



nuova**simat**
near to you.

2024



GENERAL CATALOG



Sales and Rental

We supply a wide range of dedicated torque tightening equipment and portable machine tools for sale or rent. Being the first users of this equipment, we can suggest the best solutions for each application.



Site Service.

Very often, it is not possible to transport a damaged component to a static workshop; therefore, you may need a team of experienced professionals to carry out mechanical machining on-site, be it a petrochemical plant, a paper mill or an amusement park. During our 30 years of experience, we have very often travelled to construction sites around the world to perform turning, boring, milling, and even equipped ourselves with the latest technological developments such as portable CNC machines and laser measuring equipment.



Research and Development

When the market is unable to respond to customers' needs, we develop a customised technical solution that meets the technical requirements, even going so far as to engineer and build dedicated machines. Each customised solution is the result of experience, careful design and accurate research of materials. Our R&D is always ready to find the solution to every problem

The word "EVO" is written in a stylized, white, sans-serif font. The letters are bold and modern, with the 'V' having a unique shape where the two strokes meet at a point.

BY



nuova**simat**
near to you.

The word "EVO" is written in a stylized, orange, sans-serif font, identical in style to the white version on the left.

EVO is a brand conceived by **Nuova Simat**.

Over the past **30 years** Nuova Simat has been dealing with Industry-related Site Operations, setting the standard for site processing and industrial assembly.

For this reason, **EVO** has been placed on the market.

EVO represents the evolution of construction work, through **highly technological** and **customised** solutions, **designed** and **assembled directly** by **Nuova Simat**.

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| BOLTING TOOLS

SQUARE DRIVE **HYDRAULIC** TORQUE **WRENCHES**



Availability

Sales | Rental | Service

Overview

Torcup Tu-series hydraulic torque wrenches are equipped with a square drive on which any type of socket can be applied. This bolting tool ensures an accuracy of $\pm 3\%$.

Square Drive

3/4" - 2 1/2"

Torque range

172 - 78625 Nm

Power supply

Hydraulic pumps

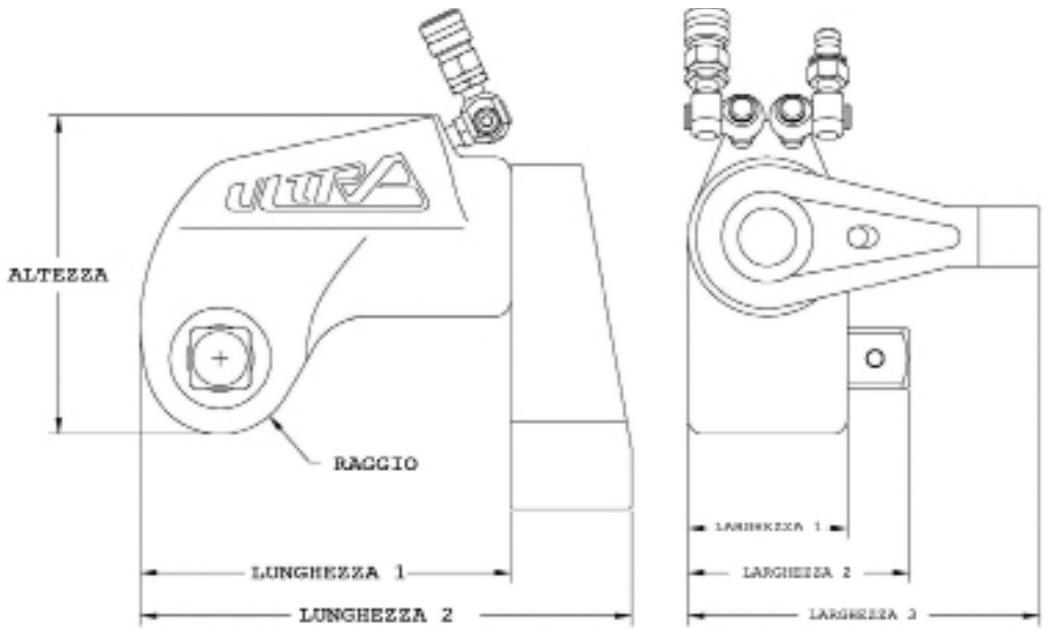
Calibration service

Available

DATA SHEET

MODEL	Square Drive	Min. torque [Nm]	Max. torque [Nm]	Weight [Kg]
TU-2	3/4"	172	1722	2.5
TU-3	1"	447	4514	4.9
TU-5	1 1/2"	745	7457	8.2
TU-7	1 1/2"	1003	10031	8.6
TU-11	1 1/2"	1491	14925	13.1
TU-20	2 1/2"	2630	27964	27.6
TU-27	2 1/2"	3687	36872	31.7
TU-60	2 1/2"	7862	78625	59.8

DIMENSIONS



MODEL	Height [mm]	Length 1 [mm]	Length 2 [mm]	Radius [mm]	Width 1 [mm]	Width 2 [mm]	Width 3 [mm]
TU-2	106.7	122.4	161.0	24.9	50.8	70.9	112.3
TU-3	135.3	162.5	214.1	33.2	66.8	93.5	147.6
TU-5	162.6	200.9	270.7	39.8	79.2	117.8	117.8
TU-7	182.1	224.5	294.1	44.9	91.7	128.5	202.7
TU-11	198.1	248.6	324.8	51.5	100.3	137.9	221.5
TU-20	234.3	239.7	408.9	58.7	123.6	181.7	276.4
TU-27	258.8	312.9	414.8	62.5	133.6	192.3	295.4
TU-60	292.1	390.7	518.2	78.7	167.1	225.8	363.0

ACCESSORIES



HEXAGON FEMALE **HYDRAULIC** TORQUE **WRENCHES**



Availability

Sales | Rental | Service

Overview

The Torcup TX series hydraulic torque wrench can fit into even the tightest spaces. When it comes to operating in these conditions, the TX is the right tool, guaranteeing an accuracy of +/- 3%.

Hexagon Size

1/2" (13mm) – 7 7/8" (200mm)

Torque range

61 – 64239 Nm

Power supply

Hydraulic pumps

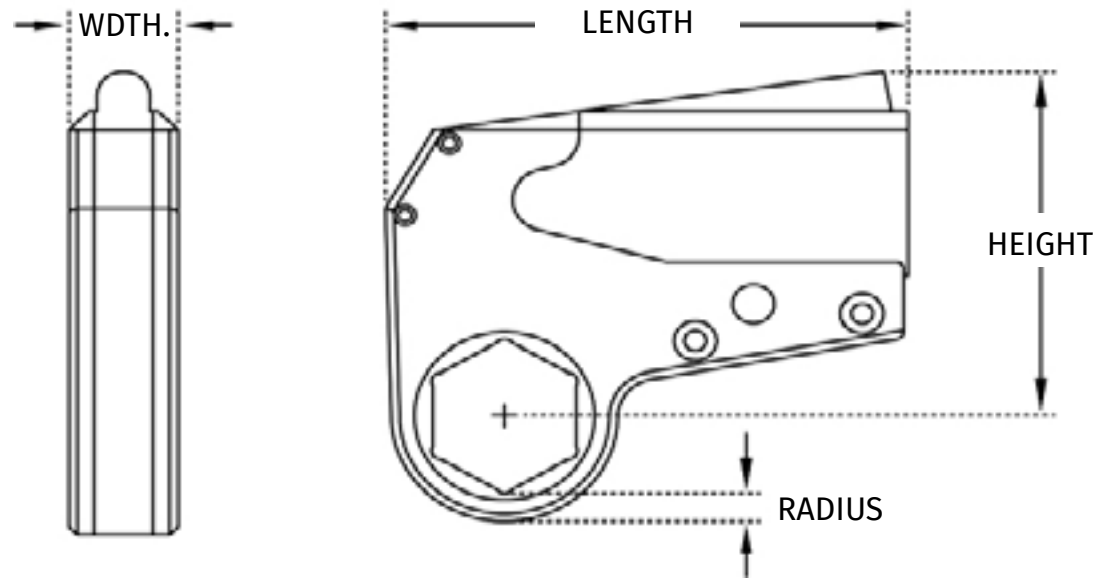
Calibration service

Available

DATA SHEET

MODEL	Min. torque [Nm]	Max. torque [Nm]	Body Weight [Kg]	Cylinder Weight [Kg]	Min. Hexagon A/F	Max. Hexagon A/F
TX-1	61	759	0.5	0.45	1/2" / 13mm	2" / 50mm
TX-2	260	2614	1.6	1.0-1.5	3/4" / 19mm	2 9/16" / 65mm
TX-4	535	5355	2.7	2.4-3.4	1" / 27mm	3 1/8" / 80mm
TX-8	1125	11699	5.0	5.5-6.5	1 7/8" / 49mm	4 5/8" / 120mm
TX-16	2155	22503	7.3	9.5-13.0	2 3/16" / 55mm	5 5/16" / 135mm
TX-32	4365	48327	11.5	13.0-17.9	3 1/8" / 80mm	7 7/8" / 200mm
TX-45	6575	64239	13.0	13.0-17.9	3 1/8" / 80mm	7 7/8" / 200mm

DIMENSIONS



MODEL	Length [mm]	Width [mm]	Min Radius [mm]	Max radius [mm]	Height [mm]
TX-1	111.0	19.8	6.2	11.4	82.6
TX-2	163.8	31.8	9.6	15.0	101.6
TX-4	199.9	41.4	10.5	18.7	142.2
TX-8	258.6	52.1	14.2	21.0	177.8
TX-16	328.4	63.5	17.1	25.9	192.5
TX-32	401.3	82.3	24.3	44.2	241.3
TX-45	425.5	124.0	24.3	44.2	261.1

ACCESSORIES



HYDRAULIC TENSIONERS

DATA SHEET



Availability
Sales | Rental | Service

Overview
Standard tensioners are designed for versatility, covering bolt sizes from 3/4" to 4-1/2" (M20 to M115). Different diameter nuts can be tightened with a single hydraulic cell, simply by changing the adapter kit consisting of threaded puller, bridge and nut-driver. They are operated at a maximum pressure of 1500 bar and are made of high-strength alloy steel parts for long-lasting performance.

Power supply
Hydraulic pumps and manual pumps

Customisation
Available

LOAD CELL	ADAPTER KIT (Imperial)	ADAPTER KIT (Metric)	LOAD [kN]	HYDRAULIC AREA [mm²]	WEIGHT [Kg]
TSR0	3/4" 7/8"	M20 M22	160	1067	1.4
TSR1	1" - 1-1/8"	M24 M27 -	450	1867	2.7
TSR2	1" - 1-1/8" 1-1/4" 1-3/8"	M24 M27 M30 M33 M36	450	3001	4.1
TSR3	1-1/4" 1-3/8" 1-1/2" 1-5/8"	M33 M36 M39 M42	660	4401	5.4
TSR4	1-1/2" 1-5/8" 1-3/4" 1-7/8" 2"	M39 M42 M45 M48 M48	1000	6668	8.4
TSR5	2" 2-1/4" 2-1/4" 2-1/2" 2-1/2" 2-1/2" 2-3/4"	M52 M56 M60 M64 M68 M70 M70	1500	10003	13.8
TSR6	2-3/4" 3" 3-1/4" 3-1/2"	M72 M76 M80 M85 M90	2500	16671	23
TSR7	3-1/2" 3-3/4" 4"	M90 M95 M100	3200	21339	32
TSR8	4" 4-1/4" 4-1/2"	M105 M110 M115	4100	27340	45

HYDRAULIC TORQUE WRENCH PUMPS

Availability

Sales | Rental | Service

Overview

These hydraulic torque wrench pumps are equipped with remote control and a 10 litre tank. Automatic motor shut-off in case of non-use. The adjustable pressure line up to 700 bar and the oil pressure reading on the dual scale pressure gauge allow easy, accurate operation. In addition, the convenient protective frame with support surface allows the pump unit to be protected from accidental impact.

Max operating pressure

700 bar

Power supply

Pneumatic or electric



HYDRAULIC TORQUE WRENCH PUMPS

Availability

Sales | Rental | Service

Overview

These hydraulic tensioning pumps and manual pumps are designed to reach very high pressures. Constructed with the best materials, they guarantee high precision during operation and greater control over bolting with tensioners. Equipped with various tank sizes to cover all application needs.

Max operating pressure

1500 bar

Power supply

Manual, pneumatic or electric



PNEUMATIC TORQUE MULTIPLIERS



Availability

Sales | Rental | Service

Overview

Reliable solution for tightening/loosening bolts and nuts for special applications in various sectors where speed, power, precision and safety are required. Tool for applying large torque values continuously. Each application achieves a repeatable torque with an accuracy of +/- 5%.

