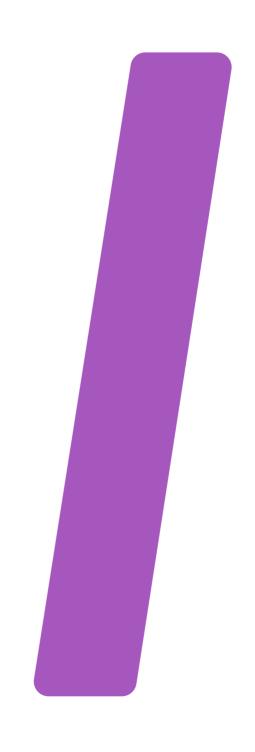
METAL FINISHING MACHINES



INNOVATION AND EVOLUTION





ALL-ROUND PARTNER FOR METAL FINISHING



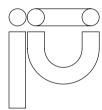


SHEET METAL DEBURRING

cut parts and sheet metal page 8 EVO advanced deburring features

page 18

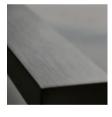


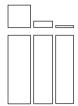


ROUND TUBE FINISHING

straight and bent tube

page 30





FLAT SURFACES FINISHING

flat bar and rectangular tube

page 42





FINISHING, MIRROR POLISHING AND DRILLING multipurpose

page 60 long belt finishing machines page 62 mirror polishing machines page 66 drilling machines page 70 belt grinding universal machines page 72

INTRODUCTION

REFINING SURFACES, MASTERING EVERY EDGE

We take pride in our range of machines and in providing crafted solutions to address the industry needs.

The Nexus building is a manifest of our dedication to fostering an environment of continuous evolution, development, and innovation, all centered around providing optimal solutions for the market.

With our customer-centric approach, we aim to facilitate seamless progress and success within the metal fabrication industry.

SOLID ENGINEERING

We are renowned for the robust engineering as well as delivering reliable and adaptable machines for the most demanding markets.

Designed for durability, easy maintenance and optimal performance, our machines provide ample operational capacity, accommodating diverse production needs.

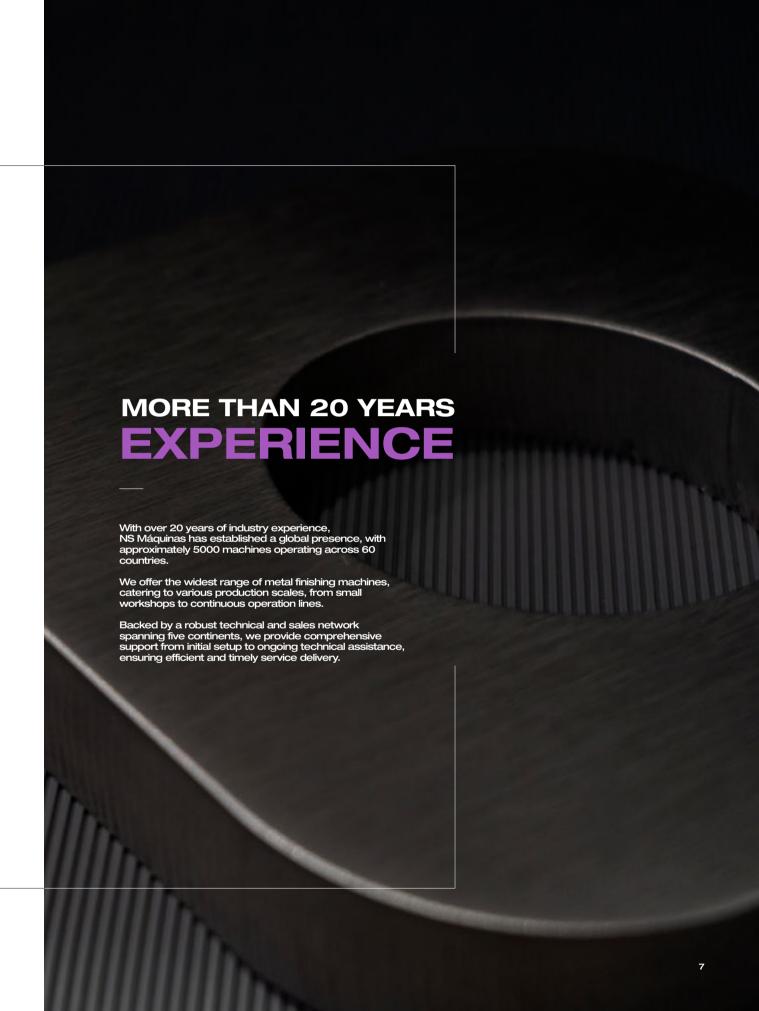
"We put all of our machines through a grueling pace throughout a day (...). A lot of them are running 24/7 and we haven't had any problem with them at all. Plus, we're actually running them outside of the envelope the machine was designed for."

Kevin Harding, Camdel Metals Corporation, USA, about the ML100 3Z

CONSTANT

We continually pioneer the design and production of machines for the metal finishing and deburring markets. Our dedicated engineering team ensures that we drive this evolution in-house.

This dedication to advancing technology is evident in the development of automated loading systems, as well as an approach to refine each machine generation, emphasizing efficiency and an ergonomic design.









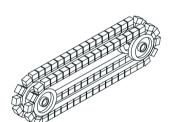
DM

DEBURRING SOLUTIONS

During sheet metal cutting processes performed by laser, punching, plasma or oxy-fuel cutting the edges of the cut parts often gain sharpness, a burr or even a heavy slag.

