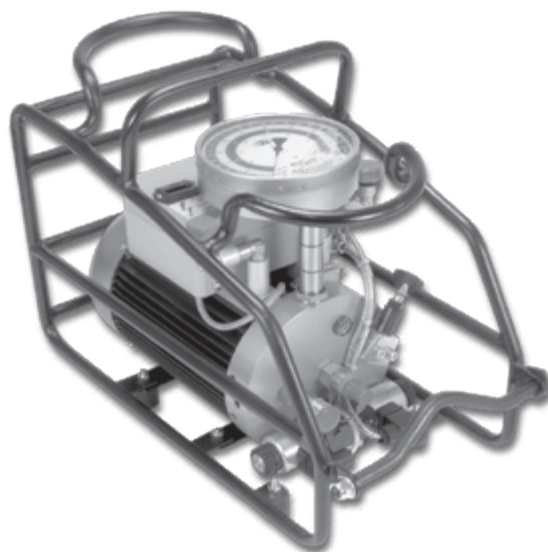


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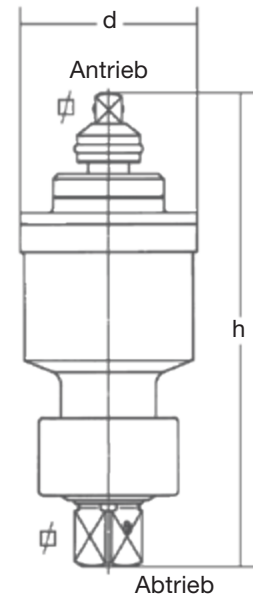
Antriebs- einheit/ Drive units	Drehmoment- bereich/ Torque range	SW max.	A/F max.	A	B	C	Gewicht lbs/Weight
RE 500	3690 - 36900 lbf ft	185 mm	7 1/4	21.65 in	5.20 in	21.65 in	74.8 lbs
RE 1000	7380 - 73800 lbf ft	230 mm	9 1/8	23.62 in	7.09 in	23.62 in	99.0 lbs
RE 1500	11070 - 110700 lbf ft	320 mm	12	32.48 in	12.60 in	22.05 in	167.2 lbs

# CTK 3.5 EFS



Antrieb/ drive	Betriebsart/ mode of operation	Fördervolumen/ flow rate	Druck/ pressure	Gewicht Weight
elektrisch electrical	manuell manual	3.5 l/min konstant 213.6 cu. in./min constant	bis zu 350 bar up to 5075 psi	30 kg 66 lbs

# XVR/XVK



## Kraftvervielfältiger Multiplier

Typ/ Type	Code Nr./ Code no	Höhe/ height h	Durchmesser/ Diameter d	Leistungs- bereich/ Performance Range	Antrieb/ Input ■	Abtrieb/ Output ■	Übersetzungs- verhältnis/ gear ratio
XVK 15	G01-017-0-00203	172 mm 6.77 inch	81 mm 3.19 inch	220 - 1700 Nm 162 - 1254 lbf ft	¾	1	1:4.5

## Kraftvervielfältiger mit Rückdrehsicherung Multiplier with reverse stop mechanism

Typ/ Type	Code Nr./ Code no	Höhe/ height h	Durchmesser/ Diameter d	Leistungs- bereich/ Performance Range	Antrieb/ Input ■	Abtrieb/ Output ■	Übersetzungs- verhältnis/ gear ratio
XVR 25	G01-023-0-00102	302 mm 11.89 inch	81 mm 3.19 inch	440 - 2300 Nm 325 - 1696 lbf ft	¾	1	1:12
XVR 35	G01-036-0-00103	273 mm 10.75 inch	81 mm 3.19 inch	510 - 3600 Nm 376 - 2655 lbf ft	¾	1	1:15
XVR 40	G01-040-0-00102	238 mm 9.37 inch	95 mm 3.74 inch	560 - 4000 Nm 413 - 2950 lbf ft	¾	1 ½	1:15
XVR 65	G01-062-0-00103	244 mm 9.60 inch	114 mm 4.49 inch	820 - 6200 Nm 605 - 4573 lbf ft	¾	1 ½	1:21
XVR 70	G01-068-0-00102	302 mm 11.89 inch	128 mm 5.04 inch	980 - 6800 Nm 723 - 5018 lbf ft	¾	1 ½	1:22
XVR 90	G01-086-0-00102	300 mm 11.81 inch	172 mm 6.77 inch	1780 - 8600 Nm 1313 - 6343 lbf ft	¾	1 ½	1:40
XVR D45	G01-101-0-00102	310 mm 12.2 inch	128 mm 5.04 inch	1000 - 10100 Nm 738 - 7453 lbf ft	¾	1 ½	1:22 (2 Stufen) 1:45 (2 stages)

