RED MACHINE s.r.o.

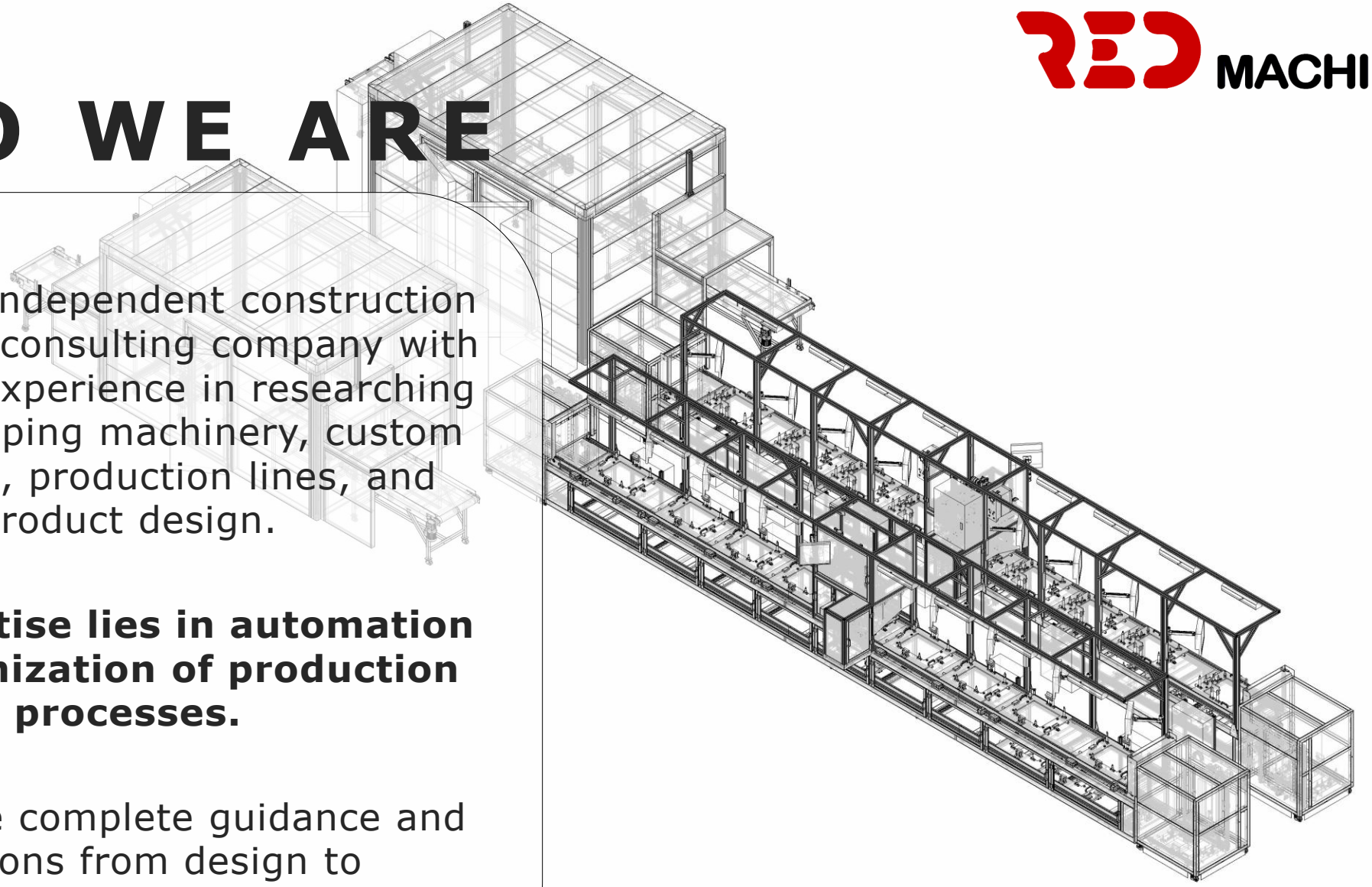
RED MACHINE s.r.o.

WHO WE ARE

We are an independent construction and design consulting company with extensive experience in researching and developing machinery, custom machines, production lines, and product design.

Our expertise lies in automation and optimization of production processes.

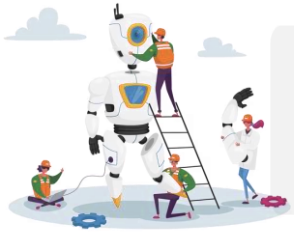
We provide complete guidance and solutions from design to implementation.



RED MACHINE s.r.o.

OUR PROFILE

A small and dynamic company based in the Czech Republic, dedicated to delivering comprehensive and efficient solutions through our extensive network of partners.



Whether small-scale or large project, we are equipped to handle them all.

Proud of our long history of successful implementations across Europe, America, Asia and Australia.

Join our network and gain quick access to a world of expertise and innovation.

RED MACHINE s.r.o.

OUR MISSION

Outsourcing Reduction

Our strategy to minimize outsourcing and reduce waste ensures substantial annual savings for your business.

Process Optimization

We aim to optimize your processes to achieve substantial reductions in operational expenses.

Continuous Improvement

Our unwavering commitment to continuous improvement drives us to consistently enhance your processes, resulting in superior products and services.

RED MACHINE s.r.o.

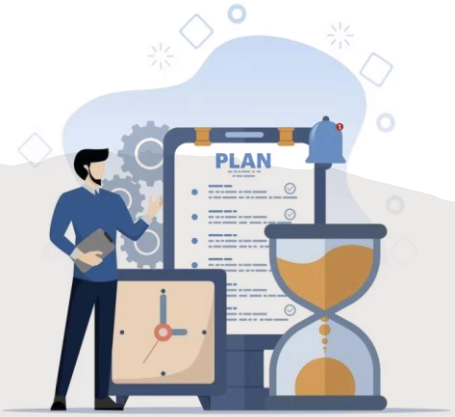
BENEFITS

Safety First

We prioritize safety in all aspects of our work, ensuring that our solutions meet the highest safety standards to protect your workforce and assets.