Smoothing these inner and outer contours is often required both for safety and technical reasons.

NS Máquinas has dedicated solutions for deburring and edge rounding either thin metal or thick metal sheets, in one side or on both sides of the workpiece.

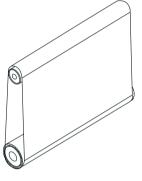








_ a crossbelt system with counter-rotating abrasive blocks is used to make edge rounding on laser, punch, shear or waterjet cut parts









_ a wide belt abrasive unit is employed to remove burrs from the laser and plasma cutting process









_ a larger diameter grinding contact drum is utilized to remove dross on thick steel plates from plasma and oxyfuel cutting

DM1100 C / EDGE ROUNDING

JOB-SHOP VERSION





crossbelt



_ two abrasive cross edge rounding in every corner of the part



_ strong edge rounding on parts down to 50x50mm



_ parts return system improves productivity on small parts or double sided operation



DM1100 C



DM1100 Z / DEBURRING AND SURFACE FINISHING

___ JOB-SHOP VERSION





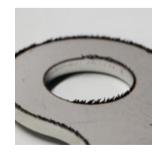
abrasive belt station



_ the abrasive belt station has a large diameter contact roller with Ø180mm diameter and 55SH, allowing for both deburring and finishing operations



_thickness is adjusted on an easy-to-use wheel with a 1/10mm precision display

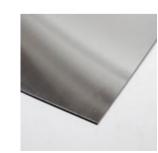




_ intuitive adjustments with a digital ammeter to check contact roller pressure



_ the machine was developed to deburr metal parts cut by laser, punching or shearing



DM1100 Z



DEBURRING SOLUTIONS

DM1100 ZC / DEBURRING AND EDGE ROUNDING

__ JOB-SHOP VERSION





1 side

abrasive belt and cross belt station



_ deburring and edge rounding with an abrasive contact roller and cross belt system



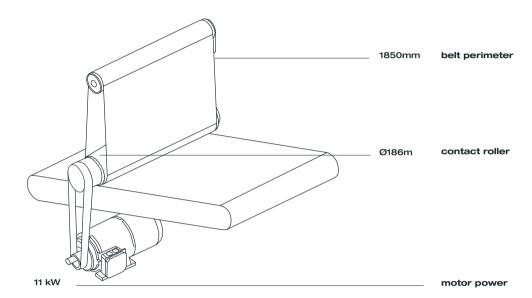
_ simple adjustments integrated on the machine for a quicker, mode intuitive and reliable thickness and pressure



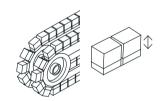


·····

DM1100 ZC ___JOB-SHOP VERSION







abrasive wear adjustment

Quick manual reset of abrasive blocks wear.



__ learn more about the DM1100 ZC EVO option on page 22 scan the QR CODE to watch the machine demonstration video



2



EVO

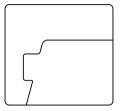
ADVANCED DEBURRING FEATURES

EVO is improving our heavy-duty engineering principles, delivering powerful smooth deburring and edge rounding processes.

EVO is our next-level approach to sheet metal

deburring.

EVO is elegant design, keeping the integration of peripheral loading/unloading systems and automation equipment in mind.

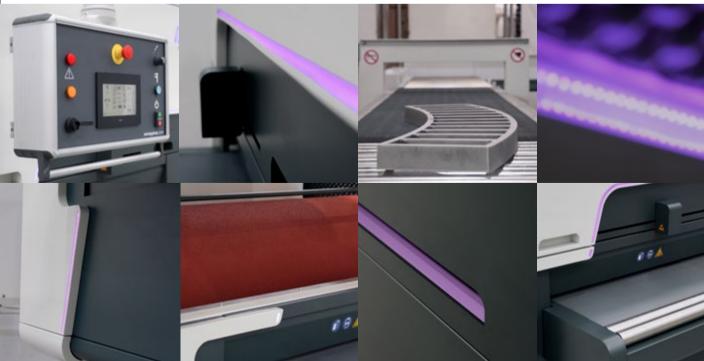




- _ heavy-duty engineering
- _ automated adjustments
- _ generous space for maintenance
- _ touchscreen control
- _ remote process monitoring
- _ interior lighting
- _ fixed working height

scan the QR CODE to watch EVO Line design and features





DM1100 2C EVO / DOUBLE-SIDED EDGE ROUNDING ___ TOP LINE AUTOMATED



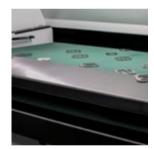


2 sides

cross belt



_ top and bottom edge rounding of laser, waterjet or punched parts



_ single sided small parts processing down to 50x50mm thanks to on additional conveyor and support table





DM1100 2C EVO



DEBURRING SOLUTIONS

DM1100 ZC WO / DEBURRING AND EDGE ROUNDING

____ TOP LINE AUTOMATED



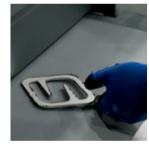


1 side

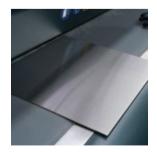
abrasive belt and cross belt station



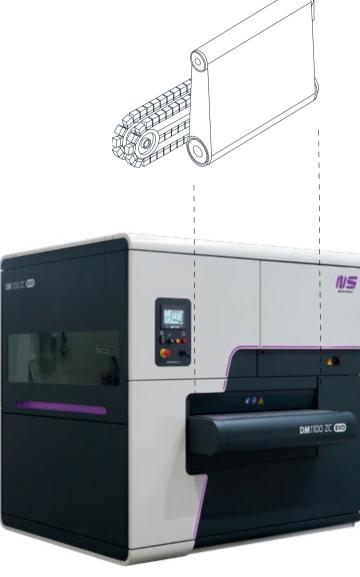
_ features a powerful deburring and edge rounding stations