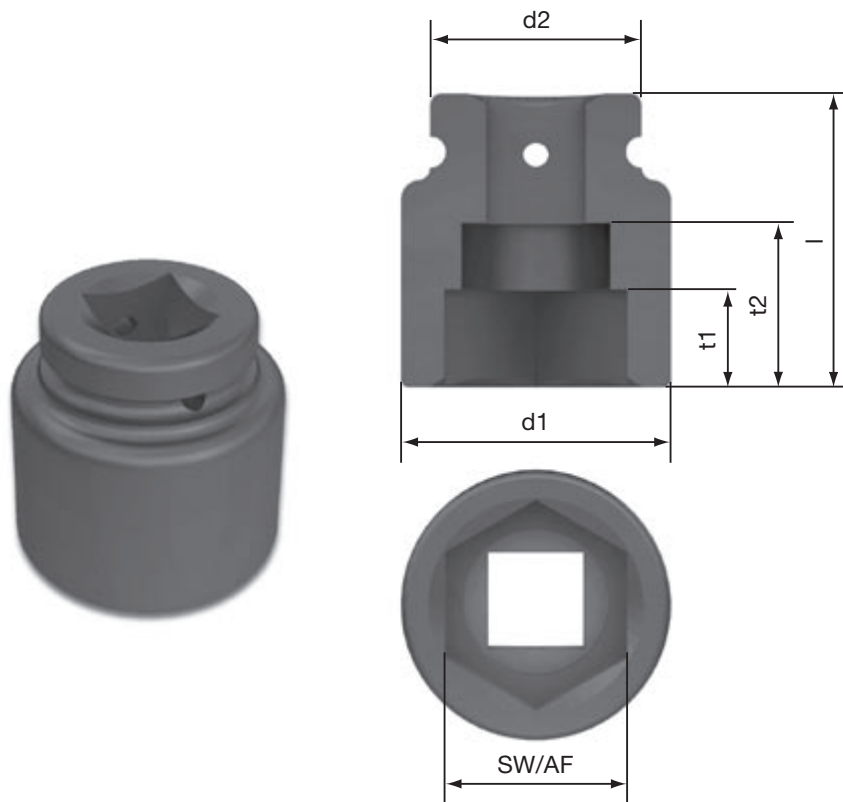
## Kompatible Drehmomentschlüssel



PH 36 Z (60 - 360 Nm)  
PH 50 Z (200 - 500 Nm)  
PH 76 Z (300 - 800 Nm)

# Norm-Sechskant-Nüsse

## Standard hexagonal sockets



### Norm-Sechskant-Nüsse mit 3/4 " Antriebsvierkant

#### Standard hexagonal sockets with 3/4 " square drive

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-019-9-02200	22	1.38	1.73	1.97	0.47	0.95	0.84
F97-019-9-02400	24	1.54	1.73	1.97	0.55	0.95	0.86
F97-019-9-02700	27	1.65	1.73	2.13	0.63	1.14	0.90
F97-019-9-03000	30	1.81	1.73	2.13	0.67	1.14	0.95
F97-019-9-03200	32	1.93	1.73	2.21	0.75	1.18	1.06
F97-019-9-03600	36	2.13	1.73	2.21	0.79	1.18	1.21
F97-019-9-04100	41	2.40	1.73	2.48	0.91	1.34	1.50
F97-019-9-04600	46	2.64	1.73	2.48	0.98	1.34	1.87

### Drahtfedersicherung für Nüsse mit 3/4 " Antriebsvierkant

#### Retaining clips for sockets with 3/4 " square drive

Code Nr./Code no

K00-002-4-50901



## Norm-Sechskant-Nüsse mit 1 " Antriebsvierkant

### *Standard hexagonal sockets with 1 " square drive*

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-025-9-02204	22	1.46	2.13	2.32	0.47	1.06	1.45
F97-025-9-02400	24	1.50	2.13	2.32	0.55	1.06	1.36
F97-025-9-02701	27	1.73	2.13	2.31	0.63	1.06	1.43
F97-025-9-03000	30	1.97	2.13	2.40	0.70	1.14	1.54
F97-025-9-03201	32	2.05	2.13	2.40	0.75	1.14	1.50
F97-025-9-03600	36	2.24	2.13	2.56	0.79	1.30	1.24
F97-025-9-04101	41	2.48	2.13	2.76	0.91	1.50	2.09
F97-025-9-04600	46	2.72	2.13	2.95	0.98	1.65	2.46
F97-025-9-05000	50	2.95	2.13	3.15	1.10	1.89	2.99
F97-025-9-05500	55	3.19	2.44	3.27	1.18	1.97	3.83
F97-025-9-06000	60	3.43	2.44	3.27	1.30	2.05	4.18
F97-025-9-06500	65	3.70	2.44	3.39	1.38	2.13	4.97
F97-025-9-07000	70	3.94	2.44	3.39	1.50	2.13	5.37
F97-025-9-07500	75	4.21	2.99	3.39	1.50	2.13	6.64