Square Drive

3/4" - 1 1/2"

Power supply

Pneumatic

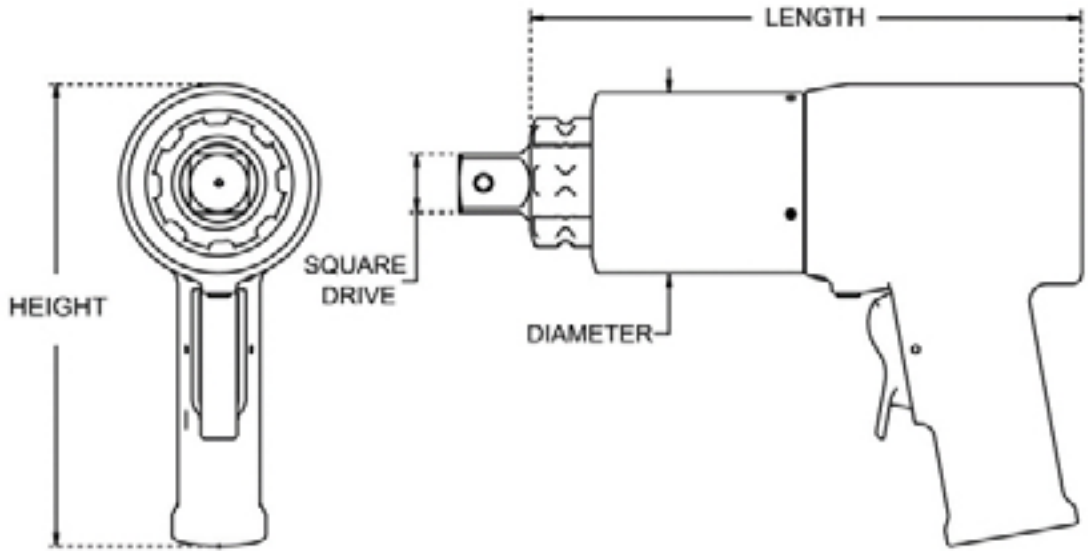
Calibration service

Available

DATA SHEET

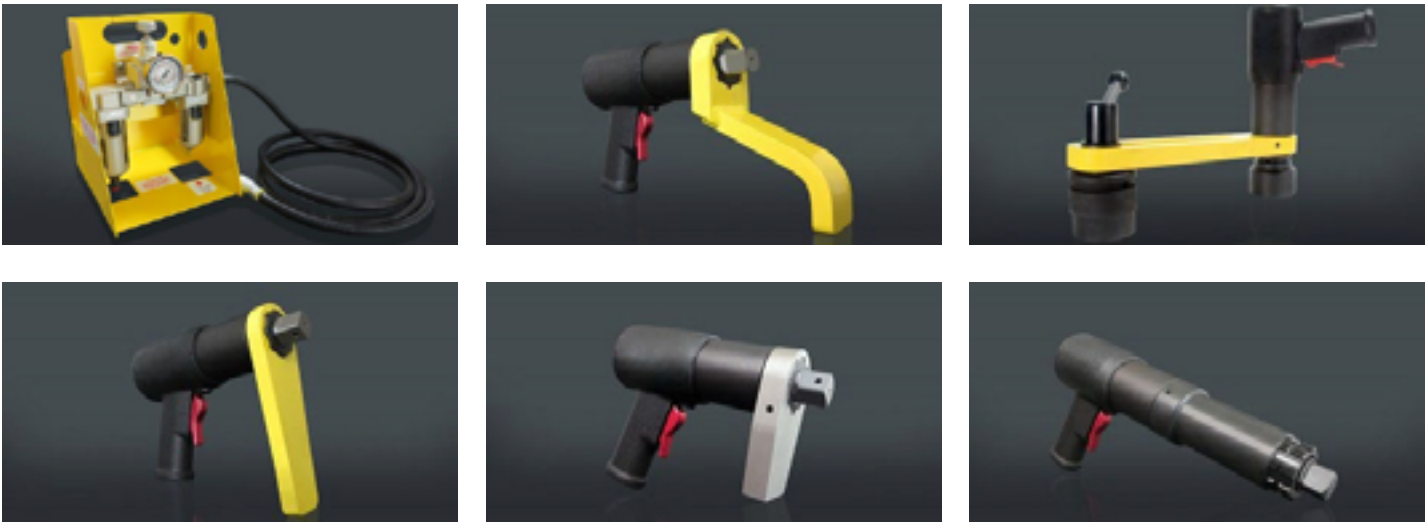
MODEL	Square Drive	Max. torque [Nm]	Max. torque [Nm]	Weight [Kg]	RPM @ 10psi
RP 500	3/4"	106	719	4.1	16.5
RP 1000	1"	201	1396	5.4	7
RP 2000	1"	313	273200%	7.3	3.5
RP 3000	1"	656	4162	9.1	1.75
RP 6000	1 1/2"	968	8121	16.3	1.25

DIMENSIONS



MODEL	Height [mm]	Square Drive [mm]	Length [mm]	Diameter [mm]
RP 500	200.4	19.05	172.7	65mm
RP 1000	200.4	25.4	225.3	72.4mm
RP 2000	200.4	25.4	238.8	78.5mm
RP 3000	204.7	25.4	295.2	95.3mm
RP 6000	220.7	38.1	312.9	127.0mm

ACCESSORIES



BATTERY-POWERED TORQUE MULTIPLIERS



Availability

Sales | Rental | Service

Overview

The VOLTA series is designed to master any application effortlessly. Fully charged in a short period of time, the VOLTA's lithium battery provides enough energy to support hundreds of bolting operations without tubes or cables limiting its range.

Square Drive

3/4" - 1 1/2"

Power supply

Battery

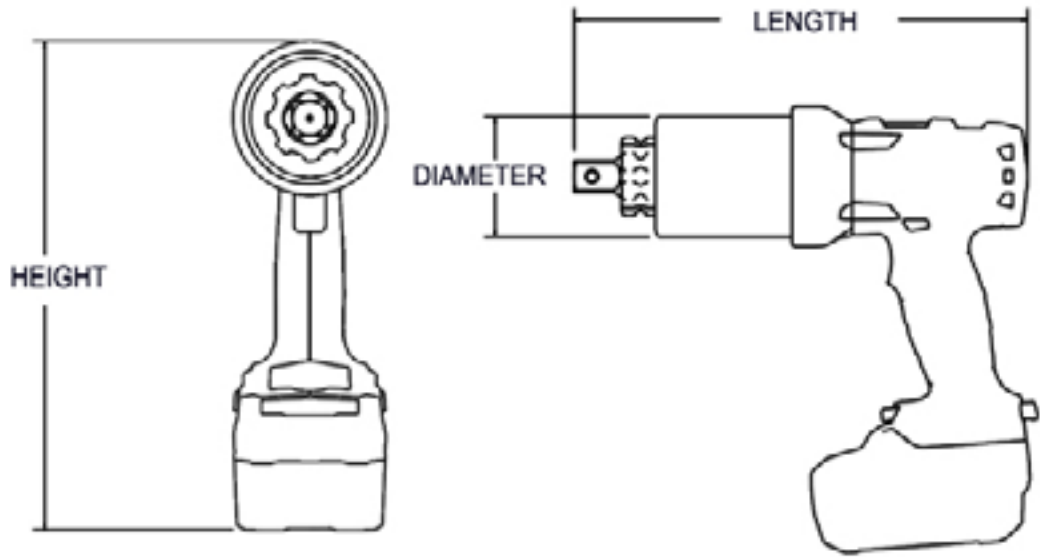
Calibration service

Available

DATA SHEET

MODEL	Square drive	Min. torque [Nm]	Max. torque [Nm]	Weight [Kg]	Weight with arm & battery [Kg]	RPM @ min. torque	RPM @ max. torque
VT 500	3/4"	160	67000%	3.8	4.7	12	20
VT 1000	1"	330	1350	5.2	6.6	2	8
VT 2000	1"	680	2710	5.9	7.2	1	5
VT 3000	1"	1020	4030	8.9	10.2	0.5	2
VT 6000	1" 1/2	1630	8100	12.5	14.5	0.5	1.5

DIMENSIONS



MODEL	Length [mm]	Height [mm]	Diameter [mm]
VT 500	225.0	264.2	65.0
VT 1000	278.6	264.2	72.4
VT 2000	290.8	264.2	78.5
VT 3000	354.1	264.2	95.3
VT 6000	377	264.2	126

ACCESSORIES



ELECTRONIC TORQUE-CONTROLLED SCREWDRIVERS



Availability
Sales | Rental | Service

Overview
Latest-generation battery-operated electronic screwdrivers that make tightening and flange management tasks extremely simple and safe. Thanks to their Industry 4.0 design, they can keep track of all tightening activities performed and can set programmable and customisable work cycles. Equipped with WiFi, Bluetooth, USB and GPS connection, they can be managed directly online through software, smartphone apps and a dedicated control unit capable of managing up to 8 screwdrivers simultaneously.
Equipped with an on-board torque transducer, they can verify angle and torque live to completely eliminate the risk of non-compliant tightening.

TYPE: ANGLE TOOL

MODEL	TORQUE RANGE (Nm)	RPM	Weight (kg)	Length (mm)	Diameter	Square
QXX5A45T0180PS12	16-180	110	4.25	264	76.2	3/4"
QXX5A45T0270PS12	54-270	77	4.25	264	76.2	3/4"
QXX2A52T0396PS12	79-395	21	3.54	216	76.2	3/4"
QXX2A52T0594PS12	119-594	14	4.06	216	76.2	3/4"
QXX5A52T0880PS12	1180-880	23	4.60	264	76.2	3/4"
QXX5A72T1080PS16	216-1080	19	5.97	264	76.2	1"
QXX5A72T1620PS16	324-1620	13	5.97	264	76.2	1"

TYPE: PISTOL TOOL

MODEL	TORQUE RANGE (Nm)	RPM	Weight (kg)	Length (mm)	Diameter	Square
QXX5P45T0180PS12	40-200	83	7	390	52	3/4"
QXX5P45T0270PS12	100-500	27	7	393	52	3/4"
QXX2P52T0396PS12	200-1000	15	9.8	422	72	3/4"
QXX2P52T0594PS12	270-1350	11	9.8	423	72	1"
QXX2P52T0880PS12	400-2000	6,8	10.2	457	72	1"
QXX2P72T1080PS16	540-2700	5,5	10.2	430	80	1"
QXX2P72T1620PS16	800-4000	3,3	13.2	480	92	1"

COMPLEMENTARY EQUIPMENT



Torque multipliers



Torque Wrenches

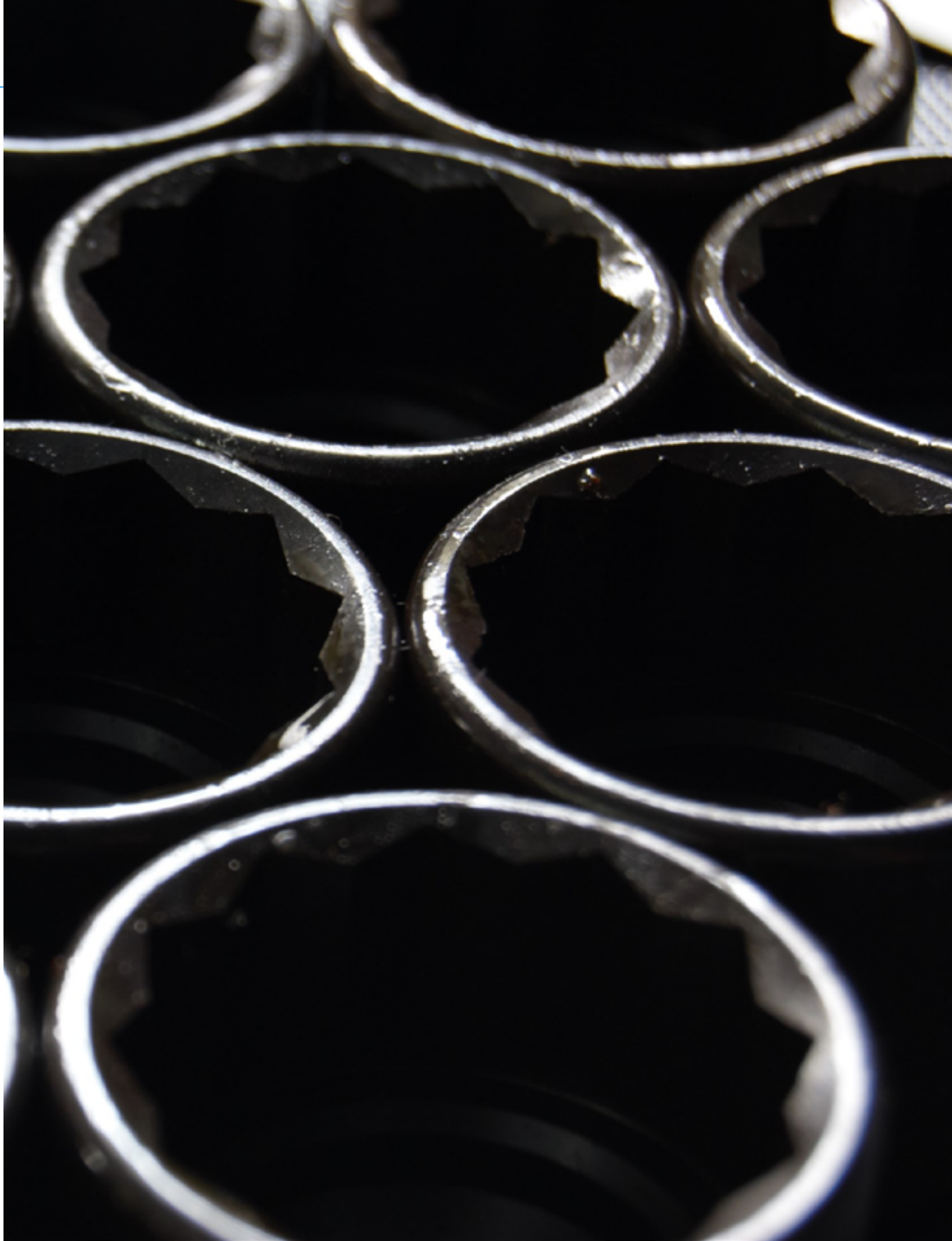


Pneumatic Screwdrivers



Hydraulic Screwdrivers

SOCKETS AND ACCESSORIES



INDUCTION BOLTING

Helios 35+

SHRINK FITTING

Heavy-duty:

NS-INTI series (40-150 kw)

Helios35+ (30 kw)

Light-duty:

NS-IHI series (< 30 kw)

HEAT TREATMENTS

Induction method

NS-INTI series

Resistance method

NS-Compact series

INDUSTRIAL HEATING

HELIOS 35+



Availability

Sales | Rental | Service

Overview

Helios 35+ is a portable magnetic induction heating system designed to perform bolting and shrink fitting operations saving up to the 80% of time with respect to traditional methods (such as electrical resistances, open flames etc.) operating in total safety! Available in 4.0 version as well!