_ strong edge rounding on parts down to (50x50mm)



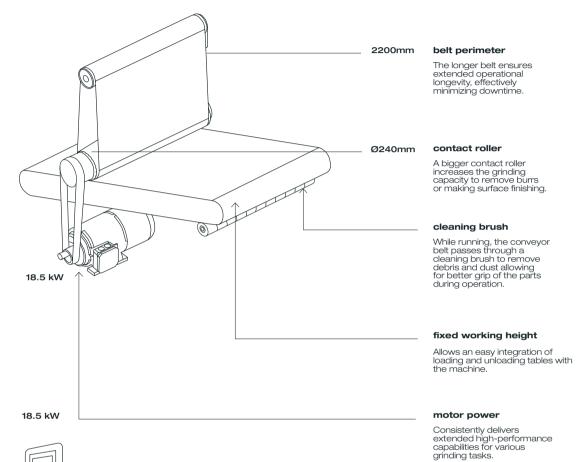
_ special wide belt programs: deburring or surface finishing



,,,,,

DM1100 ZC EVO

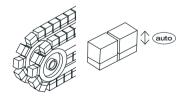
DM1100 ZC EVO





control

Most of the controls are on the touchscreen panel without the need to manually adjust the parameters. Includes statistics and errors during and about the operation.





scan the QR CODE to watch the machine demonstration video

auto abrasive compensation

Automatic abrasive wear compensation cycle to ensure uniform rounding.

DM1100 DC EVO / SLAG REMOVAL ___ HEAVY-DUTY AUTOMATED









1 side

contact drum and cross belt



_ heavy burrs deburring and edge rounding



possibility of regulating which stations will work and at what speed, the working pressure for both stations, floating drum on/off and drum oscillation



_ smooth edges two cross belts mounted with abrasive blocks running in opposite directions





DM1100 2Z EVO / SURFACE FINISHING

TOP LINE AUTOMATED











_ double or triple abrasive belt station plus finishing brush (2ZK and 3ZK)



brush unit with option to be used with oscillation (150 strokes/min)



smooth surface finishing



_ consistent and

dry version



water version

DMW1100 2Z EVO / SURFACE FINISHING

___ TOP LINE AUTOMATED









water

1 side

1-6

0-2

_ independent stainless steel compartments for each finishing station



_ the automatic filter assures the continuous renovation and monitoring of the filter paper cleanness







EDGE ROUNDING

	С	C EVO
category	job-shop version	automated functions
available width (mm)	1100 1600	1100 1600
operation type	single-sided	single-sided double-sided

DEBURRING AND SURFACE FINISHING

	z	ZC	zc (evo)	DC (EVO)	z evo
					_
category	job-shop version	job-shop version	top line automated	heavy-duty automated	top line automated
available width (mm)	1100 1600	1100 1600	1100 1600	1100 1600	1100 1600
edge rounding mode	×	single-sided	single-sided double-sided	single-sided double-sided	×
deslagging level	•00	•00	••0	•••	×
deburring level	••0	••0	•••	•••	×
surface finishing level	••0	••0	•••	×	•••
not suitable $ imes$	limited ●○○	á	adequate ●●○	optimal ●●●	



ROUND TUBE scan the QR CODE to see the machine demonstration video **ML**100 32 / NS MÁQUINAS

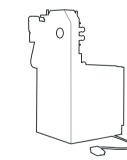
ML

STRAIGHT AND CURVED TUBE FINISHING

ML planetary system is suitable for straight and curved tubes finishing. In this operation the tube is not spinning since the abrasive belts rotate around the tube while it is safely transported by the feeding systems, guaranteeing low vibration and low heat.

By sliding the feeding units, it is possible to process curved tubes manually. The operator simply guides the tube through the machine while the abrasive planetary system performs the finishing in the complete diameter of the tube.

- _ minimum vibration even on longer tubes
- _ straight or curved tube polishing
- _ low heat







Ø 76mm



ML100



Ø 114mm







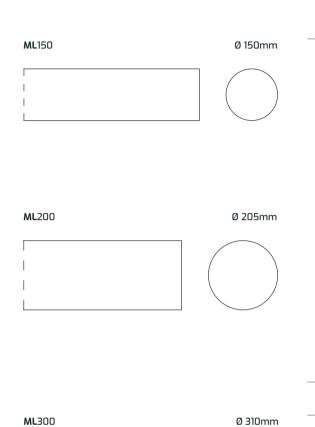


ML50 Ø 50mm





LARGE DIAMETERS / ROUND TUBE FINISHING MACHINE

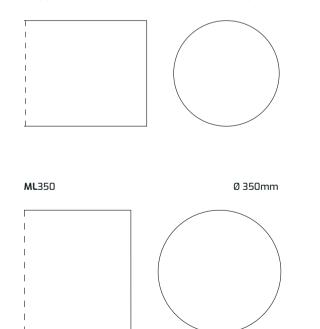


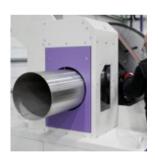


_ automatic finishing of straight round tubes through the feeding system



_ the automatic feeding system is hinge mounted and easily removable for bent tube finishing





_ strong and solid design of the feeding systems for straight tubes



_ remove imperfections by using the contact pressure roller on the abrasive belt for higher pressure