## Drahtfedersicherung für Nüsse mit 1 " Antriebsvierkant

### *Retaining clips for sockets with 1 " square drive*

Code Nr./Code no

K00-002-4-51001

## Norm-Sechskant-Nüsse mit 1½ " Antriebsvierkant

### *Standard hexagonal sockets with 1½ " square drive*

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-038-9-03600	36	2.48	3.31	3.31	0.83	1.42	5.06
F97-038-9-04100	41	2.76	3.31	3.31	0.91	1.42	5.28
F97-038-9-04600	46	2.99	3.31	3.43	0.98	1.58	5.28
F97-038-9-05000	50	3.18	3.31	3.54	1.10	1.69	5.28
F97-038-9-05500	55	3.39	3.39	3.54	1.18	1.85	5.94
F97-038-9-06000	60	3.70	3.39	3.74	1.38	2.01	6.82
F97-038-9-06500	65	3.90	3.39	3.94	1.38	2.21	7.70
F97-038-9-07000	70	4.13	3.39	4.13	1.58	2.40	8.80
F97-038-9-07500	75	4.41	3.39	4.33	1.65	2.60	10.12
F97-038-9-08000	80	4.69	3.39	4.33	1.65	2.60	11.66
F97-038-9-08500	85	4.92	3.39	4.72	1.97	2.95	14.08
F97-038-9-09000	90	5.16	3.39	4.72	1.97	2.95	14.74

## Drahtfedersicherung für Nüsse mit 1½ " Antriebsvierkant

### *Retaining clips for sockets with 1½ " square drive*

Code Nr./Code no

K00-002-4-51101

### Norm-Sechskant-Nüsse mit 2½ " Antriebsvierkant Standard hexagonal sockets with 2½ " square drive

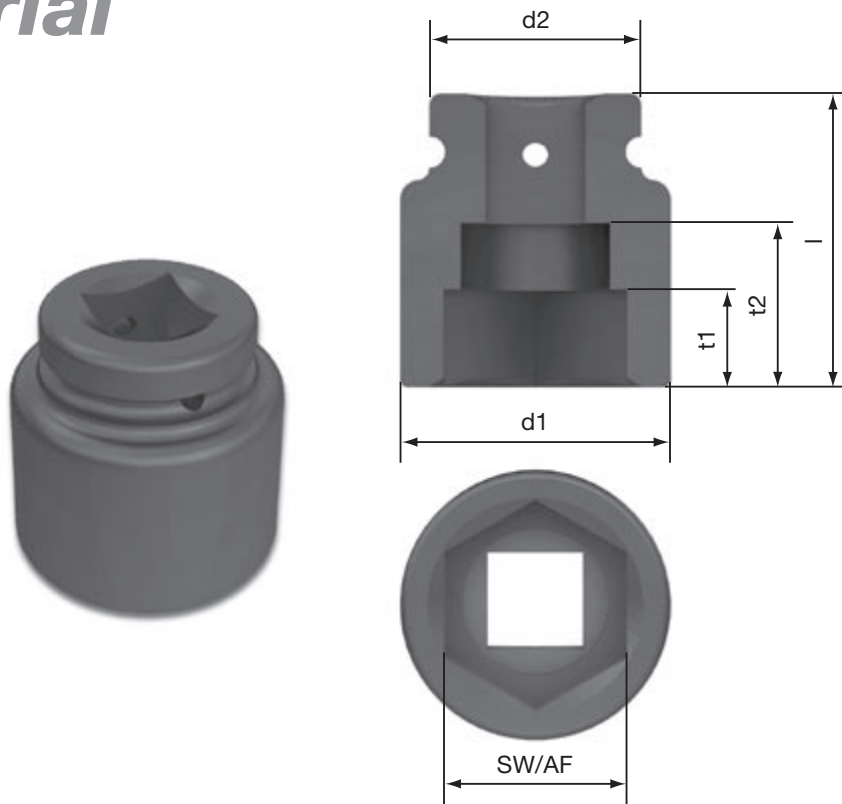
Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-064-9-08006	80	4.96	5.39	5.19	1.77	2.68	20.46
F97-064-9-08506	85	5.24	5.39	5.19	1.97	2.68	20.46
F97-064-9-09000	90	5.63	5.39	5.51	1.97	3.07	23.10
F97-064-9-09506	95	5.83	5.39	5.51	2.17	3.07	23.76
F97-064-9-10000	100	6.02	5.39	5.51	2.17	3.07	24.42
F97-064-9-10505	105	6.22	5.39	5.91	2.36	3.47	26.62
F97-064-9-11005	110	6.54	5.39	5.91	2.56	3.47	28.60
F97-064-9-11505	115	6.85	5.39	5.91	2.56	3.47	30.58
F97-064-9-12005	120	7.13	6.30	5.91	2.76	3.47	37.18
F97-064-9-12506	125	7.36	6.30	5.91	2.95	3.47	38.50
F97-064-9-13000	130	7.68	6.30	6.69	2.95	4.17	47.30
F97-064-9-13500	135	7.96	6.30	6.69	3.15	4.17	49.50
F97-064-9-14005	140	8.19	6.30	6.69	3.15	4.17	50.60
F97-064-9-14505	145	8.43	6.30	6.69	3.15	4.17	52.80
F97-064-9-15005	150	8.62	6.30	6.69	3.35	4.17	53.90
F97-064-9-15506	155	8.82	6.30	7.09	3.54	4.53	63.80

