

The major advantages of the FAST THERM range:

PRACTICAL AND SIMPLE IN USE

- Robust design for use in an industrial environment
- Ready for immediate use
- Requires no maintenance
- Ergonomic, the pivoting yoke of sizes 35 to 300 facilitates the positioning of the parts to be heated.
- User-friendly; the touch-screen controls can be operated while wearing protective gloves
 - only three buttons are required to programme the portable version (two for setting the temperature (+50°C to +240°C) and one to start)
 - 2 additional buttons on the other versions also enable control of the "heating time" (0 to 99 min).
 - Display of the temperature and time and also error codes for quick trouble-shooting
- Audible signal at the end of the heating cycle
- Choice of °C or °F temperature display



HEATING CONTROL AND SAFETY

- Optimum control of the heating cycle by microprocessor and magnetic temperature probe.
- Quick even heating of parts and no risk of over-heating
- The equipment uses a default temperature of 110°C.
- Automatic demagnetising at the end of the cycle.
 - **The bearing's initial quality is maintained.**
- Only the part to be heated is subjected to an increase in temperature (easier handling, no risk of burning)
- Thermal insulation of the magnetic probe
- Meets EEC legislative standards.
 - **Operator safety ensured**

ROBUST AND EFFICIENT

- Robust industrial design, guaranteed for three years.
- Oil-, dust- and water-resistant control screen
- Quick and economical with its TURBO-BOOST operating mode
- In a horizontal position (placed on a polyamide base), the part heats twice as quickly.
- Efficient, it is no longer necessary to heat the same part several times to keep it at the desired temperature.

As soon as the temperature drops 5°C, the machine automatically resumes the heating cycle. This resumption occurs over five consecutive cycles.

ECOLOGICAL

- No fumes or oil vapour
- Excellent energy yield (approx. 80%), thus guaranteeing:
 - Savings in time and energy
 - A longer life for the appliance.

Delivered as standard with a temperature probe, protective gloves and instruction manual.



HEATING EQUIPMENT

FAST THERM 20

Portable induction heater.



ADVANTAGES

- **Small, light heater:** weighs only 17 kg.
- **Easy to use,** ideal for working on site.
- **Designed** for all bearings and rotating parts with a bore diameter above 20 mm with a maximum diameter of 280 mm and a maximum weight of 20 kg.

Delivered as standard with core bars and a sturdy carrying case

COMMERCIAL REFERENCE

- **TOOL FAST THERM 20 / Induction heater**



FAST THERM 35

Induction heater with pivoting arm, a best-seller for maintenance and production workshops

ADVANTAGES

- Used as fixed equipment
- **Compact,** it weighs only 31 kg and can be easily moved using its two side handles.
- **Flexible:** apart from the temperature control mode, it also has, like all the larger models, a heating time control for large parts (shrink-on rings, pinions, pulleys, etc.)
- **Ergonomic:** the standard pivoting arm facilitates the loading of the parts to be heated.
- **Designed** for all bearings and rotating parts with a bore diameter above 20 mm with a maximum diameter of 410 mm and a maximum weight of 35 kg.

*Delivered as standard with a bar for bores of 70 mm and above.
Other available yoke sizes(3) can be ordered to suit the application.*

COMMERCIAL REFERENCE

- **TOOL FAST THERM 35 / Induction heater**



FAST THERM 150

Compact induction heater, economical, providing high heating capacity for bearings of up to 150 kg.

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ADVANTAGES

- **Ergonomic:** the standard pivoting arm facilitates the positioning of parts to be heated.
- Voltage / Current 400 V / 32 A.
- Designed for all bearings and rotating parts in a horizontal position with a bore diameter over 30 mm with a maximum outside diameter of 490 mm and a maximum weight of 150 kg.

Delivered as standard with the core bar for bore diameters of 100 mm or greater. Five other available yoke sizes may be ordered to suit your particular application.

COMMERCIAL REFERENCE

- TOOL FAST THERM 150 / Induction heater

FAST THERM 300

Powerful mobile induction heater for bearings up to 300 kg.