Cost Reduction

By implementing efficient and innovative solutions, we help you significantly reduce costs without compromising on quality or performance.



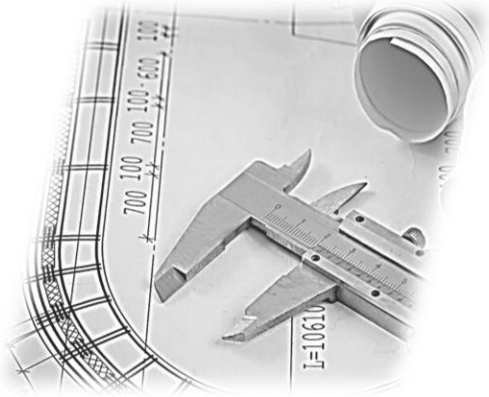
Optimized Time

We understand the value of time in your operations. Our streamlined processes and effective project management ensure timely delivery and optimal use of resources.

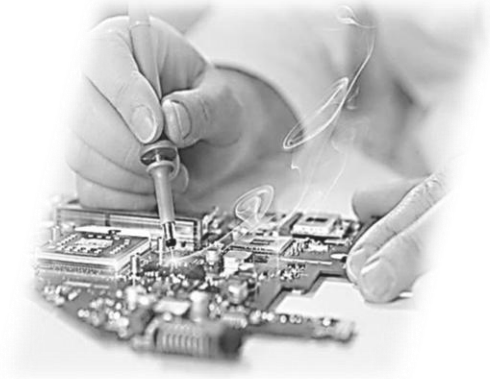
RED MACHINE s.r.o.

OUR SERVICES

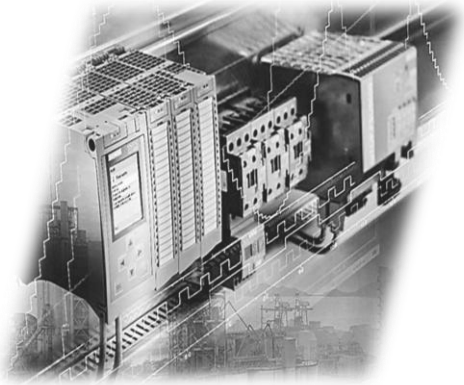
Mechanical construction



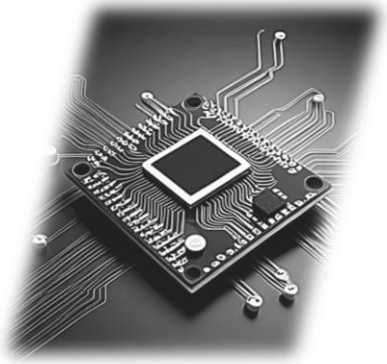
Electrical engineering



PLC programming



Programming embedding



Product developement

Industrial engineering

Quality Management

Project Management

RED MACHINE s.r.o.

OUR GOALS

Building Long-Term Partnerships

We are committed to establishing long-term partnerships, guiding you through every phase of your project—from design to production to commissioning.

Tailored Solutions for Your Needs

Our experts meticulously analyse your requirements and propose customized solutions to meet your specific needs.

Expertise and Confidentiality

We leverage our deep expertise to tackle complex challenges while diligently safeguarding the proprietary knowledge of our customers and partners.

RED MACHINE s.r.o.