### Norm-Sechskant-Nüsse mit 3½ " Antriebsvierkant Standard hexagonal sockets with 3½ " square drive

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-089-9-12003	120	7.84	7.68	8.07	2.95	4.65	72.60
F97-089-9-12505	125	8.03	7.68	8.07	2.95	4.65	74.80
F97-089-9-13000	130	8.23	7.68	8.07	2.95	4.65	77.00
F97-089-9-13500	135	8.47	7.68	8.07	3.15	4.65	79.20
F97-089-9-14000	140	8.82	7.68	8.07	3.15	4.65	81.40
F97-089-9-14500	145	8.94	7.68	8.07	3.15	4.65	83.60
F97-089-9-15000	150	9.17	7.68	8.07	3.35	4.65	85.80
F97-089-9-15500	155	9.41	7.68	8.07	3.35	4.65	88.00
F97-089-9-16000	160	9.65	7.68	9.06	3.54	5.59	94.60
F97-089-9-16500	165	9.88	7.68	9.06	3.74	5.59	105.60
F97-089-9-17000	170	10.12	7.68	9.06	3.74	5.59	107.80
F97-089-9-17500	175	10.35	7.68	9.06	3.94	5.59	110.00
F97-089-9-18000	180	10.63	9.06	9.84	4.72	6.38	151.80

# Norm-Sechskant-Nüsse, imperial

## *Standard hexagonal sockets, imperial*



### Norm-Sechskant-Nüsse mit 3/4 " Antriebsvierkant

#### *Standard hexagonal sockets with 3/4 " square drive*

Code Nr./ Code no	SW/AF (inch)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-019-9-01900	3/4	1.26	1.73	1.97	0.43	0.95	0.84
	13/16	1.38	1.73	1.97	0.47	0.95	0.88
	7/8	1.38	1.73	1.97	0.47	0.95	0.88
	15/16	1.54	1.73	1.97	0.55	0.95	0.88
	1	1.54	1.73	1.97	0.55	0.95	0.88
F97-019-9-02700	1 1/16	1.65	1.73	2.13	0.63	1.14	0.90
	1 1/8	1.73	1.73	2.13	0.67	1.14	0.92
F97-019-9-03000	1 3/16	1.81	1.73	2.13	0.67	1.14	0.95
	1 1/4	1.93	1.73	2.21	0.75	1.18	1.06
	1 5/16	2.01	1.73	2.21	0.75	1.18	1.14
F97-019-9-03509	1 3/8	2.09	1.73	2.21	0.79	1.18	1.14
	1 7/16	2.21	1.73	2.28	0.83	1.26	1.28
F97-019-9-03800	1 1/2	2.24	1.73	2.28	0.83	1.26	1.36
	1 5/8	2.40	1.73	2.48	0.91	1.34	1.50
F97-019-9-04300	1 11/16	2.52	1.73	2.48	0.95	1.34	1.72
	1 3/4	2.60	1.73	2.48	0.98	1.34	1.76
F97-019-9-4600	1 13/16	2.64	1.73	2.48	0.98	1.34	1.87
	1 7/8	2.72	1.73	2.76	1.02	1.50	2.09
	2	2.80	1.73	2.76	1.18	1.50	2.20