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ADVANTAGES

- **Ergonomic :** thanks to its pivoting yoke the parts to be heated can be positioned easily.
- Fitted on a trolley with a yoke storage shelf, it can be moved quickly and safely around the various areas of the production floor.
- Voltage / Current 400 V / 32 A
- Designed for all bearings and rotating parts in a horizontal position with a bore diameter over 30 mm with a maximum outside diameter of 740 mm and a maximum weight of 300 kg.

Delivered as standard with a core bar for bores of 100 mm and above. Other available yoke sizes (6) can be ordered to suit the application.

COMMERCIAL REFERENCE

- TOOL FAST THERM 300 / Induction heater

FAST THERM 600

Robust, extremely powerful induction heater for heavy parts of up to 600 kg.

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Machine typically intended for heavy machine workshops (steel-making, paper, gear manufacturing, naval yards, etc.).

ADVANTAGES

- **Ergonomic:**
 - The core bars are positioned vertically and are equipped with a lifting ring.
 - An optional core bar winch simplifies handling.
 - The control screen is directable for operator comfort.
- **Extremely robust:** the design in steel with a glass-fibre coating makes the Fast Therm 600 particularly resistant to impacts and corrosion.
- Parts may be heated horizontally or vertically. In the vertical position, the parts rest on support rails (they are not suspended on the fixed core bar).
- Voltage / Current 400 V / 63 A
- Designed for all bearings and rotating parts in a horizontal position with a bore diameter of over 45 mm with a maximum outside diameter of 900 mm and a maximum weight of 600 kg.

Delivered as standard with a core bar for bores of 145 mm and above. Other available yoke sizes (7) can be ordered to suit the application.

COMMERCIAL REFERENCE

- TOOL FAST THERM 600 / Induction heater

FAST THERM 1200



Robust, extremely powerful induction heater for heavy parts weighing up to 1,200 kg. Indispensable in machine shops in steelworks, paper mills and the rail and wind turbine sectors.

ADVANTAGES

• Ergonomic:

- The core bars are positioned vertically and are equipped with a lifting handle.
- A core bar winch is offered as an option.
- The directable control screen provides added comfort for the operator.

• **Extremely robust:** made of steel with glass-fibre supports to be heated, particularly resistant to impacts and corrosion.

• Parts may be heated horizontally or vertically. In the vertical position, the parts rest on the support rails (they are not suspended on the fixed horizontal core bar).

• Voltage / Current 400 V / 100 A.

• **Designed** for all bearings and rotating parts in a horizontal position with a bore diameter of over 85 mm with a maximum outside diameter of 1,500 mm and a maximum weight of 1,200 kg.

Delivered as standard with a core bar for bores of 215 mm and above. Other available yoke sizes (3) can be ordered to suit the application.

COMMERCIAL REFERENCE

- TOOL FAST THERM 1200 / Induction heater

ACCESSORIES

A lifting device is offered for use with the Fast Therm 600 and 1200.

It is easily installed on the heater and is extremely useful in intensive applications and the handling of heavy core bars.

COMMERCIAL REFERENCE

- TOOL FT (Capacity) LIFTING DEVICE

Both the Fast Therm 600 and 1200 can be supplied in a mobile version.

SPECIAL PRODUCTS

NTN-SNR is able to design machines, specially adapted to your application.



This device, especially developed for a wind turbine application, is capable of heating parts of up to 10 tonnes with an outside diameter of 4 metres to a temperature of 120°C in 60 minutes.

Thus, the dimensions and performance of the Fast Therm 600 and 1200 can be modified to match precisely the geometry of your parts, your production patterns and the electrical supply available * in your workshops (*from the Fast Therm 150 upwards).

Customised equipment can also be developed for your large metal parts, such as for wind turbine and railway applications.