SOME OF OUR
PARTNERS AND SUPPLIERS

SOLID EDGE

SIEMENS
Ingenuity for life

SOLIDWORKS

FESTO

SMC

SEW EURODRIVE

OMRON

ABB

KUKA

BOSCH

BALLUFF

HABERKORN

Parker

SKF

HIWIN

elesa+Ganter

Atlas Copco

ALUTEC KK

item

EXAMPLES

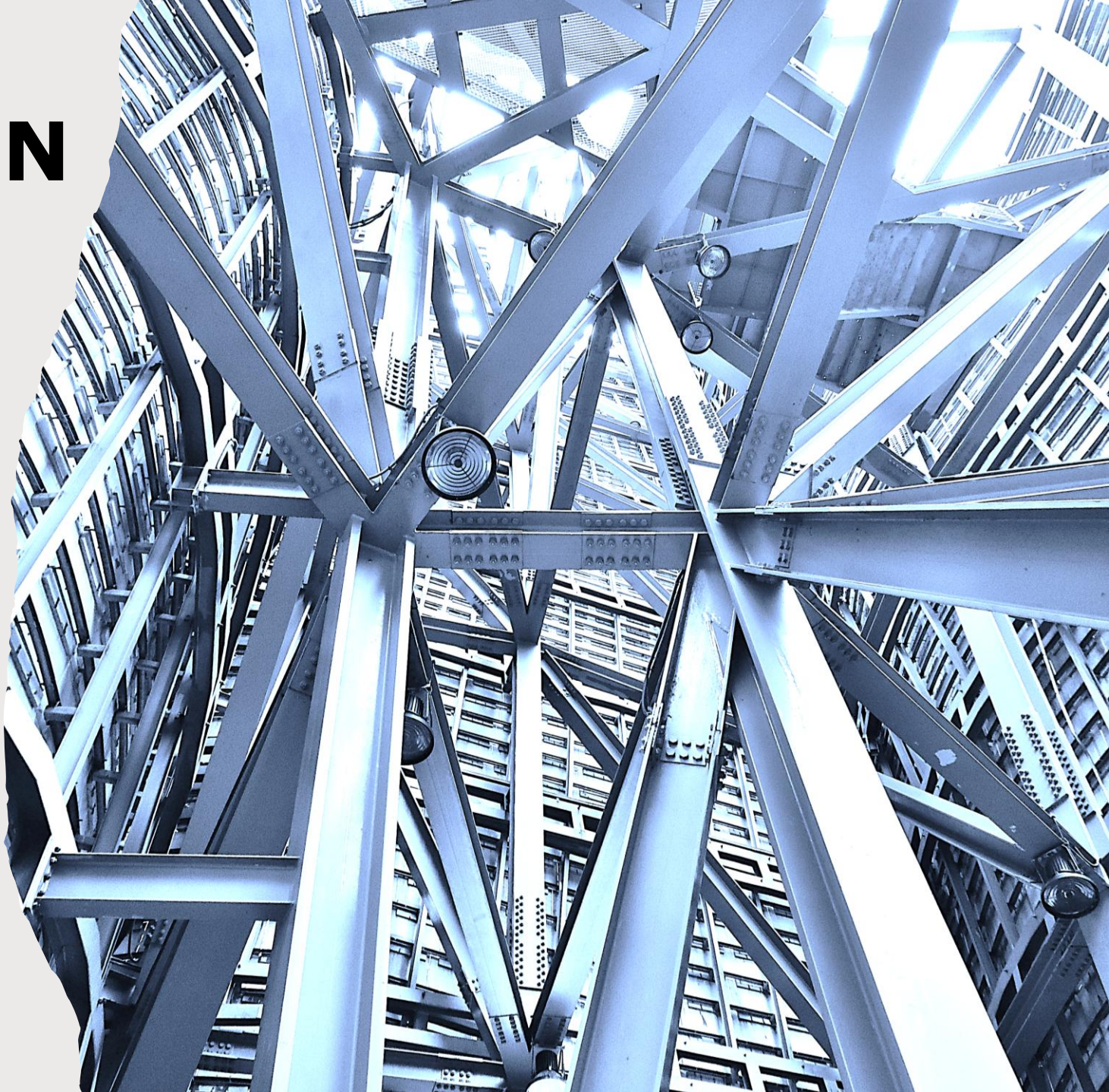
OF OUR

PROJECTS

RED MACHINE s.r.o.