**Norm-Sechskant-Nüsse mit 1 " Antriebsvierkant**  
*Standard hexagonal sockets with 1 " square drive*

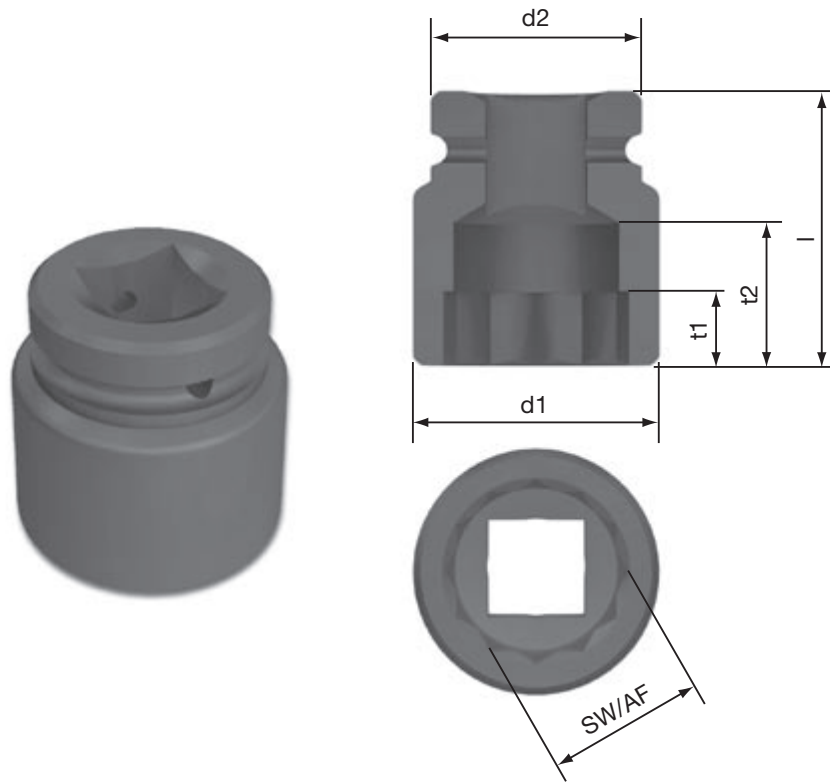
Code Nr./ Code no	SW/AF (inch)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
	15/16	1.50	2.13	2.32	0.55	1.06	1.36
	1	1.61	2.13	2.32	0.55	1.06	1.41
F97-025-9-02701	1 1/16	1.73	2.13	2.32	0.63	1.06	1.43
	1 1/8	1.85	2.13	2.40	0.63	1.14	1.50
F97-025-9-03000	1 3/16	1.97	2.13	2.40	0.70	1.14	1.54
	1 1/4	2.05	2.13	2.40	0.75	1.14	1.50
	1 5/16	2.13	2.13	2.40	0.75	1.14	1.52
	1 3/8	2.24	2.13	2.56	0.79	1.30	1.74
	1 7/16	2.28	2.13	2.56	0.83	1.30	1.69
F97-025-9-03800	1 1/2	2.32	2.13	2.56	0.83	1.30	1.80
	1 5/8	2.48	2.13	2.76	0.91	1.50	2.09
F97-025-9-04300	1 11/16	2.52	2.13	2.76	0.95	1.58	2.09
	1 3/4	2.64	2.13	2.76	0.95	1.58	2.24
F97-025-9-04600	1 13/16	2.72	2.13	2.95	0.98	1.65	2.46
	1 7/8	2.84	2.13	2.95	1.02	1.69	2.66
	2	2.99	2.13	3.15	1.18	1.89	3.08
	2 1/16	3.07	2.13	3.15	1.18	1.89	3.19
	2 1/4	3.35	2.44	3.27	1.18	2.05	4.14
	2 3/8	3.43	2.44	3.27	1.30	2.05	4.18
	2 7/16	3.58	2.44	3.39	1.38	2.09	4.40
F97-025-9-06500	2 9/16	3.70	2.44	3.39	1.38	2.13	4.97
	2 5/8	3.78	2.44	3.39	1.50	2.13	5.07
F97-025-9-07000	2 3/4	3.94	2.44	3.39	1.50	2.13	5.37