Bolting






Our axial inductors make it possible to tighten/loosen large perforated linkages, often found on turbine cases, valves, heat exchangers, etc. They are customised to tie rod dimensions and can be inserted in holes from Ø 9mm up to more than Ø 32mm, with lengths over 1500mm.

Shrink fitting

For our Helios 35+, ring-shaped (or customised) inductors are also available to perform shrink fitting or disassembly on any cylindrical-shaped components (e.g. bushings, flanges, bearings, gears, etc.) up to diameters of Ø 600mm and beyond.



DATA SHEET

POWER	30 KVA
FREQUENCY RANGE	5 - 35 KHz
POWER SUPPLY	380-440V AC-3PH-50Hz/60Hz
ELECTRICAL PLUG	32A 3P+E
WEIGHT	205 Kg
DIMENSIONS	1000 x 830 x H 1000mm
COOLING SYSTEM	<div>  Integrated </div>
FEATURES	<div>  4.3" colour display </div>
	<div>  Power regulation </div>
	<div>  Diagnostics (fault detection system) </div>
CERTIFICATIONS	<div>  USB port </div>
	CE Compliance, 2006/42 EC Machinery Directive, 2014/30 EU Electromagnetic Compatibility



WORKING TIME -

80%



NO RISK OF BURNS

FAST



SAFE



PATENTED



ALL IN ONE



INDUSTRY 4.0



NS-INTI



Availability
Sales | Rental | Service

Overview
The **INTI** series includes induction equipment with different power ratings (60 - 80 -150 KVA) for preheating, PWHT and coating operations. These machines are equipped with a programming unit and 1 channel to which different inductor types can be connected:

FLEXIBLE INDUCTORS
Air or water-cooled rope inductors. Standard lengths: 15-25-30m.

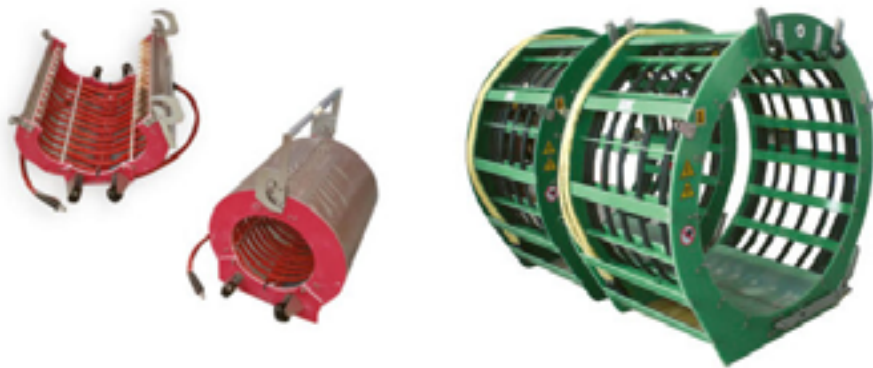
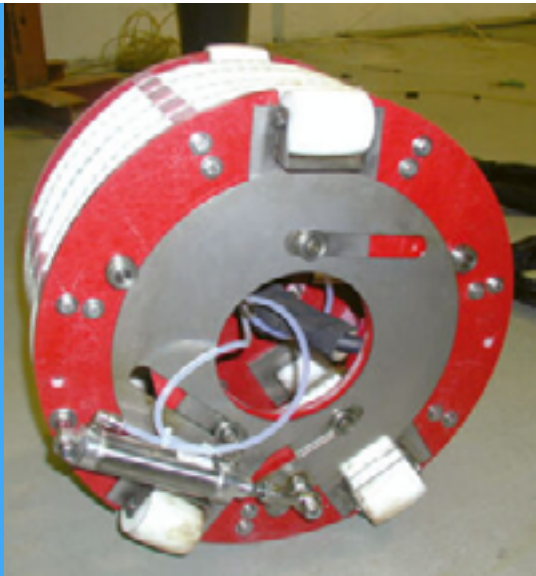
COATING AND PIPELINE CLAMP INDUCTORS
Rigid closed or openable clamp inductors (dimensions to be defined according to requirements).

CUSTOMISED INDUCTORS
Other type of inductors available upon request.

CORD INDUCTORS



SPECIAL INDUCTORS



COATING AND PIPELINE CLAMP INDUCTORS

DATA SHEET

	NS-INTI 40	NS-INTI 60	NS-INTI 80	NS-INTI 150
Input Voltage	380 - 480 VAC 3phase 50/60 Hz	380 - 480 VAC 3phase 50/60 Hz	380 - 480 VAC 3phase 50/60 Hz	380 - 480 VAC 3phase 50/60 Hz
Input Current	63A @ 415 Vac	94A @ 415 Vac	125A @ 415 Vac	235A @ 415 Vac
Output Power	40 kW	60 kW	80 kW	150 kW
Frequency	3-15 kHz	3-10 kHz	3-10 kHz	750 Hz -3 kHz

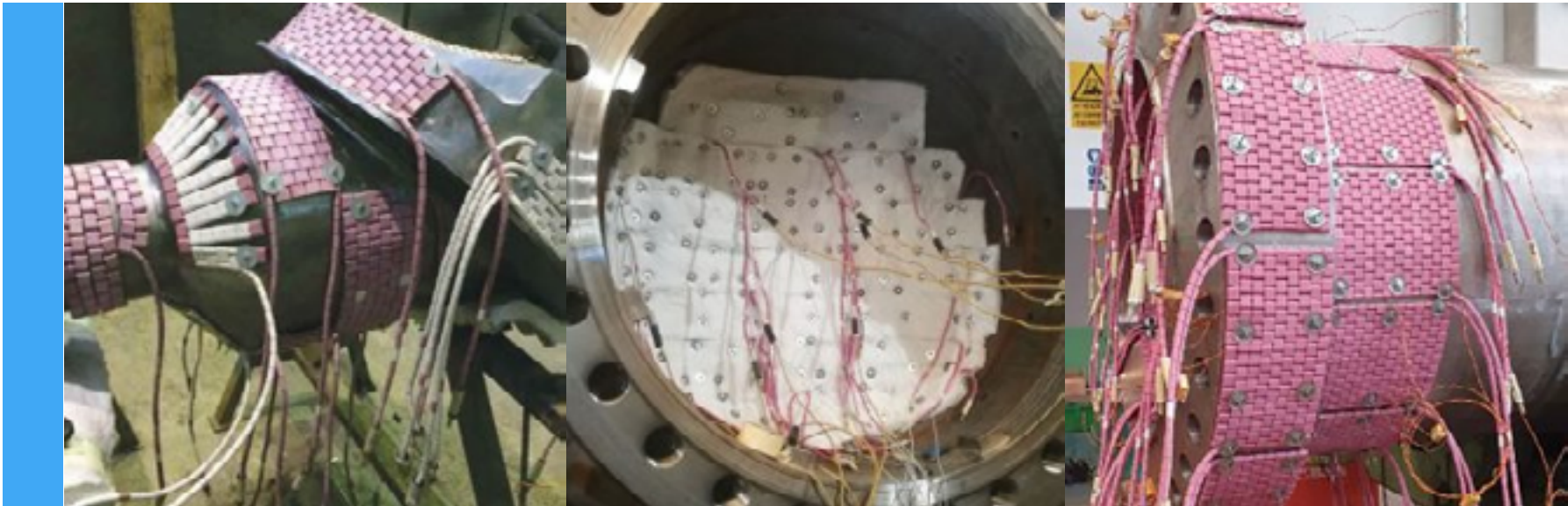
NS-COMPACT



Availability
Sales | Rental | Service

Overview
The **COMPACT** series includes resistance heat treatment machines: low-voltage equipment of varying power ratings between 27 and 110KVA and quantity of independent outputs variable between 3, 6 or 12. These machines use DIODI SCR technology for power output control, are equipped with a digital touchscreen video graphic programmer/recorder and data/thermal cycles are downloaded via USB drive. COMPACT units can be equipped with ceramic heating elements or infrared panels. Ceramic heating elements are used especially in pre-heating, post-heating and stress relief heat treatments for joint welding operations. Infrared panels allow rapid, non-contact heating of moving mechanical masses (or other types of material).

CERAMIC HEATING ELEMENTS



INFRARED PANELS

DATA SHEET

	27/6	55/3-6-12	70/6	80/6	110/6-12
Power [KVA]	27	55	70	80	110
Input current [A]	40	80	100	116	160
Fixed tension [V]	45-90	45-90	32-65	45-90	45-90
Variable tension [V]	0-90	0-90	0-65	0-90	0-90

NS-IHI



Availability

Sales | Rental | Service

Overview

For light-duty applications (removal of rusted or jammed nuts, straightening, pre-heating, brazing, hardening, rail, automotive, car repair, etc.) on a smaller scale, we can offer portable units with reduced power from 1 kW.

INDUSTRIAL HEATING

INDUCTION BOLTING

Helios 35+

SHRINK FITTING

Heavy-duty:

NS-INTI series (40-150 kw)

Helios35+ (30 kw)

Light-duty:

NS-IHI series (< 30 kw)

HEAT TREATMENTS

Induction method

NS-INTI series

Resistance method

NS-Compact series



PORTABLE MACHINE TOOLS

INTERNAL CLAMPING **FLANGE FACERS**



Availability

Sales | Rental | Service

Overview

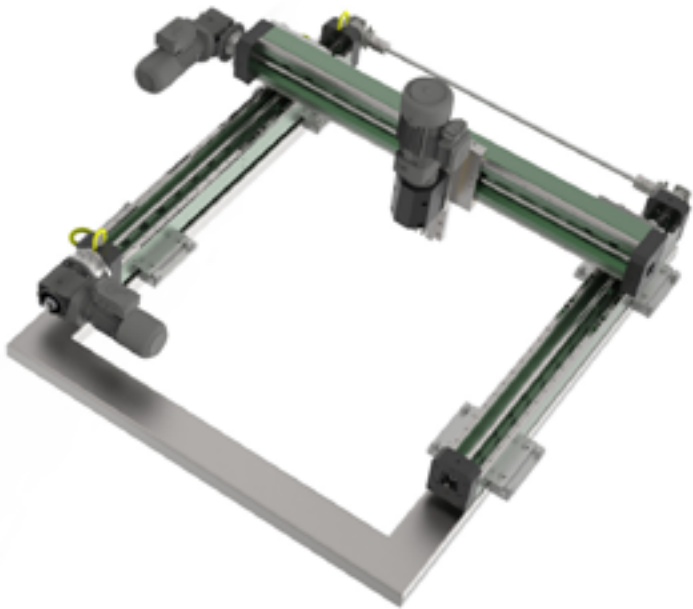
The Alpha series consists of robust machines that allow flange turning operations. By means of a convenient internal flange anchoring, these machines perform numerous machining operations according to the ASME standard and beyond (RTJ, phonographic rifling, etc.).

DATA SHEET*

MODEL	WORKING RANGE [mm]	ANCHORING RANGE [mm]	POWER SUPPLY
MINIFACER ONE	13.5 -350	13.5 -252	Manual
MINIFACER EVO	48 - 466	48 - 610	Manual
ALPHA I-16	24.5 - 406	25.4 - 406	Pneumatic/Electric
ALPHA 4-28	101 - 773	101 - 726	Pneumatic/Electric
ALPHA 8-40	203 - 1017	203 - 1017	Pneumatic/Electric
ALPHA 15-60	379 - 1514	379 - 1358	Pneumatic/Electric/Hydraulic
ALPHA 30-80	736 - 2139	736 - 2139	Pneumatic/Electric/Hydraulic

* Further working ranges available on request

PORTABLE LINEAR MILLING MACHINES



Availability

Sales | Rental | Service

Overview

The Legacy series machines are incredibly versatile. These precise, robust milling machines are available in 2-axis and 3-axis configurations. CNC models and modular frames are available to extend the working range up to 10m.