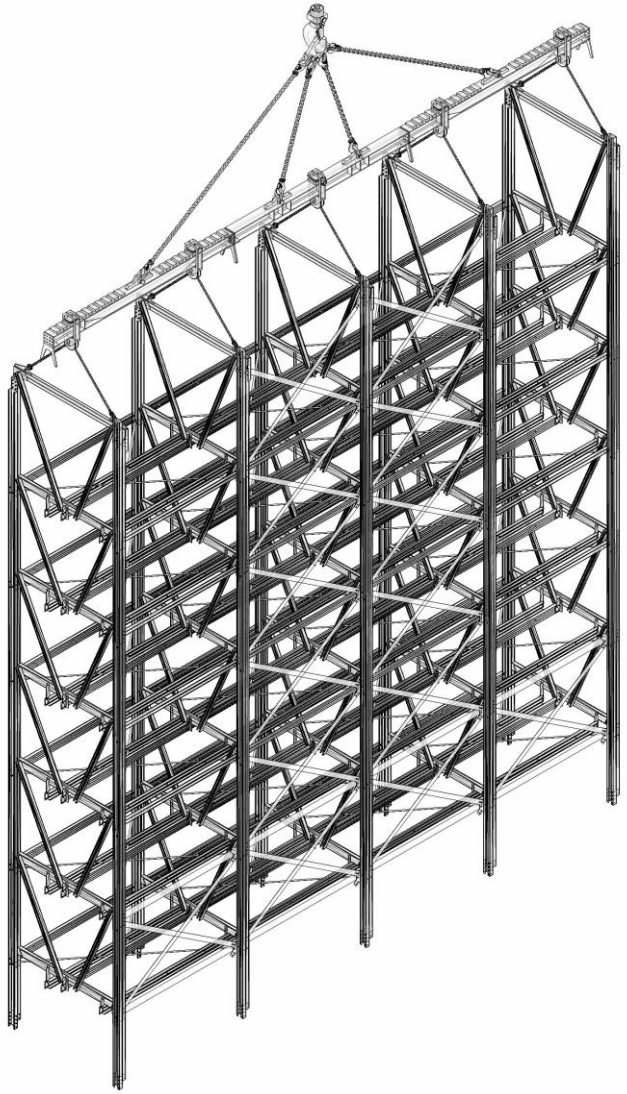
CONSTRUCTION

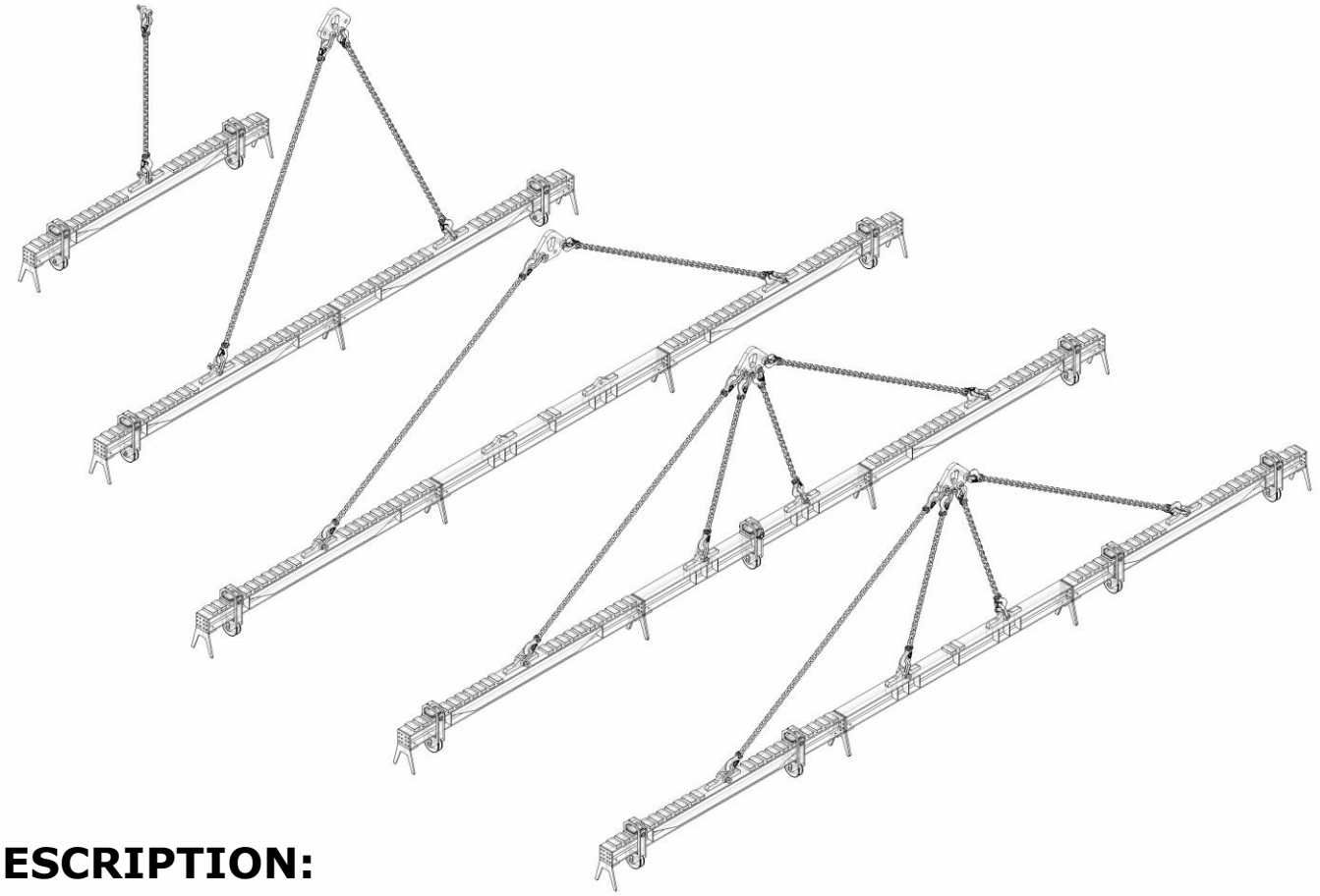
RED MACHINE s.r.o.



CONSTRUCTION

RED MACHINE s.r.o.





DESCRIPTION:
Transportation devices

80 drawings
120 pieces

CONSTRUCTION

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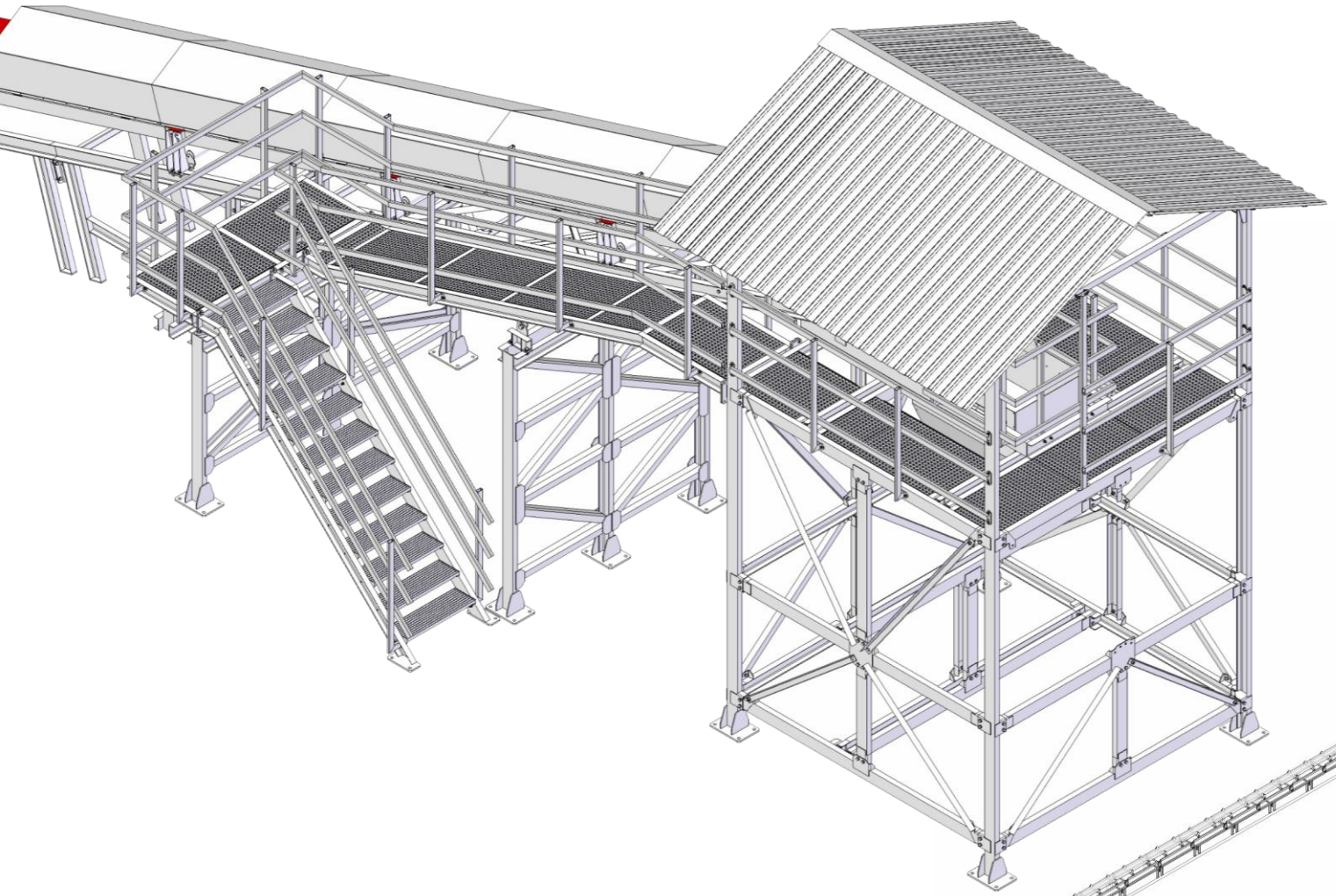