MULTIPLE STATIONS / ROUND TUBE FINISHING MACHINE

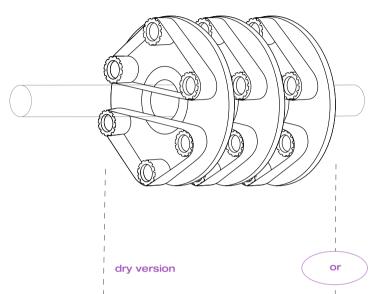




Ø 114mm

2-6





water version



ML100 2Z



MLW100 3Z

_ simpler maintenance and setup: reduced complexity and straightforward operation

_ easily exchange between various metals, reducing the risk of corrosion

_ dust extraction: an external dust extraction unit manages and removes dust generated during grinding process - this maintains a clean and safe workspace _ cooling: water is sprayed onto the finishing area to reduce heat generated during grinding and improving safety on potential explosive materials

_ dust suppression: water controls dust generated during the grinding process, creating a cleaner and safer work environment

_ closed circuit system: the machine can integrate a manual or automatic filtering system, minimizing water wastage



MLW100 6Z AT / AUTOMATIC PROCESS **ROUND TUBE FINISHING MACHINES**

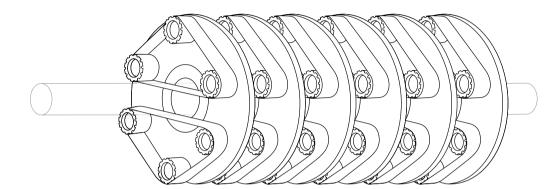






Ø 114mm

water





MLW100 6Z AT

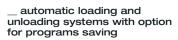






_ water cooling system

great savings in handling time and operator intervention







DRY OPERATION

	ML50	ML75	ML100	ML100 Z	ML150 + ML200	ML300 + ML350
diameter capacity (Ø mm)	5-50	10-76	10-114	10-114	20-150 20-205	40-310 60-350
no. of stations	1	1	1	2-3	1	1
bent tubes	/	<u> </u>	<u> </u>	×	<u> </u>	×
abrasive belt dimensions (mm)	25x500	25x860	50x940	50x940	50x1100 70x1240	120x2150 120x2300

WATER OPERATION

	MLW100	MLW100 Z	MLW200	MLW200 Z
diameter capacity (Ø mm)	10-114	10-114	20-150	20-205
no. of stations	1	2-6	1	2-6
bent tubes		×		×
abrasive belt dimensions (mm)	50x940	50x940	70x1240	70x1240



FC120 ZK / FLAT SURFACE FINISHING __ JOB-SHOP VERSION









120mm max width



_ abrasive belt head surface finishing and imperfections removal for square and rectangular tubes, flat bars and small sheet metal