We can provide you with a quotation based on the following information:

- The weight of the part to be heated (min/max)
- The dimensions of the part (min/max bore, max. outside diameter, max thickness)
- Electrical power and voltage available
- Temperature to be achieved
- Desired heating time or production pattern

► The mounting of large bearings with a tapered bore requires considerable effort, difficult to achieve using mechanical screw tightening. The use of hydraulic technology is required in such cases.

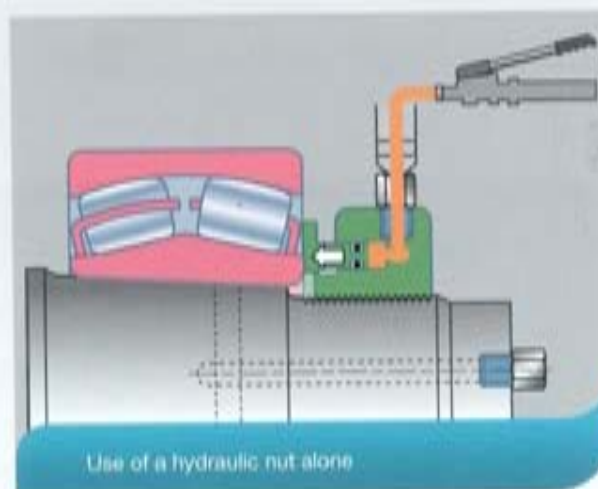
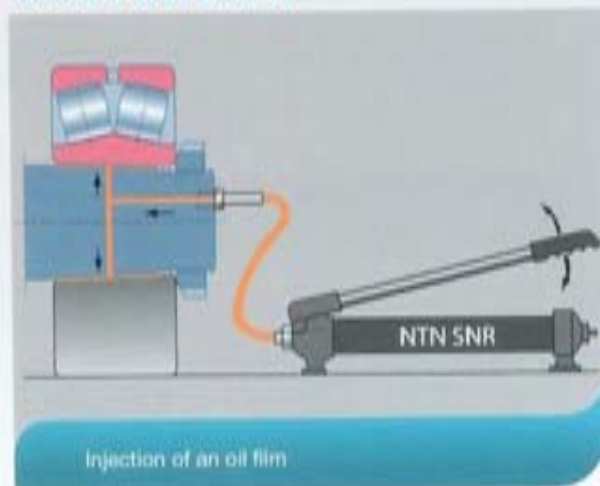
Either an oil film is injected over the whole of the contact surface between the shaft and the inner ring. This reduces the friction generated by the mounting and facilitates tightening.

Or the oil is sent at very high pressure into a hydraulic nut which develops the thrust required for the mounting.

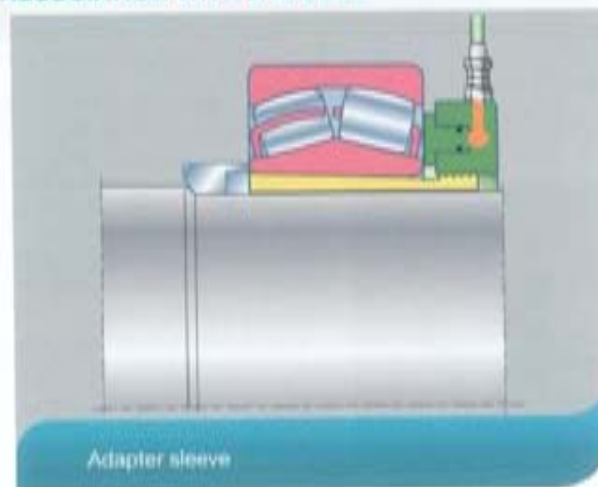
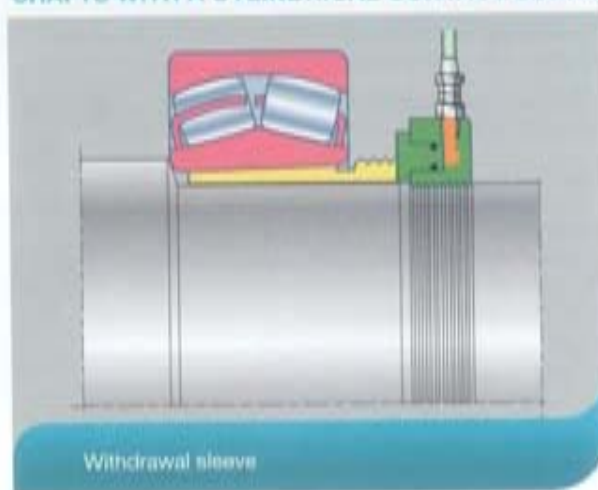
The two principles may also be used simultaneously to make mounting easier. The residual clearance is checked using feeler gauges or a comparator which measures the embedding on the tapered contact surface.