Max Stroke

0 - 3000mm

Power supply

Pneumatic or hydraulic

Customisation

Available

DATA SHEET

MODEL	TYPE	MAX STROKE X-axis [mm]	MAX STROKE Y-axis [mm]
Legacy1000	2-axis	1000	nd
Legacy1500	2-axis	1500	nd
Legacy2000	2-axis	2000	nd
Legacy3000	2-axis	3000	nd
Legacy1500y	3-axis	1500	On Request
Legacy2000y	3-axis	2000	On Request
Legacy3000y	3-axis	3000	On Request

PORTABLE LATHES



Availability

Sales | Rental | Service

Overview

The TD series of portable lathes allow precision machining of diameters and sealing surfaces of valves, fittings, cylinders, pumps, turbine housings, etc. They are suitable for use in building sites and workshops, in power plants, for valve maintenance, in the chemical and petrochemical industry, in construction, shipyards, oil fields, etc.

Working range

0-1250mm

Customisation

Available

Power supply

Electrical 230/110 V, 50/60 Hz
Pneumatic 6-7 bar

DATA SHEET*

Model	Working Range [mm]	Working depth [mm]	Radial Stroke [mm]	Axial Stroke [mm]	Anchoring range [mm]
TD-03	Ø 0 – 150	max. 250	20	100	Ø 80-300
TD-1*	Ø 0 – 400	max. 350	40	120	Ø 330-750
TD-2 *	Ø 0 – 800	max. 600	60	250	Ø 400-1100
TD-3	Ø 400 – 1250	max. 1000	130	600	Ø 780-1780

* Also available in CNC version

BORING MACHINES



Availability

Sales | Rental | Service

Overview

Portable boring machines are multifunctional machine tools: barycentre boring (even on blind holes), internal and external welding, drilling, tapping, orthogonal plane grinding and external cylindrical surface grinding. These units are perfectly suited to the needs of various sectors (earth moving, industrial, naval, etc.), preventing site stoppages. As there is no need to dismantle the part, transport it and machine it in the workshop, there are considerable savings in machining time and costs.

Power supply

Electrical

DATA SHEET

Model	Bar Diameter [mm]	Boring Diameter [mm]	Welding Diameter [mm]	Stroke [mm]	Central Unit Weight [kg]
W Smaller	20	22-70	25-400	Unlimited (Step 80)	12
WS1 Plus	35	22-180	25-250	Unlimited (Step 120)	20
WS2 Compact	40	22-400	25-400	Unlimited (Step 120)	27
WS2	40	22-400	25-400	Unlimited (Step 120)	34
WS2 Plus	50	32-450	25-450	Unlimited (Step 220)	35
WS3	60	42-800	42-800	Unlimited (Step 250)	40
WS5	80	180-1000	100-1000	Unlimited (Step 260)	55
WS7 Plus	100	400-1700	400-1700	Unlimited (Step 260)	105

CLAMSHELL CUTTERS

DATA SHEET



Availability
Sales | Rental | Service

Overview
The TSFC series is dedicated to cutting and chamfering pipes. These portable machines have been designed to perform simultaneous cutting and chamfering, even on significant thicknesses (> 70mm). Applications include all machining dedicated to pipe preparation for welding, such as in the Oil & Gas, Power Generation, Decommissioning, and other sectors.

Power supply
Pneumatic, servo-controlled, or hydraulic

Accessories
Modules for turning, compensators, cutting and chamfering tools, hydraulic power units, etc.

MODEL	UNIT OF MEASUREMENT	Ø MIN-MAX MOUNTING
TSFC6	Std. – in Metric – mm	1"-6"
TSFC8	Std. – in Metric – mm	2-8
TSFC12	Std. – in Metric – mm	6-12
TSFC16	Std. – in Metric – mm	10-16
TSFC18	Std. – in Metric – mm	12-18
TSFC20	Std. – in Metric – mm	14-20
TSFC24	Std. – in Metric – mm	18-24
TSFC30	Std. – in Metric – mm	24-30
TSFC36	Std. – in Metric – mm	30-36
TSFC42	Std. – in Metric – mm	36-42
TSFC48	Std. – in Metric – mm	42-48

BEVELLING MACHINES



Availability

Sales | Rental | Service

Overview

In manual pipe welding, high-quality chamfering and facing are strongly recommended for good results, while in automated welding (orbital welding), such a requirement is technically essential. The compact, optimized design of the machine body ensures extraordinary manoeuvrability for the operator in any situation. This is the solution for optimal preparation for welding pipes and tube sheets for the construction of boilers, furnaces, heat exchangers, piping, and systems.

Range of application

Ø 3-1016.0 mm

Power supply

Pneumatic, electric, hydraulic

TUBE EXPANDERS



Availability

Sales | Rental | Service

Overview

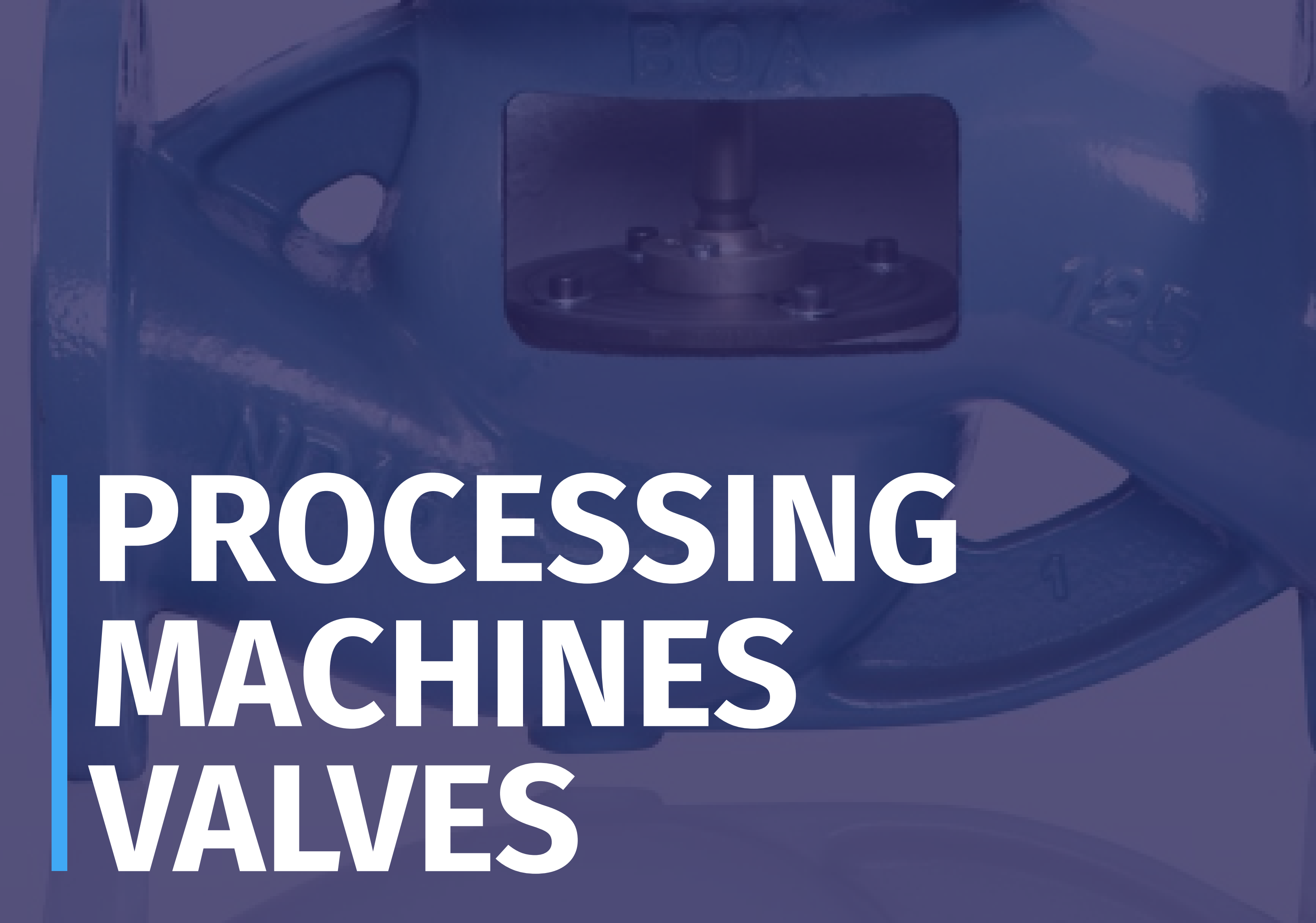
For tube expanding on new installations and for maintenance. Multiple types of expanding systems are available (for condensers, boilers, heat exchangers) which guarantee precision and reliability.

Range of application

ID Tube Ø 6.35 - 114.30mm

Power supply

Pneumatic, electric, hydraulic



PROCESSING MACHINES VALVES

VALVA FOR FLAT SEAT VALVES



Availability

Sales | Rental | Service

Overview

Portable machine for grinding and lapping flat sealing surfaces on valves and flanges from DN 8-1600mm (1/4 "-64"). The VALVA series is easy to use, requires only one operator and consists of wear-resistant components wear-resistant components, as well as providing excellent performance and high efficiency.

Working range

8-1600mm

Customisation

Available

Power supply

Electrical 230/110 V, 50/60 Hz
Pneumatic 6-7 bar or battery

DATA SHEET

MODEL	Working Range DN [mm]	Standard working depth [mm]	Grinding	Lapping
VALVA-S1	Ø 8-150	250	X	
VALVA-SV1	Ø 20-150	250	X	
VALVA-1	Ø 8-150	250	X	X
VALVA-S15	Ø 80-300	500	X	
VALVA-15	Ø 80-300	500	X	X
VALVA-2	Ø 200-700	800	X	X
VALVA-3	Ø 500-1600	1500	X	X

VSK FOR CONICAL SEAT VALVES



Availability

Sales | Rental | Service

Overview

Portable machine for grinding conical sealing surfaces in all shut-off and control valves from DN 8 to 300mm (1/4 "-12"). Thanks to its low weight it is easy to handle and quick to install (centring cone or 3-jaw chuck).

Working range

For standard sealing angles of 30°, (2x15°), 40° (2x20°), 60° (2x30°), 75° (2x37,5°), 90° (2x45°) (other angles available on request).

Customisation

Available

Power supply

Electrical 230/120 V, 50/60 Hz
Pneumatic 6-7 bar

DATA SHEET

MODEL	Working Range DN [mm]
VSK-1	Ø 8-50
VSK-2	Ø 8-65
VSK-3	Ø 8-100
VSK-4	Ø 80-150
VSK-5	Ø 80-300
VSK-6	Ø 8-150
VSK-7	Ø 8-300

SL FOR GATE VALVES



Availability

Sales | Rental | Service

Overview

Portable machines for grinding and lapping sealing surfaces in gate valves, check valves, wedges from DN 20 to 2000mm, up to a depth of 2200mm. SL units can be equipped with a “swing check” adapter for machining sealing surfaces in non-return valves with a large angle of inclination.

Customisation

Available

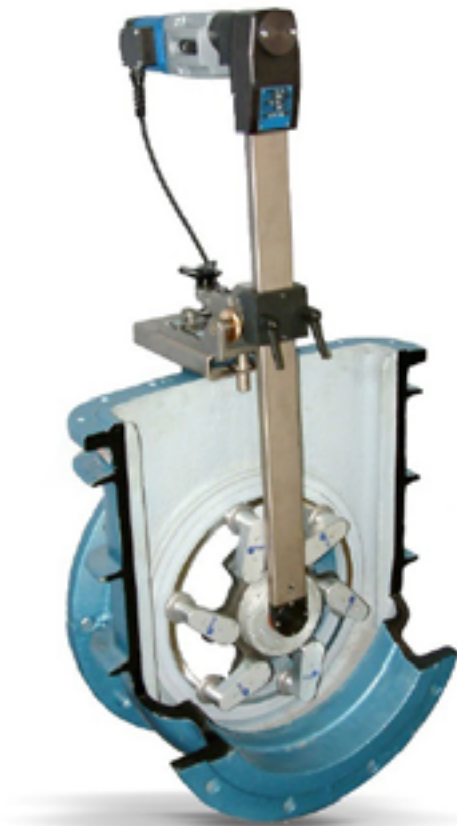
Power supply

Electrical 230/110 V, 50/60 Hz
 Pneumatic 6-7 bar

DATA SHEET

MODEL	Working Range DN [mm]		WORKING DEPTH TT [mm]		
	Standard	Optional up to	Standard	Optional up to	Min. Distance B
SL-05	20-65	80	250	400	15
SL-1	32-150	200	400	600	28
SL-15	40-300	450	600	1200	41
SL-2	200-700	900	1000	1600	69
SL-3	20-65	2000	1200	2200	102

HSL FOR HARD MATERIALS



Availability

Sales | Rental | Service

Overview

Portable machine for high-speed grinding of sealing surfaces made of hard materials (hardness $\geq 35\text{HRC}$) in high-pressure gate valves and plugs of various shapes. The HSL series is equipped with planetary wheels with motorised discs coated with CBN cubic boron carbide.
 Working times reduced by up to 90%!
 Available as an option for retrofitting on existing SL machines.