_ smooth finishing after belt grinding operation with non-woven brush

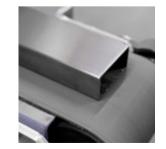


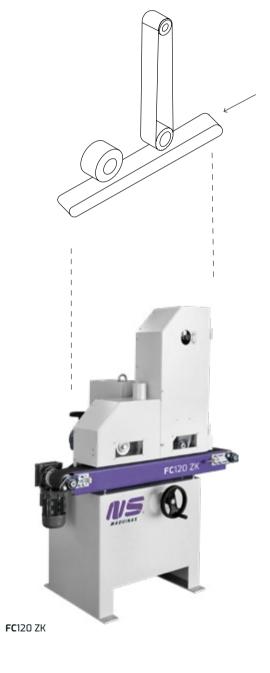
_FC120 Z has one abrasive belt unit

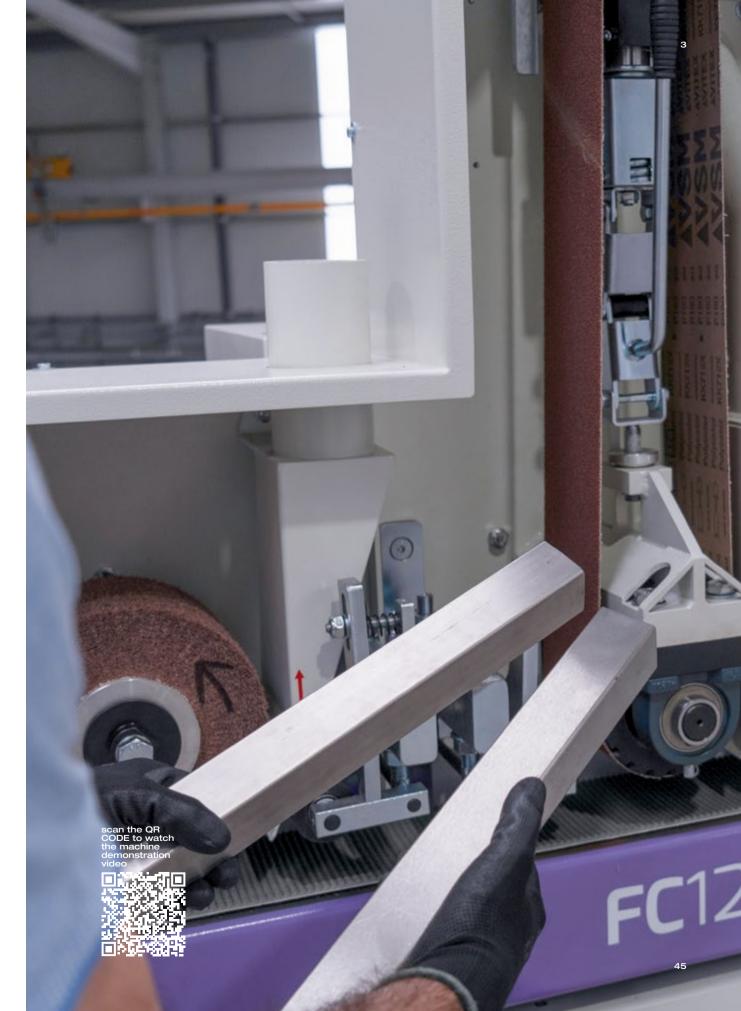


_compact machine with thickness meter with a precision of 1/10mm









FG

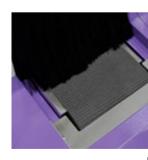
FLAT SURFACE FINISHING













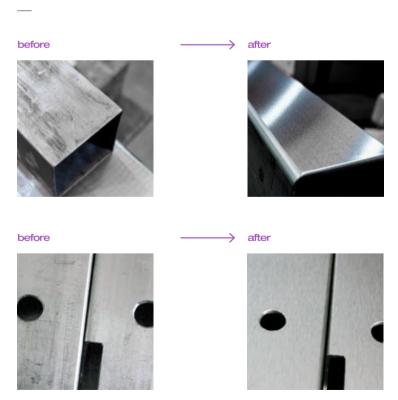
_ fixed working height
the adjustment for different thicknesses is made by the movement
of the abrasive stations, keeping the conveyor belt always at the same level,
this helps the work of long tubes and bars without having to adjust support tables

_ configure each machine with different combinations of abrasive belt and brush stations for an optimum finishing level of tubes, bars and small sheet metal

FG ABRASIVE BELT AND BRUSH COMBINATIONS

ZK 2ZK **FG**220 2ZK **FG**330 2ZK **FG**170 ZK

FG SURFACE FINISHING EXAMPLES



FG220 4ZV / FLAT SURFACE FINISHING





220mm max width

2+2



_ finishes tubes and bars on 2 sides simultaneously

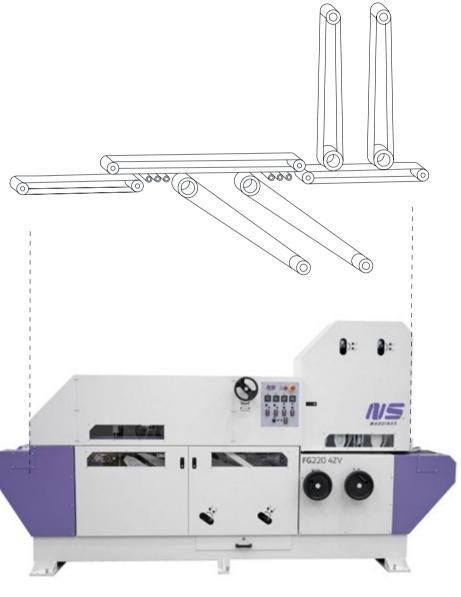
_ complete polishing of the 4 sides of the square tube in 2 passes only



upper belt stations permit independent work of all abrasive stations, making it possible to operate only one side



_ finishing of the bottom side of the profile with bottom stations



FG220 4ZV



FCW120 Z / FLAT SURFACE FINISHING __ JOB-SHOP VERSION









water cooling



_ abrasive belt head surface finishing and imperfections removal for rectangular tubes and flat bars



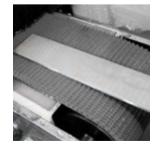
_ quick and intuitive machine control



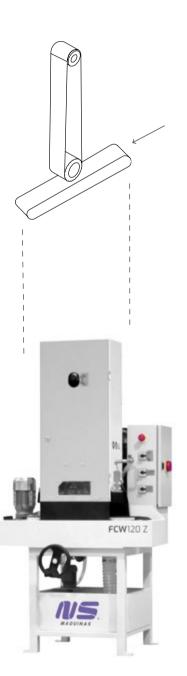
_ water cooling reduces the heat on the grinded material



_ tank and water pump: cooling system in a closed circuit









FCW120 Z

FGW

FLAT SURFACE FINISHING







0-2

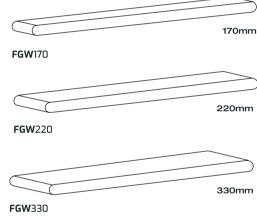
1 side

2-6

water cooling







FGW170 3Z



_ independent abrasive stations construction: accurate setting



_ high quality surface finishing on stainless steel tubes, tube after

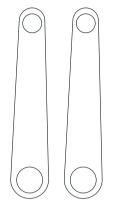


 $_$ mobile control panel

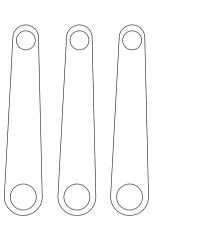


_ standard manual filtration system integrated on the machine

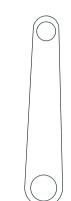
FGW ABRASIVE BELT COMBINATIONS







70 3Z 220 3Z 330 3Z



х6

FGW170 6Z **FGW**220 6Z **FGW**330 6Z up to 6 stations

OPTIONAL FUNCTIONS



_ automatic return of small parts for single worker operation

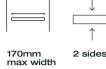


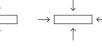
_ automatic water filtration system provides an autonomous renovation and monitoring of the filter paper's cleanliness