Two types of mounting lend themselves to this method :

TAPERED SEAT SHAFTS



SHAFTS WITH A CYLINDRICAL CONTACT SURFACE IN ASSOCIATION WITH A SLEEVE



Precise, effortless mounting of your large bearings with a tool that is always ready for use

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APPLICATIONS

Beyond a certain shaft diameter, the mounting or dismounting of a bearing on tapered bearings requires hydraulic assistance.

A hydraulic nut ensures perfect control of the adjustment of the assembly while limiting the use of manual force and reducing the time taken for the operation.

ADVANTAGES

Back & Forth

Besides the hydraulic principle, the "back and forth" design provides unique ease of operation with the automatic return of the thrust plate to the original position (patented NTN-SNR design).

"An end to returning the nut to its original position, an often troublesome operation, subject to oil leaks: The NTN-SNR nut is automatically ready for the next operation."

- Wide range of sizes: for shafts from 50 mm to 100 mm in diameter.
- Special sizes on request
- Set of spare piston seals supplied as standard
- The hydraulic nut is equipped with:
 - Two hydraulic connection points, with spot facing for perfect sealing
 - One quick coupling connection (male) which can be positioned on the front face or on the outside diameter, depending on the ease of access.
- The 1500 bar pressure provides maximum safety with a locking stop.
 - One 1500 bar ball valve
 - 1 hole on the front face for a dial indicator (not included)
- The surface treatment of the nuts provides excellent protection against corrosion and ensures a long working life.
- Easier handling and nut screwing due to:
 - the knurling of the outer surface (all sizes)
 - a bar being supplied and the provision of several holes on the outer diameter. (For sizes HMV 50 EBF and above)
- Easy handling with eye bolts for nuts MV 60 E BF and upwards supplied

COMMERCIAL REFERENCE

TOOL HMV (taille) EBF / Hydraulic nut

THE RIGHT QUESTIONS TO ASK YOURSELF WHEN SELECTING A HYDRAULIC NUT :

- If it involves mounting onto a shaft with a tapered contact surface: What are the shaft's diameters and thread pitches?
- If mounting onto a sleeve: does it involve an adapter or withdrawal sleeves? Note: for a single cylindrical shaft diameter, the adapter and withdrawal sleeves have different diameters and thread pitches.

MANUAL HYDRAULIC PUMP KITS

A two-stage, high-pressure, ultra-light hand pump, 700 bar (70 mPa)

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APPLICATIONS

These high-pressure pumps are designed for use with automatic return hydraulic nuts or for the mounting and dismounting of bearings coated with an oil film.

Pumps are supplied as standard with the following accessories designed for use at 700 bar:

- 1 pressure gauge, minimising the risk of overloading
- 1 high-quality flexible hose (1.5 m for a 0.3 litre pump reservoir, 3 m for a 0.9 litre reservoir)
- 1 quick coupling connection (female) suitable for NTN-SNR hydraulic nuts
- They are supplied filled with hydraulic oil

ADVANTAGES

- Ultra-light, compact design
- Robust reservoir in composite materials
- Ergonomic: locking of the lever to facilitate transport
- Robust: pump guaranteed for life under normal conditions of use
- Efficient: savings in time and effort due to the two stages which allow a reduction of 80% in the number of pump strokes required in comparison with single-stage pumps.
- User safety: electrically isolated lever and safety relief valve
- Flexible: Two available reservoir sizes:
 - 0.3 litre for HMV 54 E BF nuts and below
 - 0.9 litre for HMV 92 E BF nuts and below