Customisation

Available

Power supply

Electrical 230/120 V, 50/60 Hz
 Pneumatic 6-7 bar

DATA SHEET

MODEL	Working range DN [mm]	Standard working depth [mm]	Optional working depth [MM]	Minimum distance between sealing surfaces [mm]
HSL-15	175-400	800	1200	85
HSL-2	225-600	1000	1600	115

VSA

HIGH-SPEED PRECISION



Availability

Sales | Rental | Service

Overview

High-speed precision grinding machine for machining welds, flat and conical sealing surfaces on in valves, cylinders, pump housings and flanges.

Customisation

Available

Power supply

Pneumatic 6-7 bar

DATA SHEET

MODEL	WORKING RANGE DN [mm]	WORKING DEPTH [mm]
VSA-05	DN 20-150 (¾"-6")	250 (9.8")
VSA-1	DN 50-400 (2"-16")	650 (25.6")
VSA-2	DN 250-800 (10"-32")	1000 (39.4")
VSA-3	DN 500-1500 (20"-59")	1500 (59")

TSV

FOR SAFETY VALVES



Availability

Sales | Rental | Service

Overview

Portable grinding and lapping with eccentric movement superimposed on the main rotation: thanks to this combination, an excellent surface finish in sealing surfaces in safety valves can be achieved. Suitable for use on site and in the workshop.

Customisation

Available

Power supply

Electric 230/120 V, 50/60Hz (TSV-300 only)
Pneumatic 6-7 bar

DATA SHEET

MODEL	RANGE DN [mm]	WORKING DEPTH [mm]	ANCHORING RANGE [mm]
TSV-150	15-150	350	85-450
TSV-300	25-300	350	85-450

MK ADAPTERS



Availability

Sales | Rental

Overview

The MK adapter makes it possible to use the VALVA and SL grinder series tools with stationary benchtop machines (e.g. pillar drills).

Working range

DN max: 1600mm (64")

DATA SHEET

MODEL	WORKING RANGE DN [mm]	WORKING DEPTH [mm]
MK-2	DN 08-300	220
MK-3	DN 40-700	284
MK-5	DN 500-2000	455

TESTING VALVE TEST BENCHES



Availability

Sales

Overview

Valve test benches are used when it is necessary to test shut-off and control valves, butterfly valves, gate valves, safety valves, etc. Since valves are often exposed to very high loads in practice, they must not only function perfectly but must also be subjected to high load tests before they can be used in practice. Test benches thus fulfil important functions by checking and ensuring the operational safety and perfect functionality of the various valve types. The valves to be tested are securely fixed to the test bench and are pressurised using liquid or gaseous media.

Max. testing pressure

Water up to 1380bar
Air/nitrogen up to 400bar
Higher pressures on request

Customisation

Available

Standard range

N 3/8" - 40"



| HYDRAULIC

LIFTING SYSTEMS

HYDRAULIC CYLINDERS AND ACCESSORIES



Availability

Sales | Rental

Overview

Hydraulic cylinders and accessories to create any type of hydraulic system ensuring safety and efficiency

Models

Single-acting - Double-acting - Hollow plunger - With ring nut - Pull - Pancake - High tonnage - Telescopic

Operating pressure

700 bar

Power supply

Manual pumps or hydraulic pumps

ACCESSORIES





ON-SITE SERVICE

STANDARD ACTIVITIES

LASER TRACKING MEASUREMENTS

Laser trackers are high-tech measuring systems developed to check dimensions and tolerances. The system is equipped with CAD software connected in “real time” to perform any kind of geometric control.

Working range

Up to 80 metres from the laser emitter (precision related to distance).

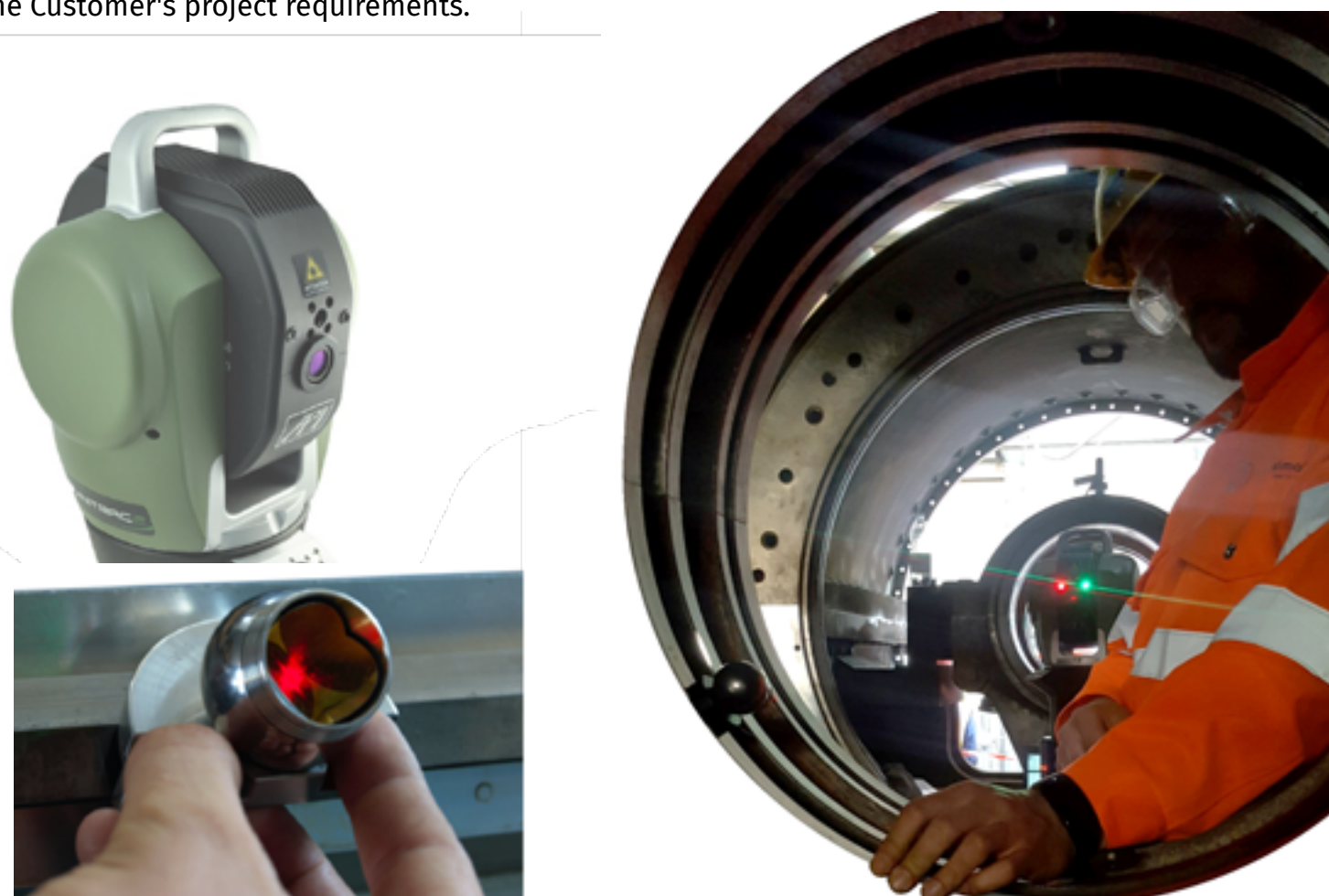
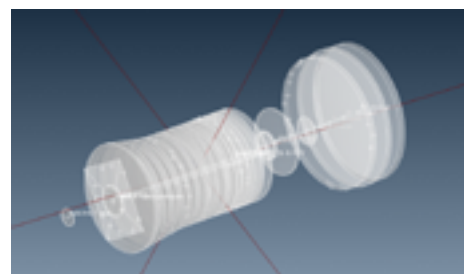
SPECIAL ADD-ONS & CUSTOMISATION

Procedure to check alignment of turbomachinery casings and rotating parts.

3D comparison between nominal drawing and actual measurement.

Possibility of assisting portable machine tools during set-up and verification of results.

Available for any type of probe and anchoring system to suit the Customer's project requirements.



MEASURING BY ARM AND LASER SCANNING

Measuring arms with touch probes are high-tech measuring systems developed to check dimensions and tolerances. The system is equipped with software connected in “real time” to perform any kind of geometric control.

Working range

3-metre circular area around the base of the arm; extendable via a special “station change procedure”

SPECIAL ADD-ONS & CUSTOMISATION

“Scanner head” for laser scanning measurements of complex surfaces and/or suitable for INVERSE ENGINEERING tasks.

3D comparison between nominal drawing and actual measurement.

Procedure to check alignment of turbomachinery casings and rotating parts.

Possibility of assisting portable machine tools during set-up and verification of results.

Available anchoring system adapted to the Customer's project requirements.

Available for any type of probe and anchoring system to suit the Customer's project requirements.



BORING

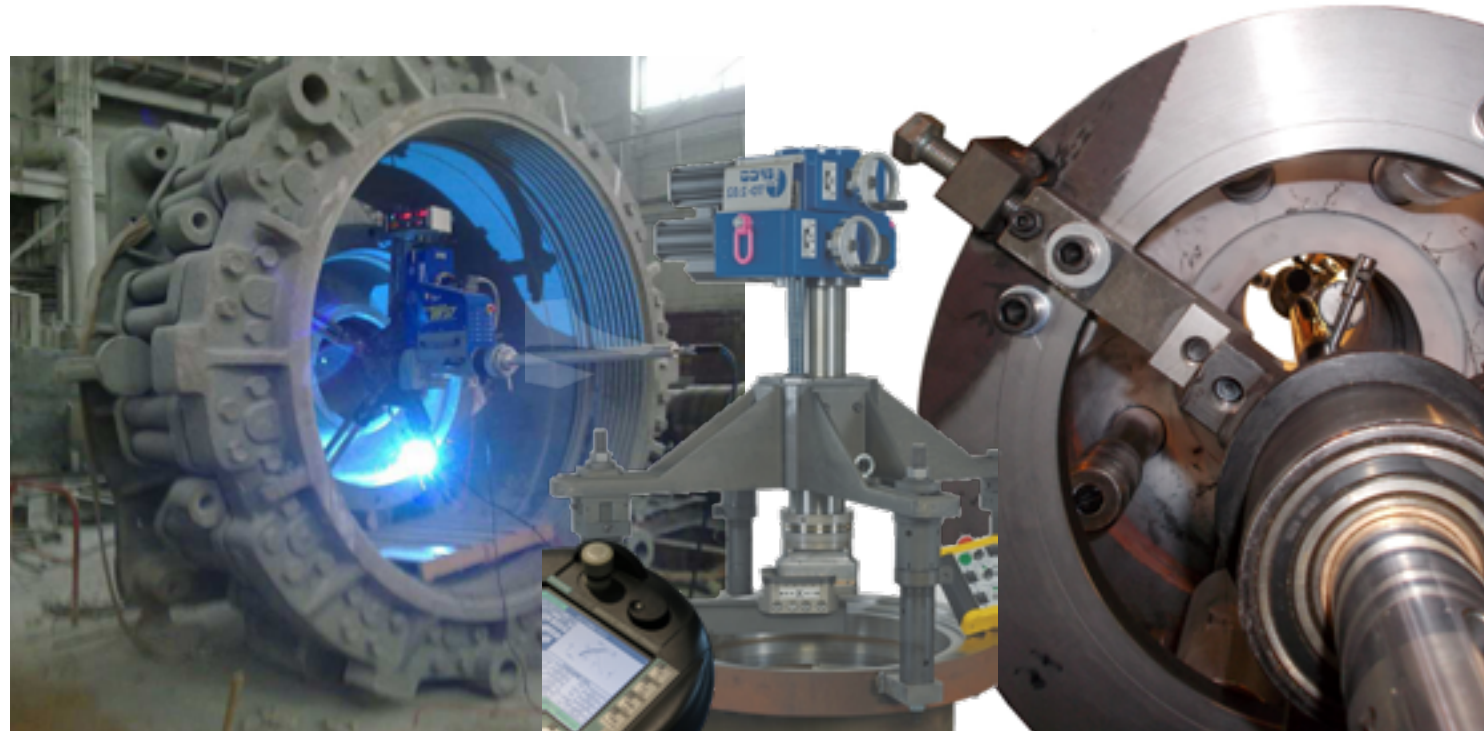
Traditional on-site boring, unlike that performed with a stationary lathe, is performed by a tool holder that rotates around the damaged part to be machined. The boring units are available in different types, to be applied according to the technical details of the part to be machined and the required result. The purpose of boring is to perform one or more machining processes in the same machine positioning, resulting in perfectly aligned surfaces (bearing seats, other surfaces in general).

Working range

Machine dimensions available:
up to Ø1800 with in-line boring models; extendable lengths via connectable bars (over 10 metres);
up to Ø800 with cantilever bar models.