_ air blower: reducing the quantity of splashes outside of the machine

FGW170 4ZV / FLAT SURFACE FINISHING









water cooling



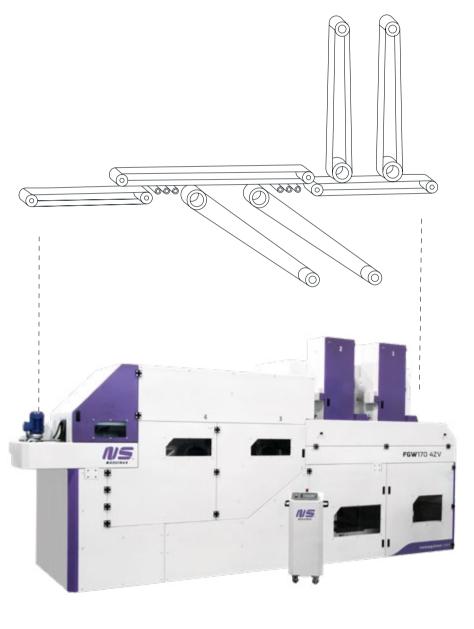
_ FGW170 4ZV top and bottom finishing of tubes, bars and aluminum profiles in one single pass



_ FGWH170 8Z finishes all four sides simultaneously



_ touchscreen panel for automatic regulation with programs saving feature



FGW170 4ZV



TR120 / BARS SIDE SURFACE GRINDING

 $\qquad \qquad \longleftarrow$



side arindina 1-3

0-2



_ vertical abrasive belt oscillation for a constant wear of the abrasive and a lower heat process

TR120 3Z2L

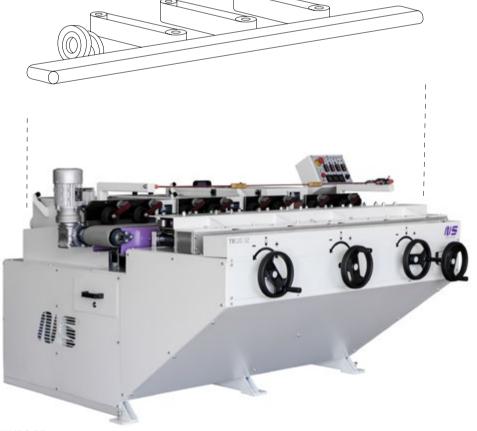
TR120 2Z2L

TR120 Z2L



_ machine with 2 counter rotating lamella wheels for sharp edge breaking after side grinding heads





TR120 3Z





DRY OPERATION

	FC120	FG170	FG220	FG330	TR120
capacity (mm)					
width x height	120x120	170×200	220x200	330x200	300x25
and a final base of the					
no. of abrasive belt stations	1	1	2	2	1-3
no. of abrasive brush stations	0-1	1	1	1	1
top and bottom version	×	×	FG220 4ZV	×	×

WATER OPERATION

	FCW120	FGW170	FGW220	FGW330	TRW120
capacity (mm) width x height	120X120	170x200	220x200	330×200	300x25
no. of abrasive belt stations	1	2-6	2-6	2-6	6
top and bottom version	×	FGW170 4ZV	×	×	TRW120 6Z4LH







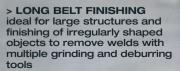






square metal structures bars





NS.

LB50

> TUBE DRILLING with optimized drilling processes with single or dual stations, enabling precise operations for various tube and bar applications

> MIRROR POLISHING catering to round, square or rectangular tubes and bars with automated features and high pressure polishing

> TUBE END DEBURRING to remove tube sharp edges with dual rotation brush, deburring various shapes quickly without manual tube rotation

> MULTIPURPOSE with adaptable, multi-functional machines for metal finishing, polishing and rectification, suitable for diverse surfaces, weld seams and metal sheets