Accessories included

- Pressure gauge (0-700 bar)
 - Liquid filled to protect against any sudden loss of pressure
 - Dual markings in bars / PSI
 - Fitted with a device protecting against bursting
- 700 bar hose
 - Very strong thermoplastic, reinforced with layers of woven steel wire
 - Polyurethane envelope for extreme abrasion resistance
 - With a rubber protective "handle".
- With quick coupling protection (female) 1500 bars, which provides maximum safety with end stop locking and optimum sealing with a flat face valve.

Technical characteristics of the hydraulic oil

Contains corrosion inhibitors which do not attack sealing materials such as nitrile.

Relative density at 15°C : 0.870 kg/dm³

Viscosity at 40°C : 31 Cst

Viscosity index : 102

Flash point : 230°C

Freezing point : -36°C

COMMERCIAL REFERENCE

TOOL PUMP SET 700B - (reservoir capacity) L / Pump with accessories



SET OF CALIBRATED FEELER GAUGES

A simple and precise tool for measuring the clearance between two parts

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APPLICATIONS

This feeler gauge set allows the quick, accurate measurement of radial clearance, especially on spherical roller and cylindrical bearings. It contains 17 gauges.
2 versions of the gauge set are offered: 150 mm and 300 mm long

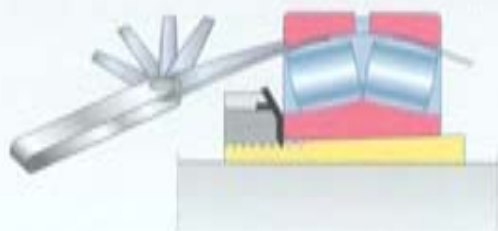
ADVANTAGES

- Set of 17 round end gauges
- Available in 150 and 300 mm
- In a protective steel sleeve
- Calibrated to 1/100 (from 0.02mm)

Supplied with a set of the 5 thinnest blades as spare parts

COMMERCIAL REFERENCE

FEELER GAUGE TOOL (gauge length)



HEAT-RESISTANT GLOVES

Protective gloves for the safe handling of hot, oily parts up to +350°C.

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ADVANTAGES

- Made of KEVLAR, they are extremely resistant to tearing, abrasion and cuts
- Non-flammable: they provide a high level of protection against contact and convective heat.
- They are tested and certified for mechanical (EN 388) and thermal (EN407 hazards)
- Non-fluffy, they avoid polluting the bearings.
- Extremely comfortable, they are useful for all maintenance work.
- Single size: 10,5

COMMERCIAL REFERENCE

HEAT RESISTANT GLOVES

LASER TEMP 301 INFRARED THERMOMETER WITH LASER TARGETING



Establish an initial diagnosis of how machines are operating with completely safe and precise remote or contact temperature measurements.

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APPLICATIONS

The LASER TEMP 301 thermometer combines safety with accuracy.

- The safety of remote infrared measurement for burning, moving or difficult-to-access objects.
- Accurate measurement using the contact probe.

Its elaborate optical system allows small, remote targets to be measured easily and precisely.

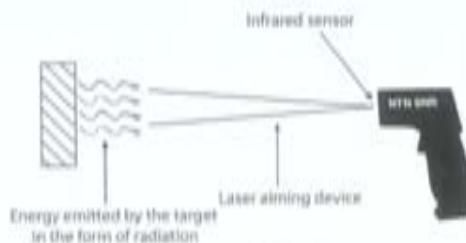
ADVANTAGES

- Wide measurement range in infrared mode: -50°C to $+850^{\circ}\text{C}$
- High degree of precision, using the
 - laser targeting device
 - the excellent 30:1 distance:target ratio
 - emissivity adjustable between 0.1 and 1
 - type K thermocouple wire probe
- Extremely quick measurements: response time less than 1 sec.
- Internal memory able to record up to 20 measurements.
- Equipped with the following functions:
 - High / low, visual and audible adjustable alarms
 - Automatic switch-off to maximise its useful life
 - Max, min, difference, average measurements
- Light, ergonomic gun shape
- Simple to use, it may be easily configured to work in $^{\circ}\text{C}$ or $^{\circ}\text{F}$.
- Back-lit display for easy reading.