SPECIAL ADD-ONS & CUSTOMISATION

CNC boring unit available to generate complex profiles (toroidal and conical shape, any type of thread, RTJ grooves, etc.) and G-code programming.
Possibility of carrying out semi-automatic cylindrical welding overlay.
Possibility of carrying out facing of shoulder surfaces.
In order to reach the highest performance, we apply a laser tracker measurement system to check the planarity preliminarily, during and after the milling process.
Possibility of assisting portable machine tools during set-up and verification of results.
Available for any type of probe and anchoring system to suit the Customer's project requirements.



MILLING

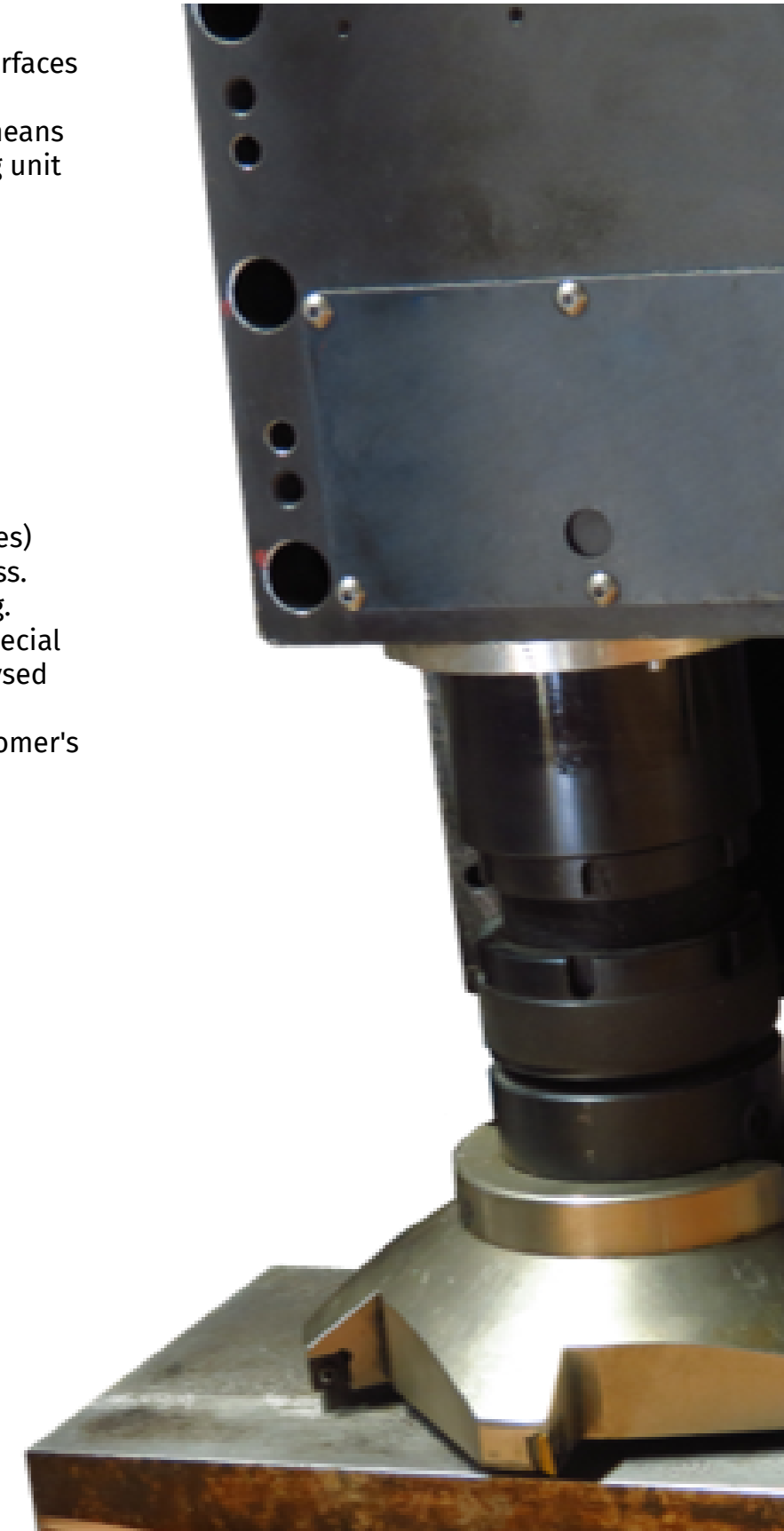
We are the first user of a wide range of portable milling machines to restore different types of surfaces or grooves. 2 types of milling can be performed: linear, by means of milling rails, and orbital, by means of a facing unit equipped with a milling drive.

Working range

Linear: up to 6000 mm in continuous milling
Orbital: up to Ø3000

SPECIAL ADD-ONS & CUSTOMISATION

In order to reach the highest performance, it is possible to apply a laser tracker measurement system to check the planarity (or other tolerances) preliminarily, during and after the milling process. Gantry configuration available for square milling. Any application covering greater distances or special profiles or other special conditions can be analysed by our R&D Department for feasibility. Available anchoring system adapted to the Customer's project requirements.



DRILLING AND TAPPING

We perform drilling and tapping of new holes and drilling and tapping of existing holes that need to be enlarged for repair, or other design needs.

Holes can be machined by conventional drilling and tapping units, or by boring units, depending on size and type of result to be achieved.

Working range

Up to Ø150 for drilling (6 inches) and Ø185 (7 ¼ inches) tapping in any position.

Available oversize by boring and any type of thread by CNC portable machine.

SPECIAL ADD-ONS & CUSTOMISATION

Another peculiarity of drilling is the possibility to perform it in any position and orientation, with reference to the surfaces defined by the project.

In order to reach the highest performance, we apply a laser tracker measurement system to check the position of hole centre and carry out relevant marking.

Drilling templates.

Solutions available to cope with long distances between the machine and the surface or oversizing.



FLANGE FACING

The most common types of flanges are RF (Raised face) flanges with phonographic groove, RTJ (Ring Type Joint) flanges with trapezoidal section circular groove, flat flanges (with several surfaces finishes), flanges with groove for O-Ring and so on. In each type mentioned above, a particular mechanical machining for levelling and profiling of the sealing area is required to assure performance of the proper gasket.

Flange facing machines are designed to achieve the best result in terms of quality of surfaces and time savings for repairing damaged flanges connected to its pipe.

Working range

Up to Ø3000 (120 inches) in facing mode with internal clamping machine.

Any kind of phonographic groove available according ASME Standards.

SPECIAL ADD-ONS & CUSTOMISATION

Available external clamping machine to work on flange with central hole not accessible.

Possibility of orbital milling for flanges with smooth surfaces and various profiles required.

Machines equipped by boring tool holder up to 100mm of axial machining.

Available customisation for anchoring/machining by dedicated tooling for over range or special conditions.



GRINDING AND LAPPING

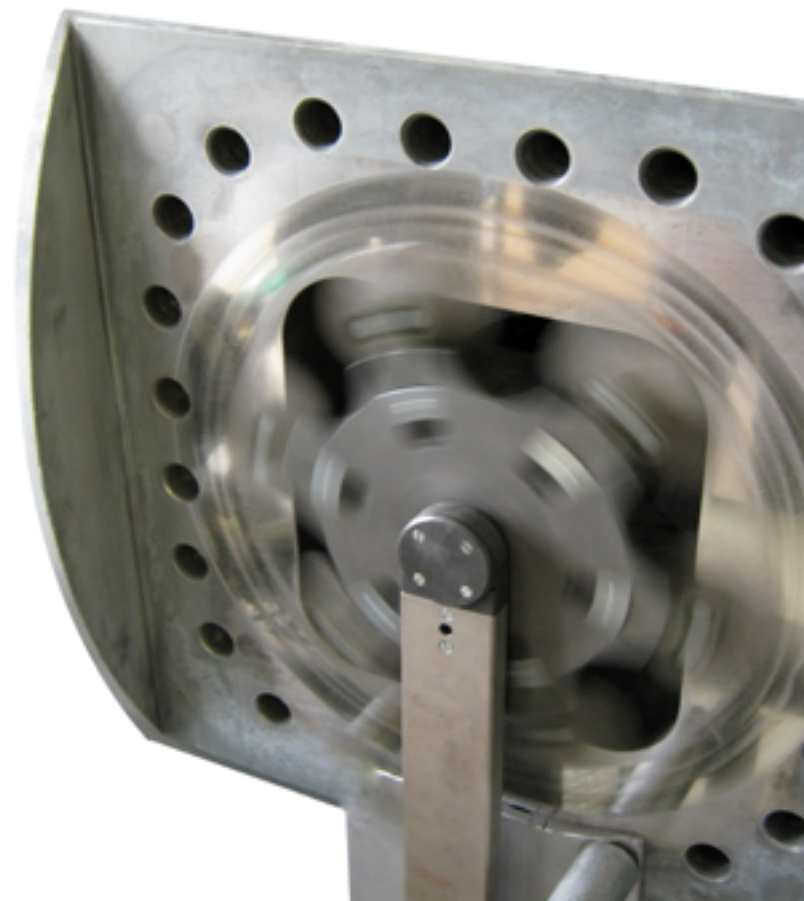
Machining performed to achieve smooth, accurate surfaces for different applications such as ROTATING DRUMS (and similar applications), valve seats (flat, conical, etc.), gaskets seats or, in general, surfaces which require very low roughness in term of Ra (or AARH).

Working range

Different for any kind of application and to be defined matching dimension and roughness.
No limit of diameter on rotating drums.

SPECIAL ADD-ONS & CUSTOMISATION

Available engineering of dedicated solution for anchoring and machining.
Internal cylindrical grinding.
Special application for repair of control valve seats on steam turbines.



PIPE CUTTING AND CHAMFERING

Wide range of portable cutting and chamfering machines for working on different types of pipes.
Possibility of anchoring the machine on the inner side of the pipe end or on the outer surface on continuous pipes by means of a shell ring.

Working range

Up to 3000 mm (120 inches)

SPECIAL ADD-ONS & CUSTOMISATION

In order to reach the highest performance, features can be applied to achieve different results in terms of large thicknesses, hard materials, special chamfering profiles and so on.





ON-SITE SERVICE

SERVICE PACKS

STUD REMOVAL BY EDM (SPARK EROSION)

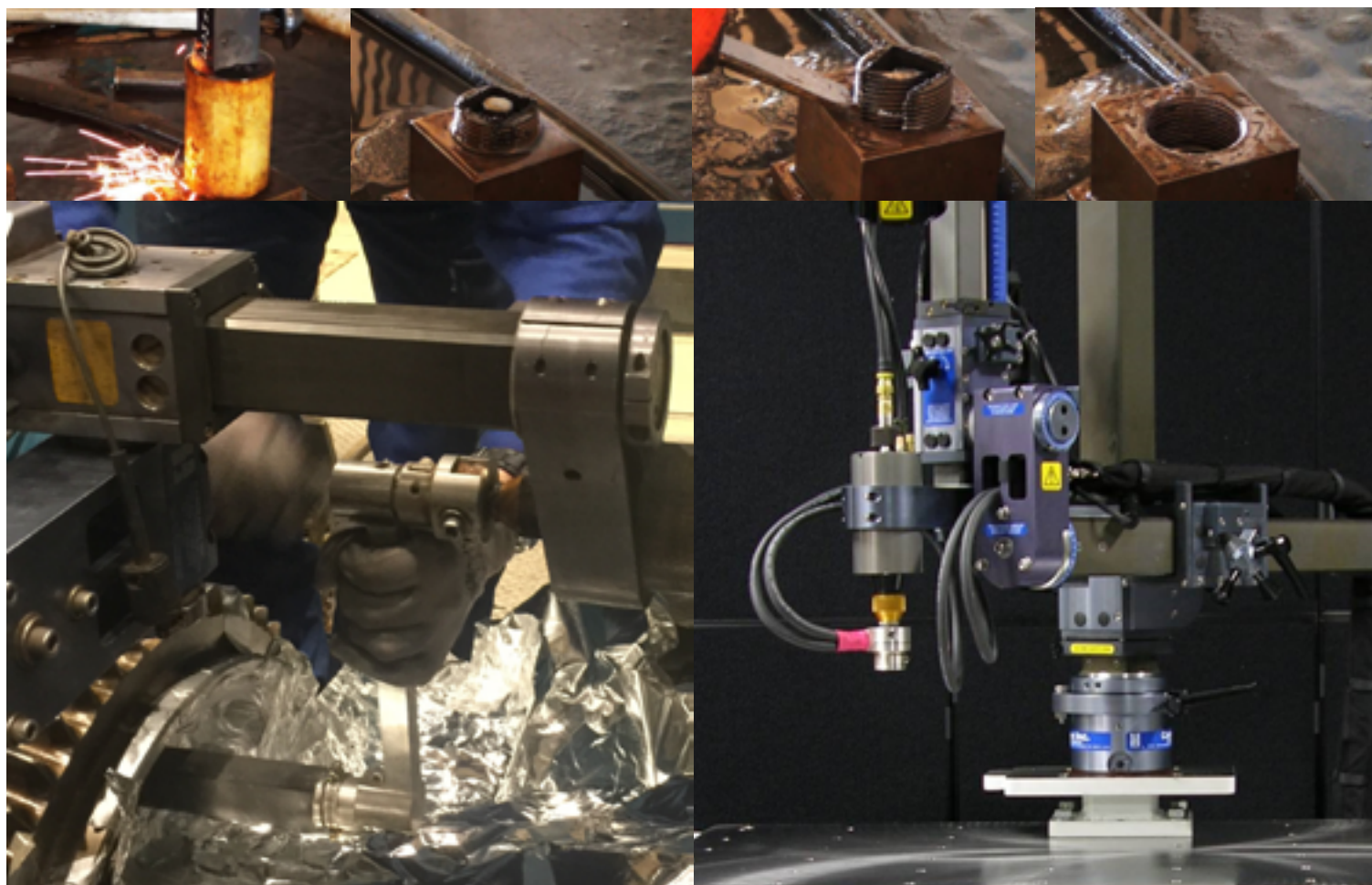
The typical problem of mechanical couplings with seized stud bolts can be solved only by destroying the stud, without any damage to threaded hole. Destruction can be carried out by spark erosion (EDM) instead of mechanical progressive drilling which takes at least five times longer.