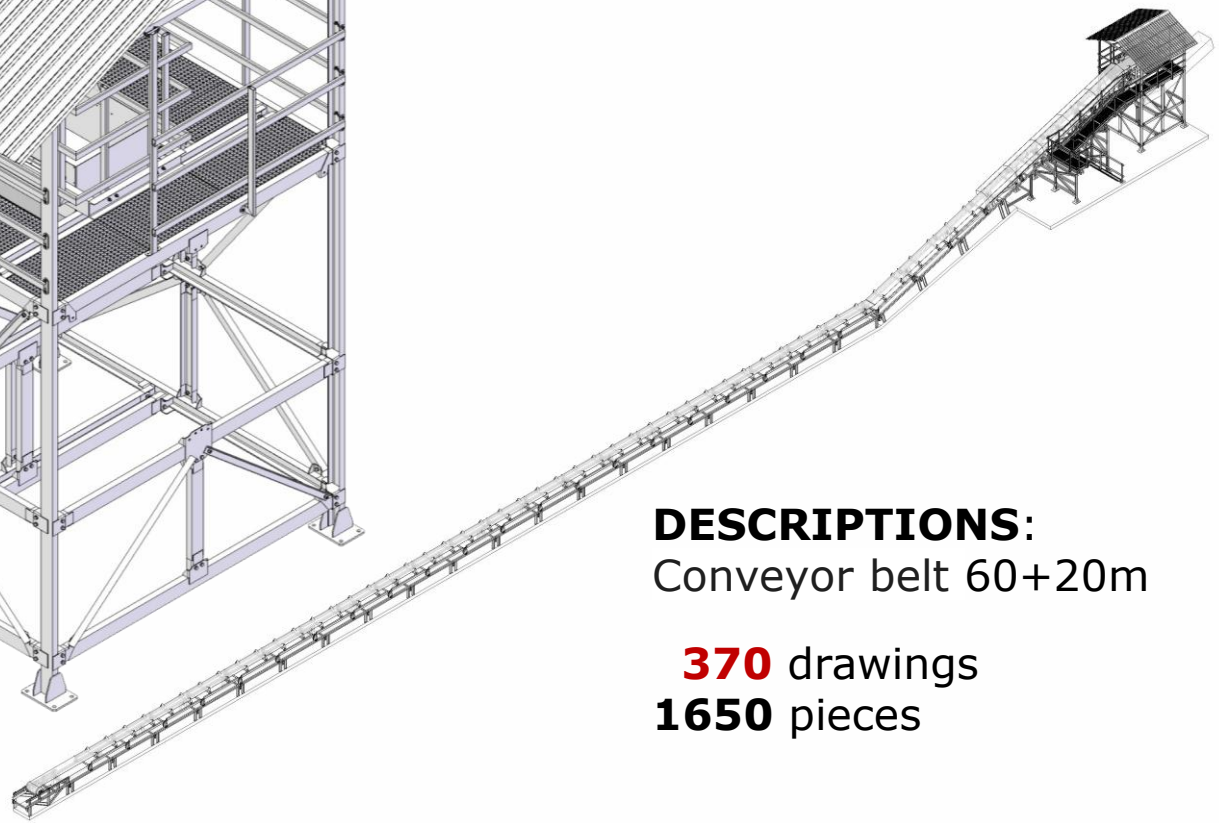

DESCRIPTIONS:
Conveyor belt 60+20m

370 drawings
1650 pieces

CONSTRUCTION

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