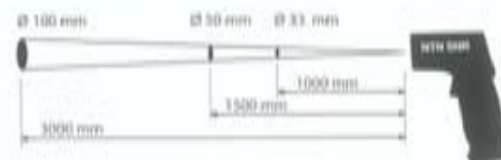
Supplied with: Type K thermocouple wire probe (range -50°C to $+440^{\circ}\text{C}$, length 1 m)
Protective pouch - User manual

COMMERCIAL REFERENCE

TOOL LASERTEMP 301 / IR Thermometer



Principle



Distance / Target

BORE PULLER

Puller kits for internal gripping of the bore.
For quick and easy dismounting of bearings tightly mounted in a housing.



APPLICATIONS

Ideal selection of high-strength extractors with braces for extraction via the bore.

- Bearing whose outer ring is a tight fit in its housing.
- Outer rings or rings with well locked packing.

ADVANTAGES

Robust

- Pullers designed in 2 parts and manufactured in special, strong, break and wear-resistant steel, ensuring a long life.
- Arms in carbonitride steel not requiring any special maintenance

Ergonomic

- Mechanical spindle with handle

Wide range of use

- BP Set 12-45 includes 6 pullers for 12 to 45 mm bore diameters
- BP Set 35-100 includes 4 pullers for 35 to 100 mm bore diameters

Each kit is supplied in a solid steel case.

COMMERCIAL REFERENCE

BP TOOL SET 12-45 / BORE PULLER
BP TOOL SET 35-100 / BORE PULLER



PULLER-SEPARATOR WITH MECHANICAL SPINDLE

For an easy and safe dismounting of rings or bearings tightly fitted on a shaft and difficult to grip

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APPLICATIONS

Also allows the extraction of all parts mounted onto a shaft by force, such as pulleys, handwheels and pinions.

The set, supplied in a strong steel case, includes:

- a puller/pusher with 5 ton capacity mechanical spindle.
- extension rods for quick adaptation to required pulling length.
- a 2-blade separator to separate and grip rings and bearings from the rear with an external dimension between 22 and 115 mm.

ADVANTAGES

Practical and safe

- Gradual simple screw extraction
- The sharp bevelled blades ensure a good grip, so avoiding any locking of the part to be extracted and any deterioration of the shaft's seat.
- After separation by tightening the two blades, turning the separator enables greater force to be used without deforming the blades for the complete extraction of the part.

Robust

- Separating blades are made of special steel for added strength and durability.
- The arm in carbonitride steel does not require any special maintenance: no more need for oil or grease

COMMERCIAL REFERENCE

TOOL BPM 22-115 / Back puller mech spindle



2/3 ARMS SELF-CENTERING MECHANICAL PULLER

A simple, robust and efficient range of pullers for an easy and safe dismantling of small or medium size bearings.

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APPLICATIONS

Also suitable for removing pulleys, gear wheels, handwheels, etc. fixed to a shaft.

ADVANTAGES

Practical

- The self-centering mechanism ensures the simultaneous positioning of the puller's arms on the bearing.
- Compact and ergonomic, it may be easily operated in every position by one person.