**Norm-Sechskant-Nüsse mit 1½ " Antriebsvierkant**  
*Standard hexagonal sockets with 1½ " square drive*

Code Nr./ Code no	SW/AF (inch)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-038-9-03511	1 3/8	2.40	3.31	3.15	0.79	1.42	4.62
F97-038-9-03811	1 1/2	2.56	3.31	3.31	0.83	1.42	5.06
	1 5/8	2.76	3.31	3.31	0.91	1.42	5.28
F97-038-9-04311	1 11/16	2.87	3.31	3.31	0.95	1.42	5.28
	1 3/4	2.95	3.31	3.39	0.98	1.58	5.28
F97-038-9-04600	1 13/16	2.99	3.31	3.39	0.98	1.58	5.28
	1 7/8	3.07	3.31	3.39	1.02	1.58	5.28
	2	3.23	3.31	3.54	1.18	1.70	5.28
	2 1/16	3.27	3.31	3.54	1.18	1.70	5.50
	2 3/16	3.43	3.39	3.74	1.18	2.01	6.38
	2 1/4	3.54	3.39	3.74	1.18	2.01	6.38
	2 3/8	3.70	3.39	3.74	1.38	2.01	6.82
	2 7/16	3.78	3.39	3.94	1.38	2.01	7.26
F97-038-9-06500	2 9/16	3.90	3.39	3.94	1.38	2.21	7.70
	2 5/8	4.02	3.39	4.13	1.58	2.40	8.36
F97-038-9-07000	2 3/4	4.13	3.39	4.13	1.58	2.40	8.80
	2 13/16	4.21	3.39	4.33	1.65	2.60	9.24
	3	4.57	3.39	4.33	1.65	2.60	10.78
	3 1/8	4.69	3.39	4.33	1.65	2.60	11.88
	3 3/8	4.92	3.39	4.72	1.97	2.95	13.64
	3 1/2	5.12	3.39	4.72	1.97	2.95	14.74
	3 3/4	5.55	4.02	5.19	2.17	3.27	19.14
	2 7/8	5.67	4.02	5.19	2.17	3.27	19.58

# Norm-Doppelsechskant-Nüsse

## *Double hexagonal sockets*



### Norm-Doppelsechskant-Nüsse mit $\frac{3}{4}$ " Antriebsvierkant

#### *Double hexagonal sockets with $\frac{3}{4}$ " square drive*

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-019-9-02401	24	1.54	1.73	1.97	0.55	0.95	0.86
F97-019-9-02704	27	1.65	1.73	2.13	0.63	1.14	0.90
F97-019-9-03004	30	1.81	1.73	2.13	0.67	1.14	0.95
F97-019-9-03201	32	1.93	1.73	2.21	0.75	1.18	1.06
F97-019-9-03604	36	2.13	1.73	2.21	0.79	1.18	1.21
F97-019-9-04104	41	2.40	1.73	2.48	0.91	1.34	1.50
F97-019-9-04604	46	2.67	1.73	2.48	0.98	1.34	1.87

## Norm-Doppelsechskant-Nüsse mit 1 " Antriebsvierkant *Double hexagonal sockets with 1 " square drive*

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-025-8-02210	22	1.46	2.13	2.32	0.47	1.06	1.45
F97-025-8-02410	24	1.50	2.13	2.32	0.55	1.06	1.36
F97-025-8-02710	27	1.73	2.13	2.32	0.63	1.06	1.43
F97-025-8-03010	30	1.97	2.13	2.40	0.67	1.14	1.54
F97-025-8-03200	32	2.05	2.13	2.40	0.75	1.14	1.50
F97-025-8-03610	36	2.24	2.13	2.56	0.79	1.30	1.67
F97-025-8-04110	41	2.48	2.13	2.76	0.91	1.50	2.09
F97-025-8-04600	46	2.72	2.13	2.95	0.98	1.65	2.46
F97-025-8-05010	50	2.95	2.13	3.15	1.10	1.89	2.99
F97-025-8-05510	55	3.19	2.44	3.27	1.18	1.97	3.89
F97-025-8-06010	60	3.39	2.44	3.27	1.38	2.05	4.18
F97-025-8-06510	65	3.70	2.44	3.39	1.38	2.13	4.97
F97-025-8-07010	70	3.94	2.44	3.39	1.50	2.13	5.39
F97-025-8-07501	75	4.21	2.99	3.39	1.50	2.13	6.64