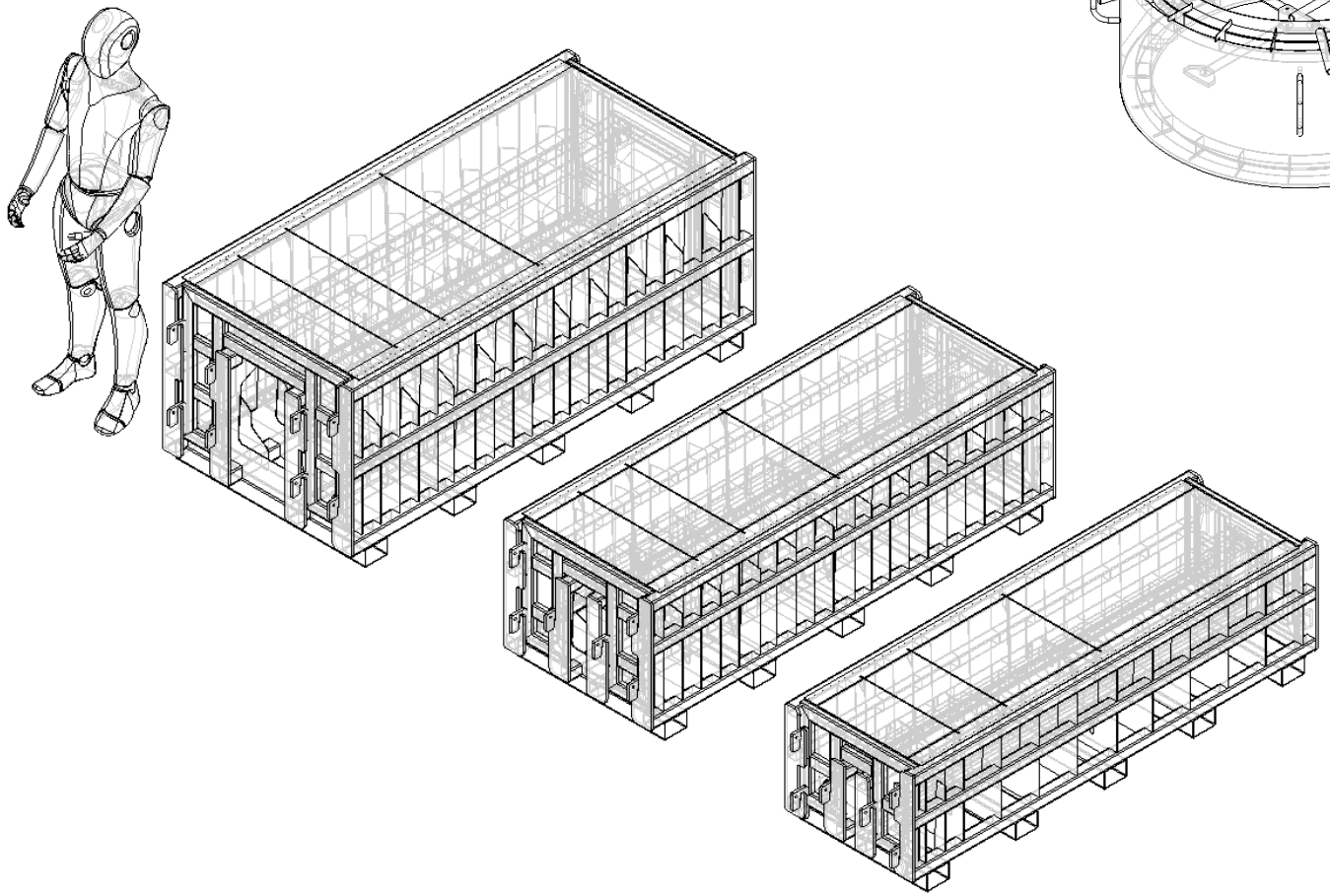
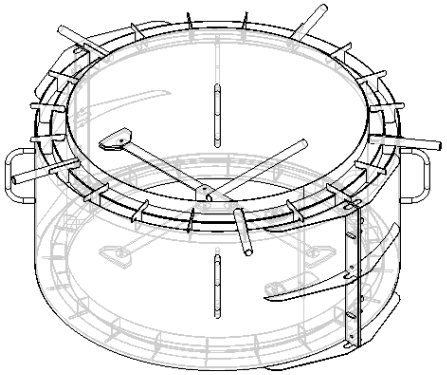
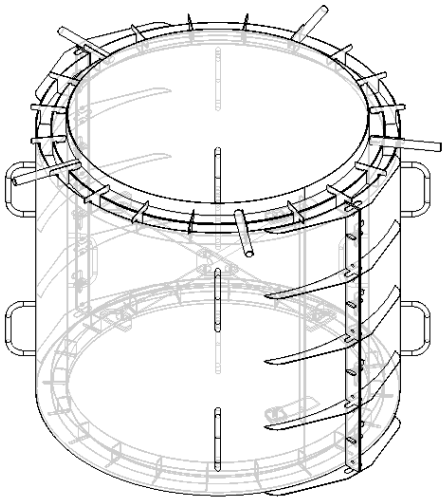
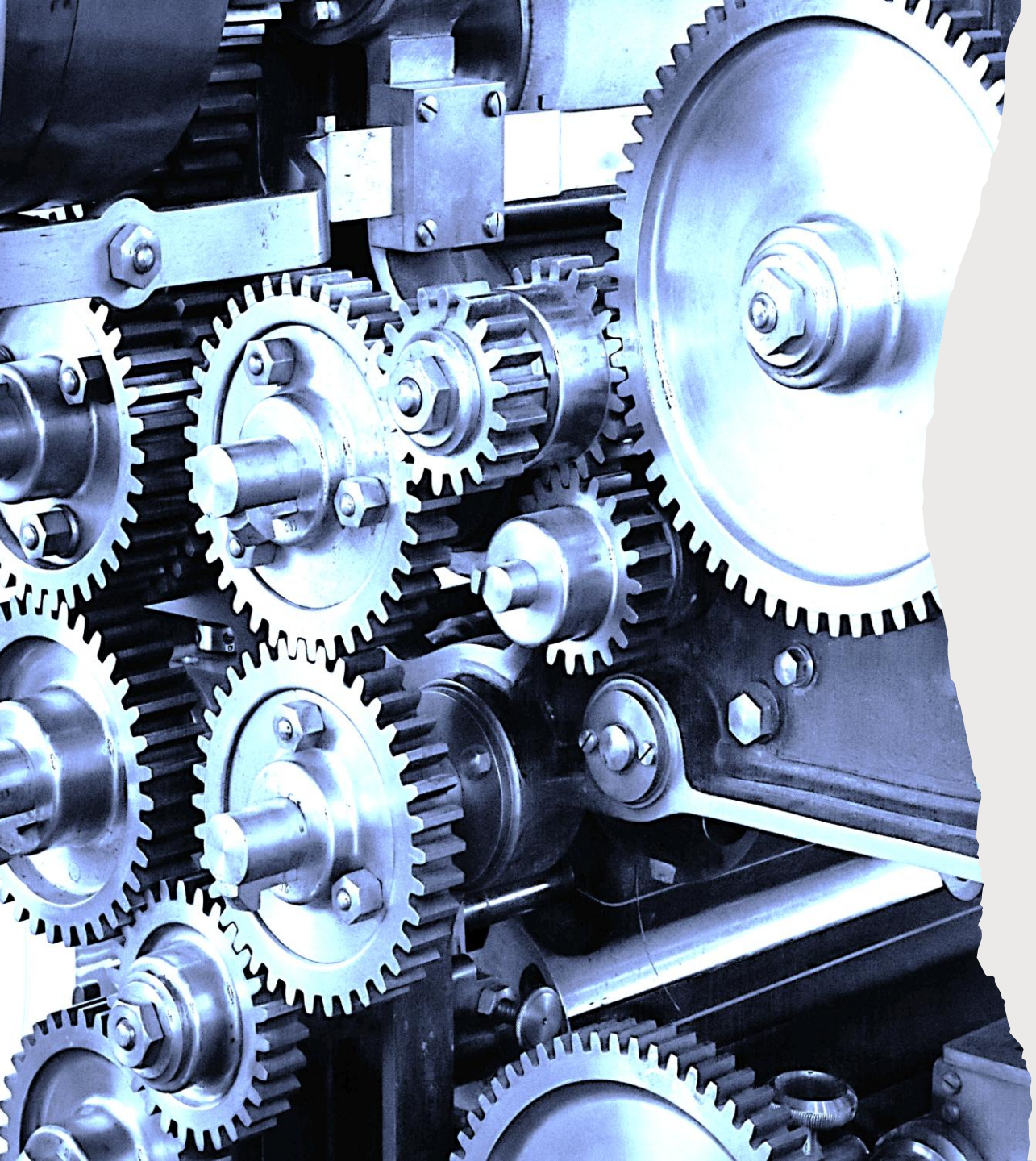