LMD

LMD2500 / LONG BELT FINISHING MACHINE





single abrasive belt

large 3D parts



deburring tool

interchange between grinding and scotch pads and edge rounding brushes



quick exchange between flat finishing tool, contact roller or manual pad

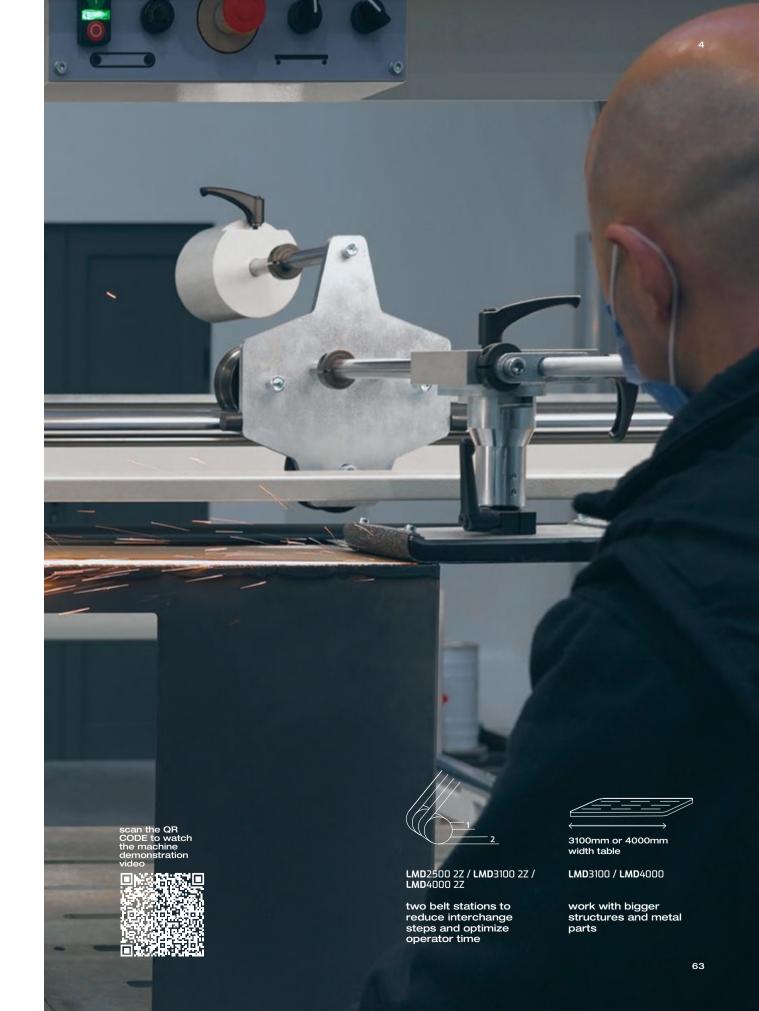












LMD2500 2Z / HANDLING DEVICE







twin abrasive belt

interchangeable

large 3E



deburring tool

use different pads and brushes for orbital finishing ou sharp edges removal



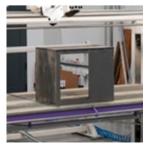
3D handling device

allows effortless movement of welded structures by easily move the part in different directions to finish each surface









scan the QR CODE to watch the machine demonstration video





MIRROR POLISHING

MP100 / ROUND TUBE POLISHING



Ø 114mm







straight

_ mirror polishing and high gloss finishing in round tubes



_ planetary polishing system that consists on three planetary polishing wheels which rotate around the tube applying high pressure



_ straight and curved tubes: capable to operating both straight tubes (automatically) and curved tubes (manually) by simply sliding the automatic feeding system





wheels either by the indication of the operator or by time setting





MP100



RECTANGULAR TUBE AND FLAT BAR POLISHING PP220 2K /

square tubes and bars







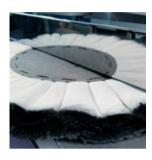


2 polishing stations





_ two independent polishing stations with the possibility to adjust pressure and speed of each unit individually



_ through-feed system delivers a fast output in rectangular/square tubes and flat bars mirror polishing

PC70 2P / **ROUND AND RECTANGULAR TUBE POLISHING**













70mm

2 polishing stations





_ machine developed for an automated and programmable top quality mirror polishing



_ the machine is equipped with two stations contributing to a faster tube polishing, with tube internal supports for a scratch-free process



TDM

TDM100 / TUBE DRILLING MACHINE

Ø 114mm 3000mm

110x15

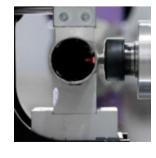
100x 100mm

semi-automatic version

single station



TDM100





automatic version



dual-drilling station

automated process

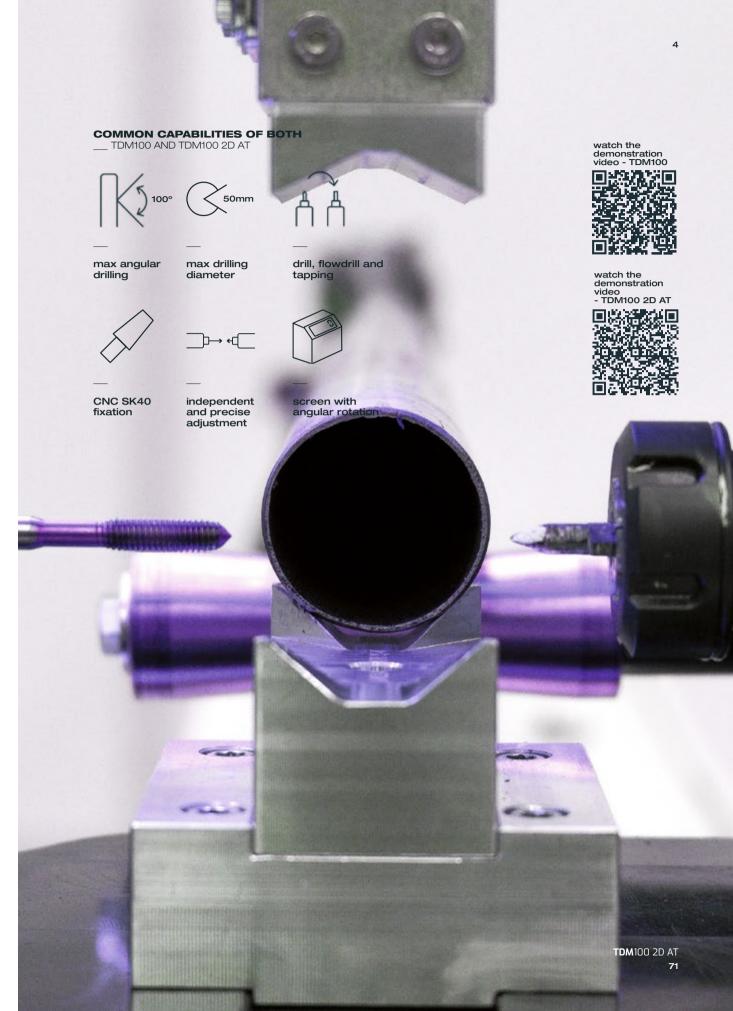
program-saving feature and live remote monitoring



TDM100 2D AT







LHV200 + LV200 __ TABLE BELT GRINDING MACHINES





_ LV200

vertical belt with integrated stainless steel table with angular regulation and an aluminum profile guide for accurate angle positioning of metal parts