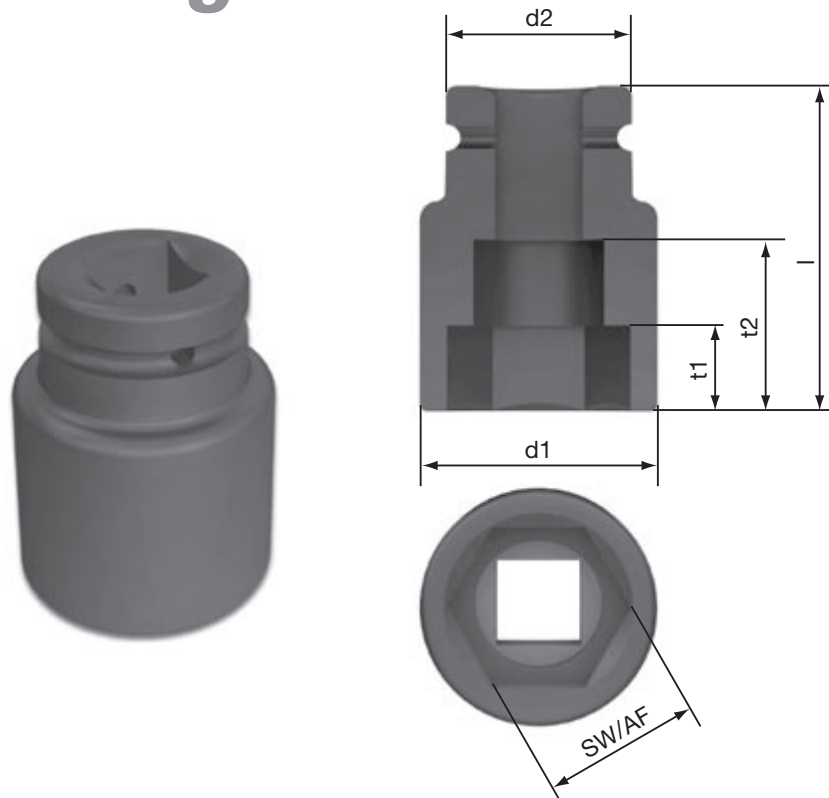
## Norm-Doppelsechskant-Nüsse mit 1½ " Antriebsvierkant *Double hexagonal sockets with 1½ " square drive*

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-038-8-04101	41	2.76	3.31	3.31	0.91	1.42	5.28
F97-038-8-04607	46	2.99	3.31	3.43	0.98	1.58	5.28
F97-038-8-05000	50	3.19	3.31	3.54	1.10	1.69	5.28
F97-038-8-05500	55	3.39	3.39	3.54	1.18	1.85	5.94
F97-038-8-06001	60	3.70	3.39	3.74	1.38	2.21	7.70
F97-038-8-06500	65	3.90	3.39	3.94	1.38	2.21	7.70
F97-038-8-07000	70	4.13	3.39	4.13	1.58	2.40	8.80
F97-038-8-07500	75	4.41	3.39	4.33	1.65	2.60	10.12
F97-038-8-08000	80	4.69	3.39	4.33	1.65	2.60	11.60
F97-038-8-08500	85	4.92	3.39	4.72	1.97	2.95	14.08
F97-038-8-09000	90	5.16	3.39	4.72	1.97	2.95	14.74



# Lang-Sechskant-Nüsse

## Long hexagonal sockets



### Lang-Sechskant-Nüsse mit 3/4 " Antriebsvierkant

#### Long hexagonal sockets with 3/4 " square drive

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-019-9-02201	22	1.42	1.73	3.94	0.47	2.91	1.54
F97-019-9-02401	24	1.58	1.73	3.94	0.55	2.91	1.58
F97-019-9-02701	27	1.69	1.73	3.94	0.63	2.91	1.65
F97-019-9-03001	30	1.81	1.73	3.94	0.67	2.91	1.83
F97-019-9-03201	32	1.93	1.73	3.94	0.75	2.91	1.96
F97-019-9-03601	36	2.13	1.73	3.94	0.79	2.91	2.29
F97-019-9-04101	41	2.40	1.73	3.94	0.98	2.84	3.30
F97-019-9-04601	46	2.64	1.73	3.94	0.98	2.84	3.30

### Lang-Sechskant-Nüsse mit 1 " Antriebsvierkant

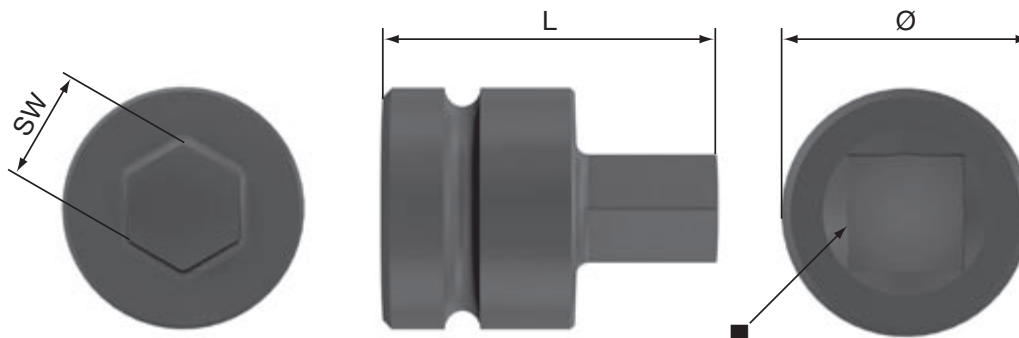
#### Long hexagonal sockets with 1 " square drive