DESCRIPTION:
Form for concrete

85 drawings
120 pieces



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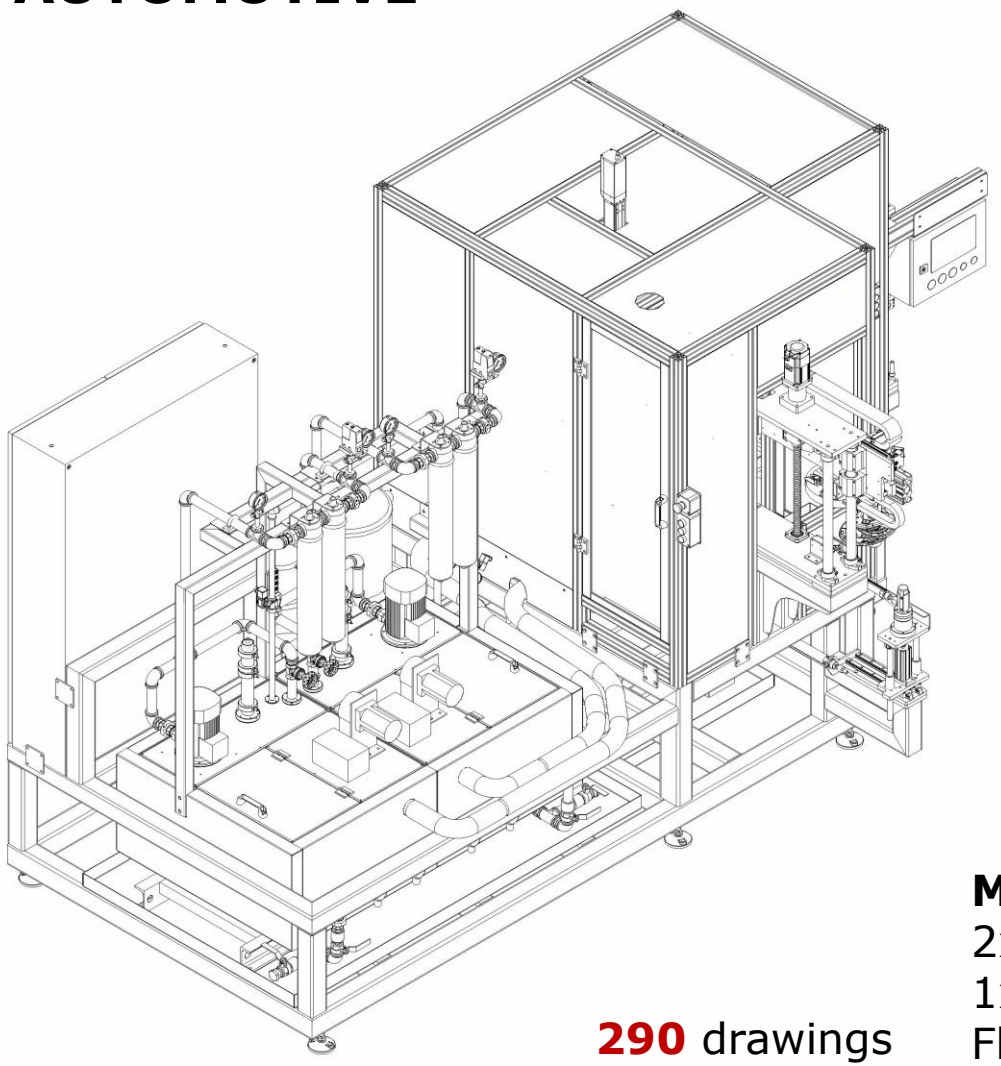
SMALL MACHINES