Working range

This process can be performed in any position (included overhead), without limits on size by progressive cut.

SPECIAL ADD-ONS & CUSTOMISATION

Several shapes of electrodes available for any kind of destruction in the shortest amount of time. Automatic feeding applied to reach high precision and low execution time. Available for anchoring/positioning system and shape of cut.



GAS TURBINE CASING ALIGNMENT AND DOWELLING

Critical activity for checking the alignment of all casing, from inlet to exhaust, movement of elements out of correct position and realignment with new studs (by boring to diameter greater than original or the creation of new holes).

The Engineering Team provides supervision of all staff operations and comprehensive technical report of each verification step.

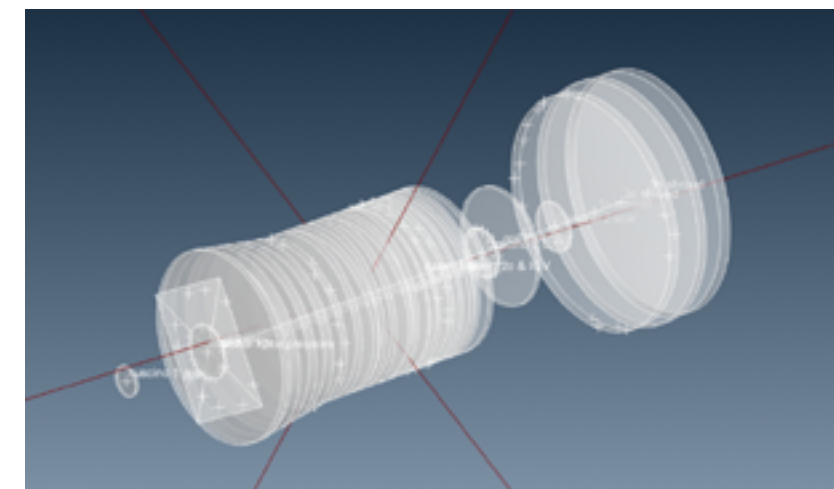
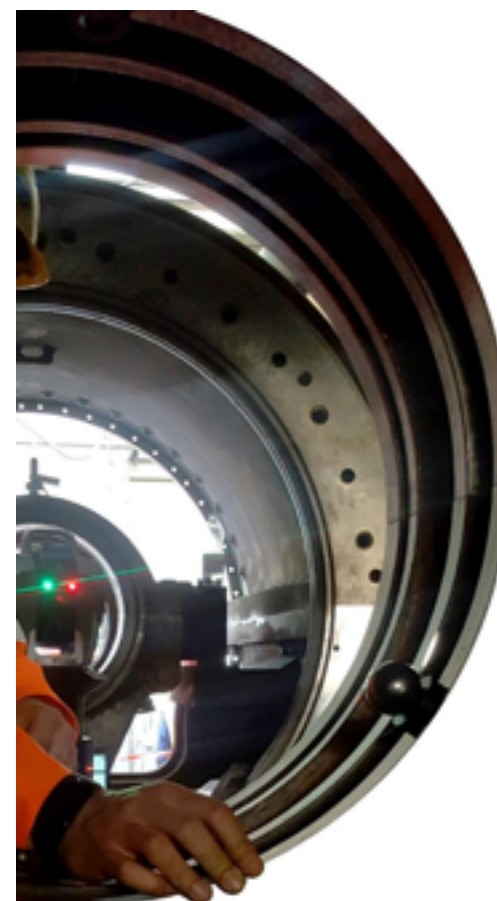
Measurement results are available in "real time" to provide details of relevant movements of casing to achieve alignment. The main effect of this feature is great time savings in terms of alignment compared to old, traditional methods (wires, gauges, etc.).

Working range

No limit, activity possible on any model of turbine or other similar machines.

SPECIAL ADD-ONS & CUSTOMISATION

Any alignment check requires high customisation of support tools and technical procedure.



CONTROL VALVE SEAT REPAIR

This service pack is intended for any End User, Overhaul Service Provider, or OEM of steam turbines needing to repair control valves with toroidal seat included in valve body.

The activities are carried out using a CNC drilling machine and an orbital welding machine (twin solution to facilitate transition between the two machines), consisting of the following steps:

- Stripping - Removal of the damaged overlay material (sometimes including the entire cladding and thermally affected zone).
- Welding - Welding of new base material and/or overlay material.
- Shaping - Machining of the welded overlay to reach the nominal profile. If necessary, the highest level of finishing can be achieved by lapping (usually CNC drilling ensures 100% contact via blue check).

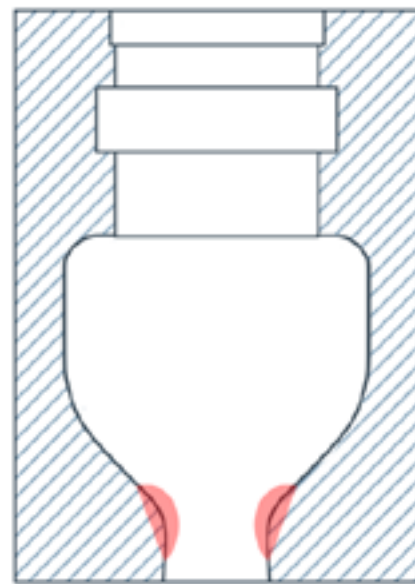
In case of minimal damage on the seat surface, a short repair procedure can be applied by re-profiling the surface only.

Working range

Up to Ø335 x Depth 945mm from valve body flange. Oversize available on request.

SPECIAL ADD-ONS & CUSTOMISATION

Operations always engineered based on valve type and size.



EXHAUST VALVE POCKET REPAIR (ST)

This service pack is intended for any End User, Overhaul Service Provider, or OEM of steam turbines needing to repair control valves inside the steam chest at the top.

Pack provides various main operations, including:

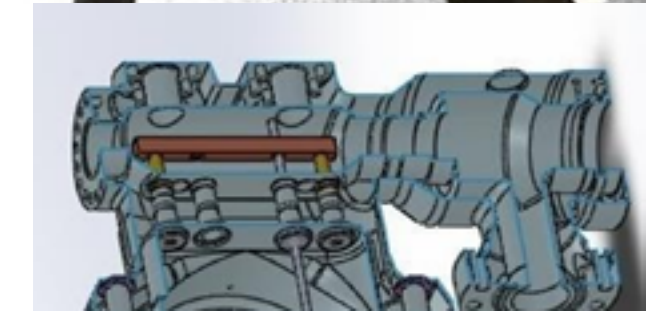
- Old valve seat removal, using liquid nitrogen and mechanical thrust
- Pocket re-machining for polishing or re-profiling
- New valve seats and plug assembly
- Any kind of modification required by the Turbine Engineering Dpt.

Working range

Valves of any size.

SPECIAL ADD-ONS & CUSTOMISATION

Operations always customised based on Customer requirements.



POWER COUPLING REPAIR

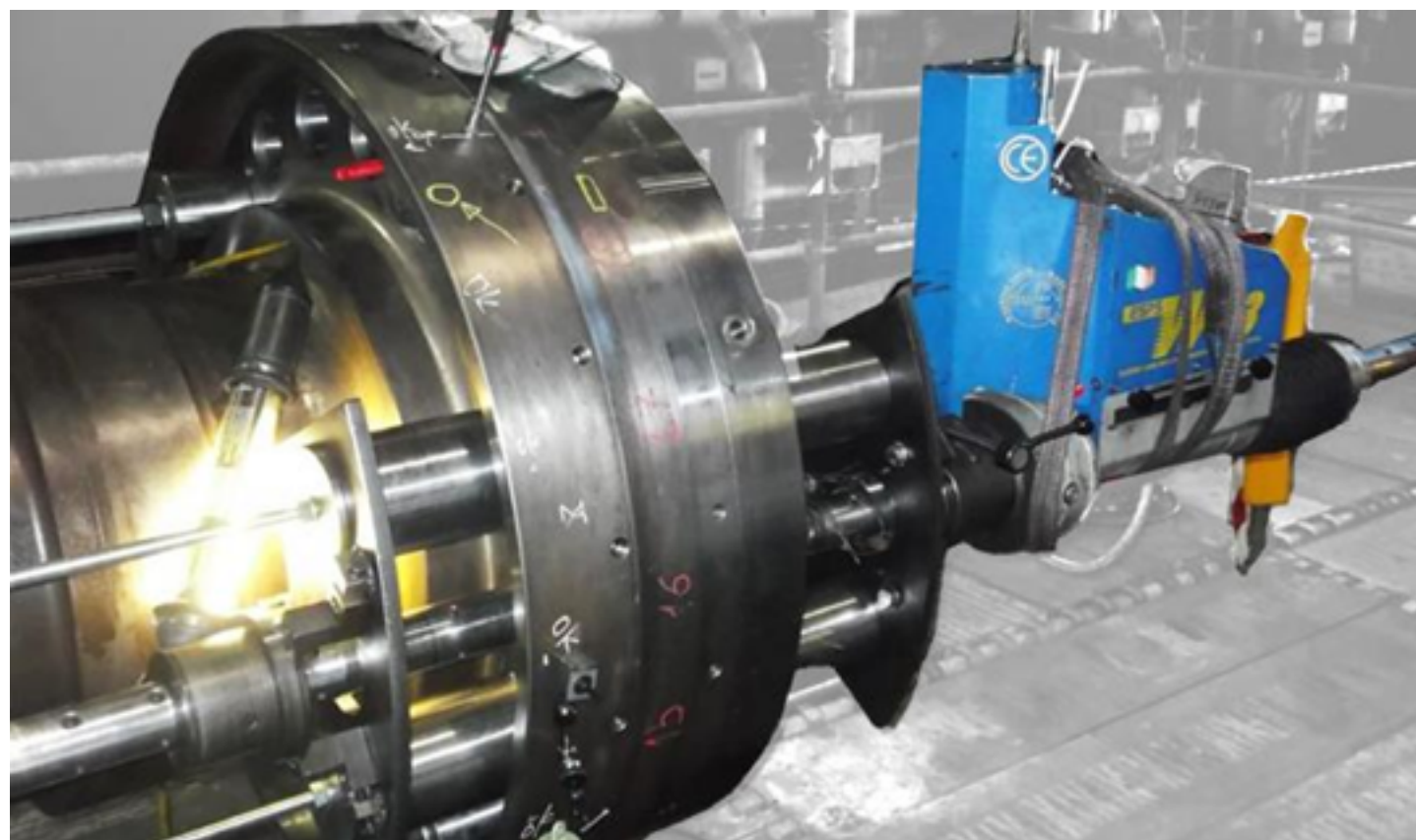
Power couplings are a critical part of a rotating machine for power transmission. The flange joint is assembled by calibrated bolts working under shear stress. For this reason it is important to perform machining on each hole on both flanges together, to achieve a perfect result in terms of coaxiality, diameter accuracy and roughness. This process is carried out by special low clearance boring machine and finishing by grinding stones. Our small machine makes it possible to work in the very small space between the rear surface of the flange and the turbomachinery housing.

Working range

Available to work on diameter up to 200mm, larger diameters upon customisation of equipment.

SPECIAL ADD-ONS & CUSTOMISATION

Customisation is always necessary to adapt the machine to the work situation. Also available to work on larger diameters.