Safe

- Self-locking system prevents the arms from bending or slipping.
- The greater the extraction force, the tighter the jaws grip the part.
- Robust, designed in hardened steel for maximum strength

Multiple uses

- Quickly convertible to two or three claws, depending on the space available.
- Three available models for selection according to the outside diameter of the parts to be extracted and the required reach. :

Max. spread mm	Max. reach mm	Capacity Tons
120	80	2
180	120	3
270	100	5

COMMERCIAL REFERENCE

TOOL SCMP 2/3-120 / Self-center mech puller

TOOL SCMP 2/3-180 / Self-center mech puller

TOOL SCMP 2/3-270 / Self-center mech puller



2/3 ARMS SELF-CENTERING HYDRAULIC PULLER

A range of powerful pullers for a safe and easy dismantling of large bearings and force-fitted parts such as pulleys and gear wheels.

APPLICATIONS

The self-centering device facilitates positioning and anchoring around the bearing. The power developed by the hydraulic system allows the part to be extracted safely with very little effort.

ADVANTAGES

Practical

- Ready-to-use in a strong case. No assembly of the jaws required before use.
- Compact: the self-contained hydraulic pump and cylinder save space. No need for a separate pump, hose or spindle.
- Ergonomic: pump handle pivoting through 360°, allowing the extractor to be used in the most comfortable position. Telescopic, it provides optimum transmission of the effort.
- Easy centering of the piston on the shaft with retractable, integrated point.
- A piston extension is supplied for use with a remote support surface.
- A piston return device makes it ready immediately for further use.
- Long stroke of hydraulic spindle facilitates dismantling in one operation.

Multiple uses

- Possibility to change between two or three jaws, depending on the accessibility of the bearing.
- Available in three versions, depending on the power and size required: 4, 12 and 20 tons.

Capacity tons	Max. spread mm	Max. reach mm	Cylinder stroke mm
4	325	190	60
12	485	305	85
20	570	365	111

- For the 4 and 12-tonne capacity, an accessory kit consisting of a puller block, connecting rods and a set of bearings separators increases the number of uses and makes separation easier.

Safe

- A safety relief valve prevents any risk of overloading and limits the force applied to the maximum capacity of the equipment.
- A cover protects the user from possible flying bearing fragments. Made of transparent material, it provides good visibility for controlling the extraction.
- The 20-ton model is equipped with an innovative two-stage pump which makes operation easier and safer.

COMMERCIAL REFERENCE

TOOL SCHP 4 TONS / Self-center hyd puller
TOOL SCHP 12 TONS / Self-center hyd puller
TOOL SCHP 20 TONS / Self-center hyd puller



ACCESSORY CASE FOR 4 AND 12-TON SCHP

A strong grip for a safe and easy dismantling.



APPLICATIONS

A separator is a complementary tool to a claw extractor when the latter does not have sufficient grip. A perfect grip on the back of parts, using bevelled blades, reduces the force necessary for dismantling and avoids damaging the shaft's contact surface.

ADVANTAGES

- Robust design ensuring a long life for the separation blades.
- After separation by tightening the two blades, turning the separator enables greater force to be used without deforming the blades for the complete extraction of the part.
- Easy centering of the piston on the shaft with its retractable, integrated point.
- Two versions are available, depending on the power required. 4 and 12 tons.

COMMERCIAL REFERENCE

TOOL AS-SCHP 4T / acc set hyd puller
TOOL AS-SCHP 12T / acc set hyd puller



TRI-SECTION PULLING PLATE, UNIVERSAL

A strong grip for safe and effective dismounting using a mechanical or hydraulic extractor.



APPLICATIONS

The tri-section pulling plate is the complementary tool to the three-armed pullers when the latter does not have sufficient grip. Universal, it is suitable for both the SCMP 4-tonne hydraulic extractor and the SCMP 270 mechanical model.

ADVANTAGES

- The blades fix behind the bearing's inner ring, where the extraction force is most effective.
- The application of the effort on the inner ring minimises the risk of damaging the bearing while preserving the rolling body and the outer ring.
- The tri-section construction distributes the extraction force evenly, preventing bearing from locking and/or tilting on the shaft during dismounting.
- Economical: the BP3S 50-210 covers all shafts with a diameter of between 50 and 210 mm.

COMMERCIAL REFERENCE

TOOL BP3S 50-210 / Tri-section back puller