_LHV200

the abrasive belt can be used vertically or horizontally and the robust table can be adjusted in different angles to allow flexible side finishing

OD120 / __ TUBE END DEBURRING





_ up to 3x faster tube end deburring since the wire brush rotates around the edge of the tube



_ deburr different shapes from round to square and rectangular tubes and even aluminium profiles, treating all the edges uniformly



PL40 / __ BELT GRINDING OR WHEEL POLISHING





_ simple and reliable grinding and polishing machine with single motor design



_ different configurations available with wider arms for more complex shapes processing

PL80 / __ BELT GRINDING OR WHEEL POLISHING





_ dual motor machine _ dual motor machine with independent stations and stronger construction to operate with two workers at the same time and reduce vibration



_ the machine is available in three combinations of polishing wheels and belt grinding arms for perfect adequacy to different operations



LR30 AT / __ DOUBLE-SIDED SHEET METAL DEBURRING





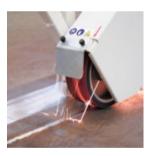
_ two abrasive lamella wheels rotate in opposite directions, removing the burr on both edges of laser or shear cut parts



_the metal sheet is transported by a roller feeding system or manually

CLF75 / __ MOBILE GRINDING AND POLISHING

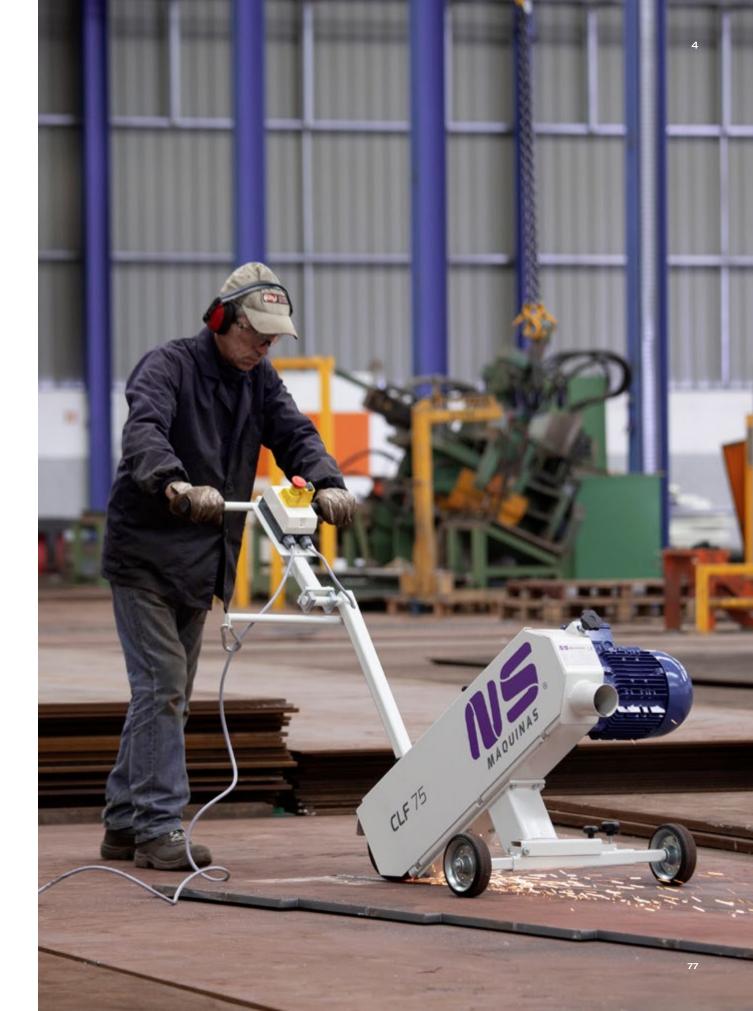




_ grinding weld seams with the contact roller



_easy to move and use the machine along wide and heavy metal sheets



DM1100 Z high efficiency extraction _ "AS" series water operated extraction __ "AW" series basic line extraction _ "A" series DC EVO single or double bag filters to remove and filter large particles from the surface finishing process water operated filtration reduce fire risk and/or is suitable to operate with different materials; available in steel or stainless steel isolated extraction with self cleaning cartridges and spark extinguisher chamber; perfect solution for deburring and finishing machines 78 / NS MÁQUINAS

LONG BELT FINISHING

	LMD2500	LMD2500 2Z	LMD2500 AT
type of station	single	double	single
type of operation	 manual	manual	automatic
available width (mm)	2500 3100 4000	2500 3100 4000	2500

TUBE DRILLING MACHINES

	TDM1100	TDM100 2D AT
type of station	single	double
type of operation	semi automatic	automatic
max capacity	● 114 ■ 100X100 ■ 110X15	● 114 ■ 100X100 ■ 110X15
available length (mm)	3000	3000

MIRROR POLISHING MACHINES

	MP100	RC200 + RC250	PP220 2K	PC70 2P
metal shape	round tube	round tube	square tube and bar	round and square tube
optimization	straight and bent tubes mirror polishing	grinding and mirror polishing	flat surfaces mirror polishing	high-quality mirror polishing
max capacity (mm)	Ø114	Ø250	220x200	Ø70 or 70x70

BEHIND THE SCENES DISCOVER, TEST, SUCCEED

Delve into NS Máquinas machines and engineering by visiting NEXUS. Join us in our dedicated building to connect with our team, explore our production facilities, and witness the power of our machines firsthand in our showroom.

Expect a personalized experience tailored to showcase what is NS Máquinas.







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