SHAFT REPAIR (TURNING AND NOT TURNING)

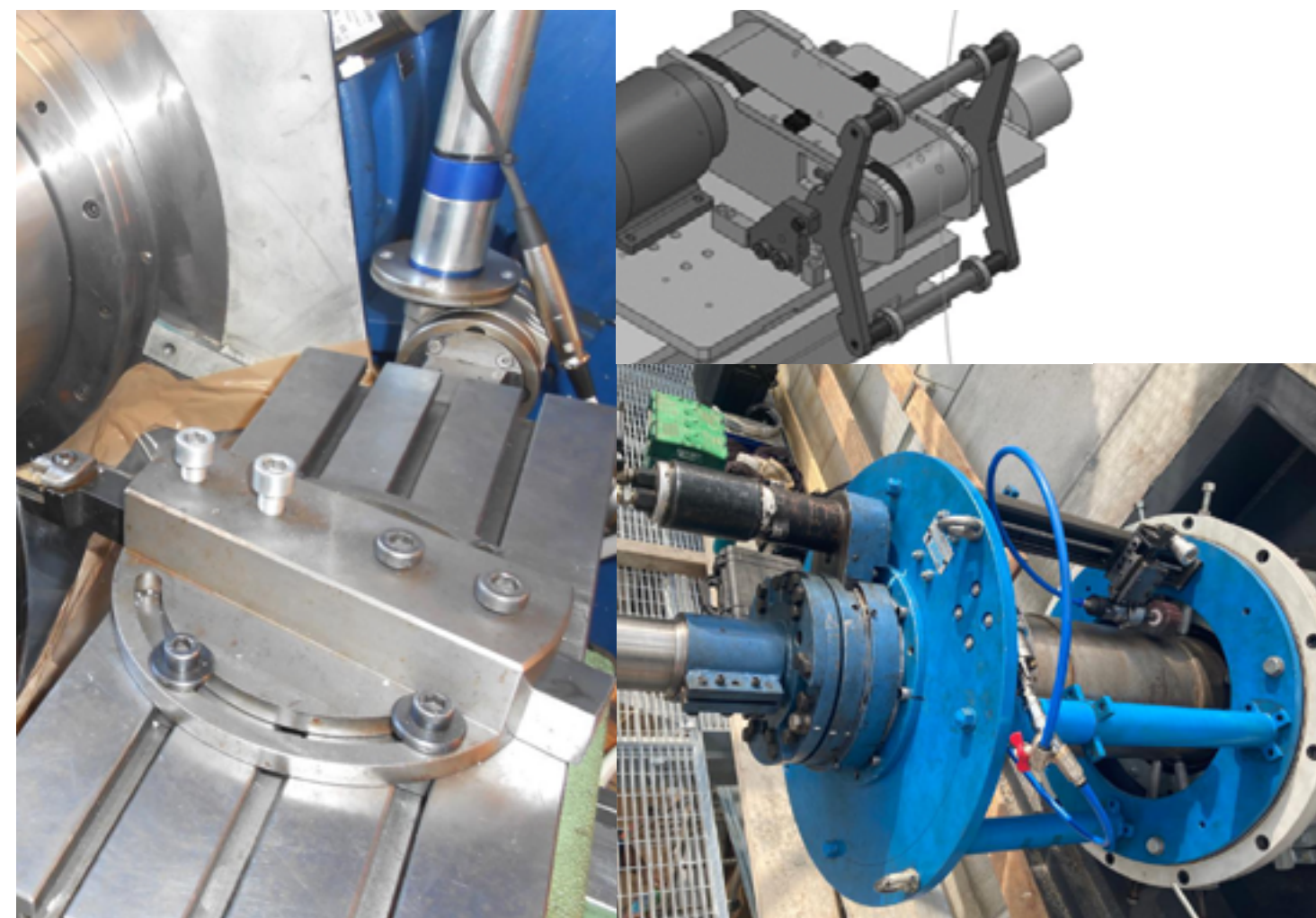
Packs designed to address cases of turning on external, centre or end shaft positions. Machining is performed by rotating the machine around the shaft/rotor, also inside its machine (e.g. turbine). These types of portable machine tool are designed to achieve high precision in terms of eccentricity and roughness.

Working range

Available machine sizes up to Ø800 for not turning shafts; no limit for turning shafts.

SPECIAL ADD-ONS & CUSTOMISATION

Available for working on larger diameters and dedicated configuration for each case. Grinding head to reach very low Ra roughness.



INDUCTION BOLTING

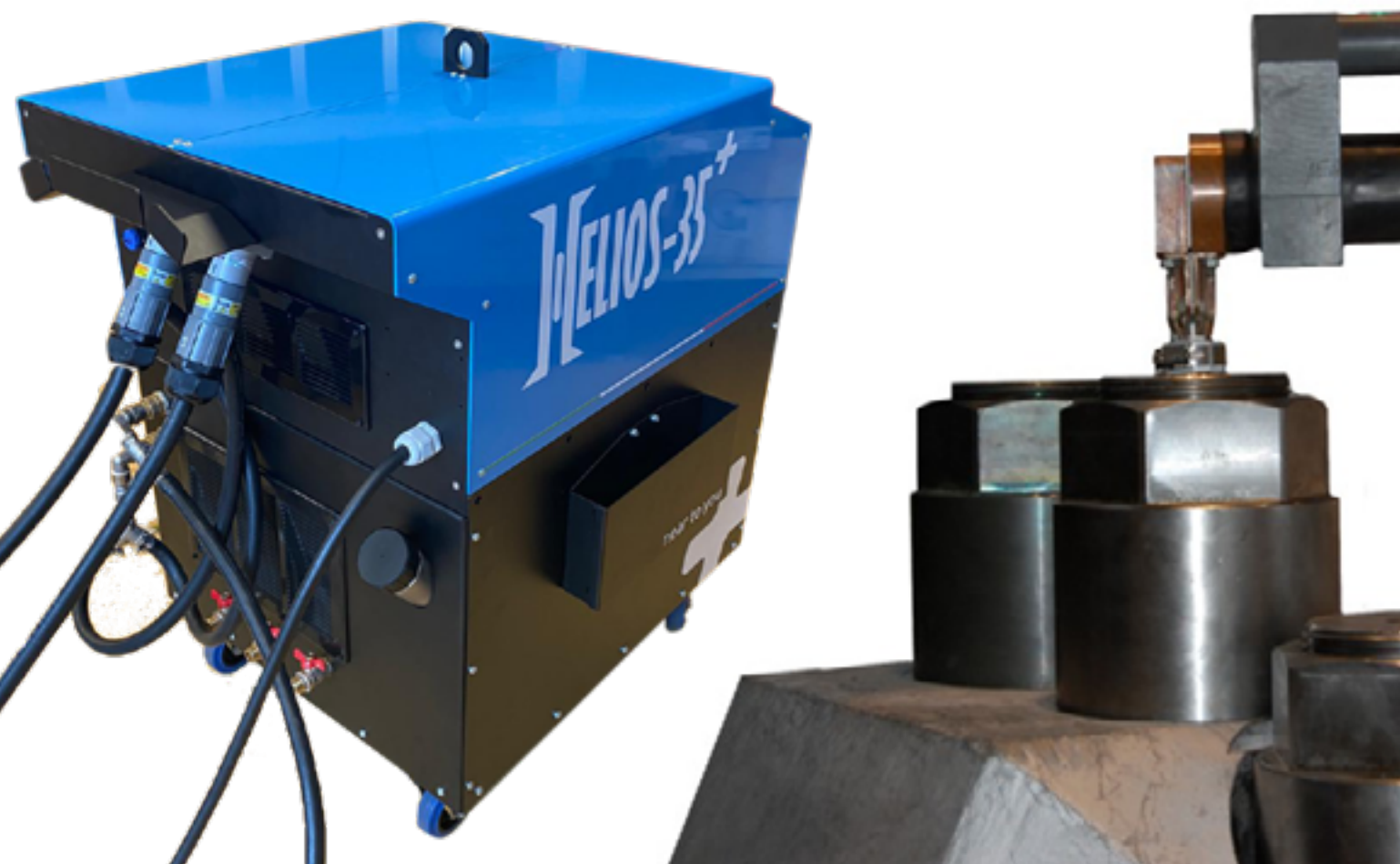
A small unit equipped with an internal cooling system, generates a magnetic field via an inductor. The magnetic field generated produces the final heating effect. The heat is necessary to mechanically detach the connection without damaging the sensitive parts involved as shown in the adjacent diagram. Induction bolting requires the application of drilled bolts/studs. The induction unit is “all-in-one” and requires only an electrical connection, no water connection/discharge required nor external chiller or other support tools.

Working range

Any kind of bolt/stud with central hole $\varnothing 9$ or bigger.

SPECIAL ADD-ONS & CUSTOMISATION

Remote connection for diagnostics, USB for system updating.
Customised inductors.
Heating timer.



TORQUE / TENSION BOLTING

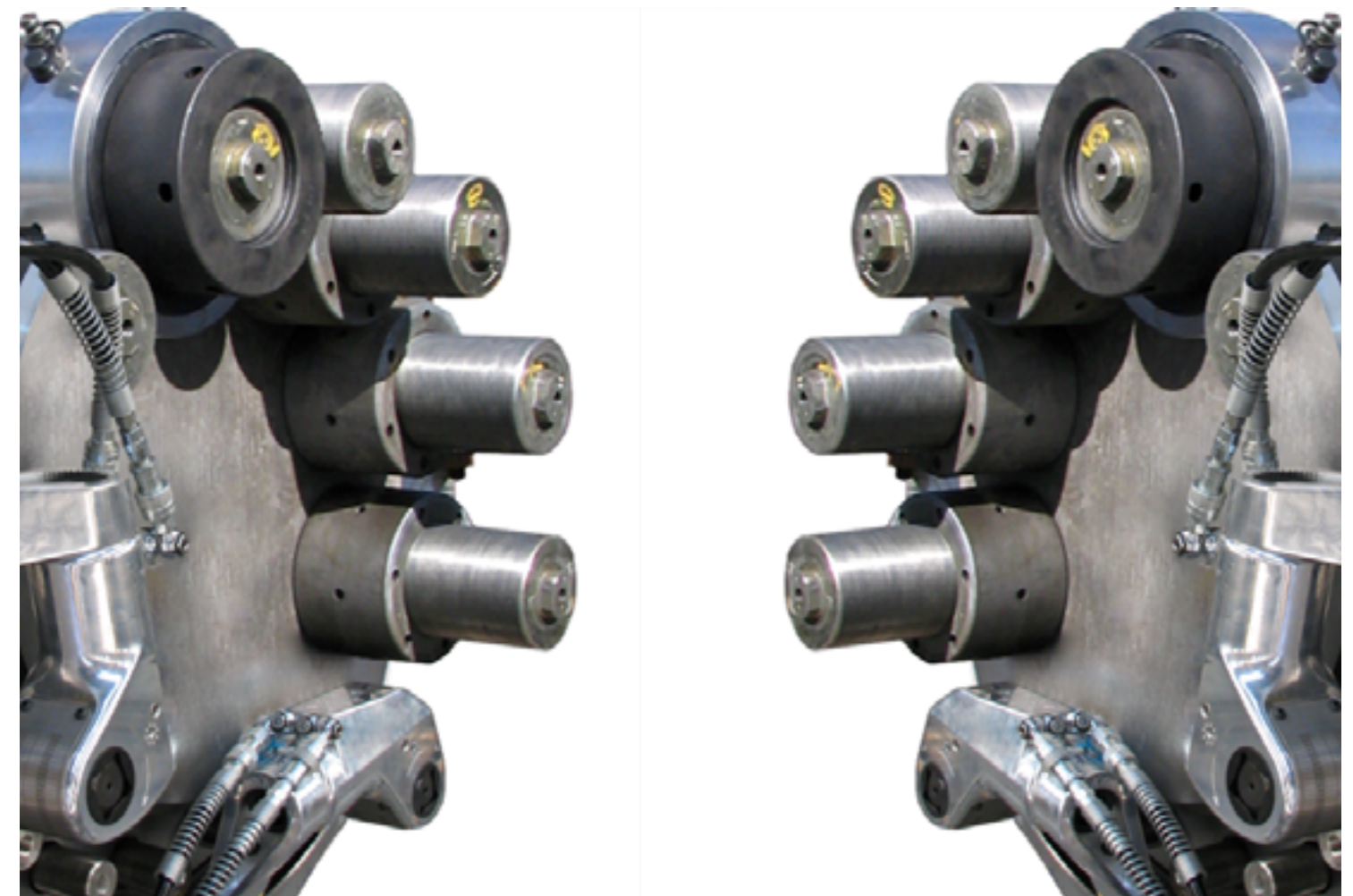
In all types of mechanical structures connected by bolts/studs, it is important to perform tightening while keeping the applied force controlled to the value required by the design. This only ensures the correct mechanical stress within the bolts and thus the mechanical characteristics of the entire structure will be optimal. Moreover, when bolts are fastened with high forces, suitable equipment is required to loosen them. Various devices can be used to achieve correct bolting: hydraulic torque wrenches (with square drive or low profile), hydraulic tensioners, pneumatic multipliers and battery-powered multipliers.

Working range

Up to torque 150.000Nm and tension up to 3200 kN (as standard).

SPECIAL ADD-ONS & CUSTOMISATION

Customisation available to achieve higher loads and dedicated shapes for each case.
Wide range of support tools for safety and productivity.





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near to you.

Nuova Simat S.r.l.

Via Spagna, 32-34 | Z.I. Guasticce - 57017 Collesalveti (LI) - Italy

Phone: +39 0586 983108

Mobile: +39 338 699 6109

Fax: +39 0586 984948

Email: info@nuovasimat.com

www.nuovasimat.com