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-025-9-02401	24	1.54	2.13	3.94	0.55	2.68	1.96
F97-025-9-02701	27	1.77	2.13	3.94	0.63	2.68	2.18
F97-025-9-03001	30	2.01	2.13	3.94	0.67	2.68	2.53
F97-025-9-03206	32	2.09	2.13	3.94	0.75	2.68	2.57
F97-025-9-03601	36	2.24	2.13	3.94	0.79	2.68	2.60
F97-025-9-04105	41	2.48	2.13	3.94	0.91	2.64	3.10
F97-025-9-04610	46	2.72	2.13	4.53	0.98	3.23	4.07
F97-025-9-05001	50	2.95	2.13	4.92	1.10	3.66	4.88
F97-025-9-05501	55	3.19	2.44	4.92	1.18	3.66	5.87
F97-025-9-06001	60	3.43	2.44	4.92	1.30	3.66	6.38
F97-025-9-06501	65	3.70	2.44	5.32	1.38	4.13	7.99
F97-025-9-07001	70	3.94	2.44	5.32	1.50	4.13	8.80
F97-025-9-07501	75	4.21	2.44	5.32	1.50	4.13	10.74

## Lang-Sechskant-Nüsse mit 1½ " Antriebsvierkant Long hexagonal sockets with 1½ " square drive

Code Nr./ Code no	SW/AF (mm)	d1 (inch)	d2 (inch)	l (inch)	t1 (inch)	t2 (inch)	Gewicht/weight (lbs)
F97-038-9-04101	41	2.76	3.31	5.91	1.06	4.17	8.14
F97-038-9-04601	46	3.03	3.31	5.91	1.14	4.17	8.58
F97-038-9-05001	50	3.19	3.31	5.91	1.26	4.17	8.58
F97-038-9-05501	55	3.39	3.39	5.91	1.38	4.17	9.02
F97-038-9-06001	60	3.70	3.39	5.91	1.54	4.17	10.34
F97-038-9-06501	65	3.90	3.39	5.91	1.61	4.17	10.78
F97-038-9-07001	70	4.13	3.39	6.70	1.77	4.96	14.08
F97-038-9-07501	75	4.41	3.39	6.70	1.85	4.96	15.18
F97-038-9-08001	80	4.69	3.39	6.70	2.01	4.96	16.72
F97-038-9-08501	85	4.92	3.39	7.09	2.13	5.32	20.68
F97-038-9-09001	90	5.16	3.39	7.09	2.28	5.32	22.00

## Außensechskant-Nüsse Hex cap sockets



■ Inch	Code-Nr. Code no.	SW / A/F mm	L inch	Ø inch
1/2"	F97-013-0-00802	8	2.16	1.18
1/2"	F97-013-0-01002	10	2.16	1.18
1/2"	F97-013-0-01402	14	2.16	1.18

■ Inch	Code-Nr. Code no.	SW / A/F mm	L inch	Ø inch
3/4"	F97-019-0-01400	14	2.44	1.73
3/4"	F97-019-0-01700	17	2.44	1.73
3/4"	F97-019-0-01900	19	2.44	1.73
3/4"	F97-019-0-02200	22	2.44	1.73
3/4"	F97-019-0-02400	24	2.44	1.73
3/4"	F97-019-0-02700	27	2.44	1.73

■ Inch	Code-Nr. Code no.	SW / A/F mm	L inch	Ø inch
1"	F97-025-0-01700	17	2.95	2.13
1"	F97-025-0-01900	19	2.95	2.13
1"	F97-025-0-02200	22	2.95	2.13
1"	F97-025-0-02400	24	2.95	2.13
1"	F97-025-0-02700	27	2.95	2.13
1"	F97-025-0-03000	30	2.95	2.13
1"	F97-025-0-03200	32	2.95	2.13
1"	F97-025-0-03600	36	2.95	2.13
1"	F97-025-0-04600	46	2.95	2.13

■ Inch	Code-Nr. Code no.	SW / A/F mm	L inch	Ø inch
1 1/2"	F97-038-0-01900	19	4.13	3.38
1 1/2"	F97-038-0-02200	22	4.13	3.38
1 1/2"	F97-038-0-02400	24	4.13	3.38
1 1/2"	F97-038-0-02600	26	4.13	3.38
1 1/2"	F97-038-0-02700	27	4.13	3.38
1 1/2"	F97-038-0-03000	30	4.13	3.38
1 1/2"	F97-038-0-03200	32	4.13	3.38
1 1/2"	F97-038-0-03600	36	4.13	3.38
1 1/2"	F97-038-0-07000	70	4.13	3.38



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