SMALL MACHINES

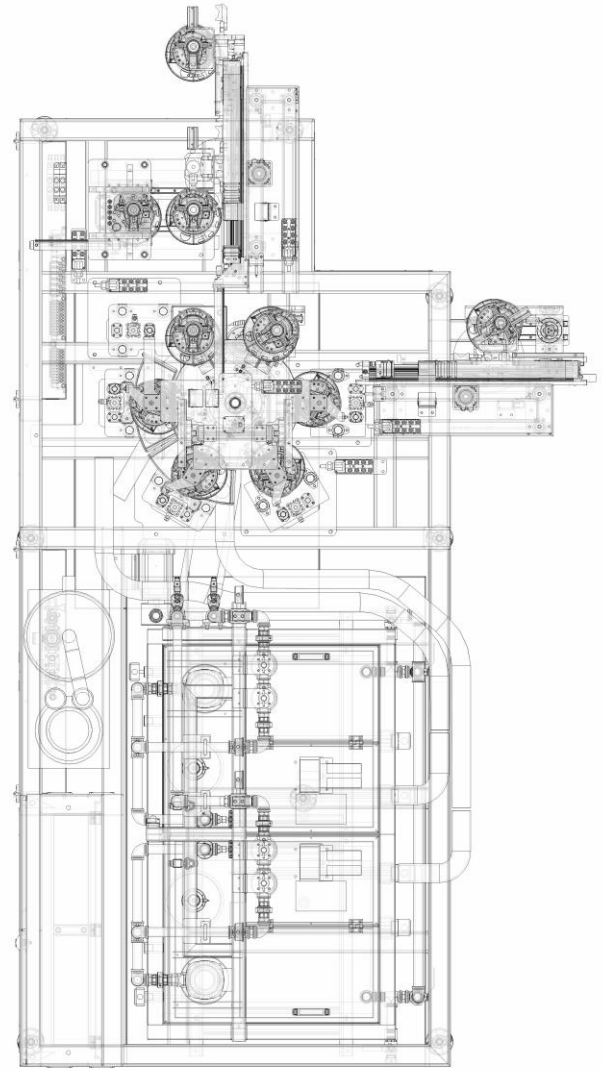
RED MACHINE s.r.o.

AUTOMOTIVE



290 drawings
1280 pieces

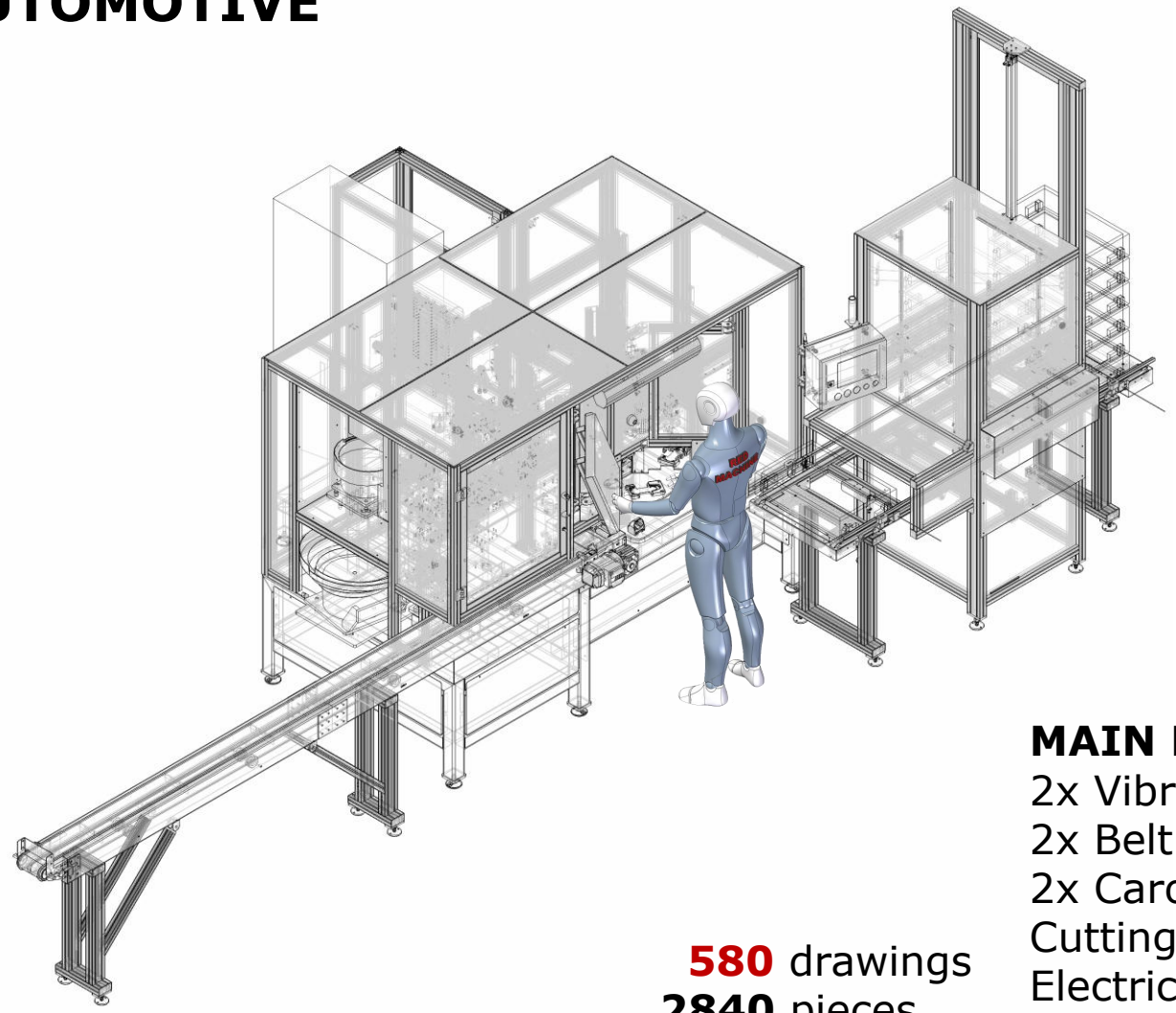
MAIN PARTS:
2x 3-axis manipulators
1x carousel with 6 positions
Fluid management
Presence control of parts

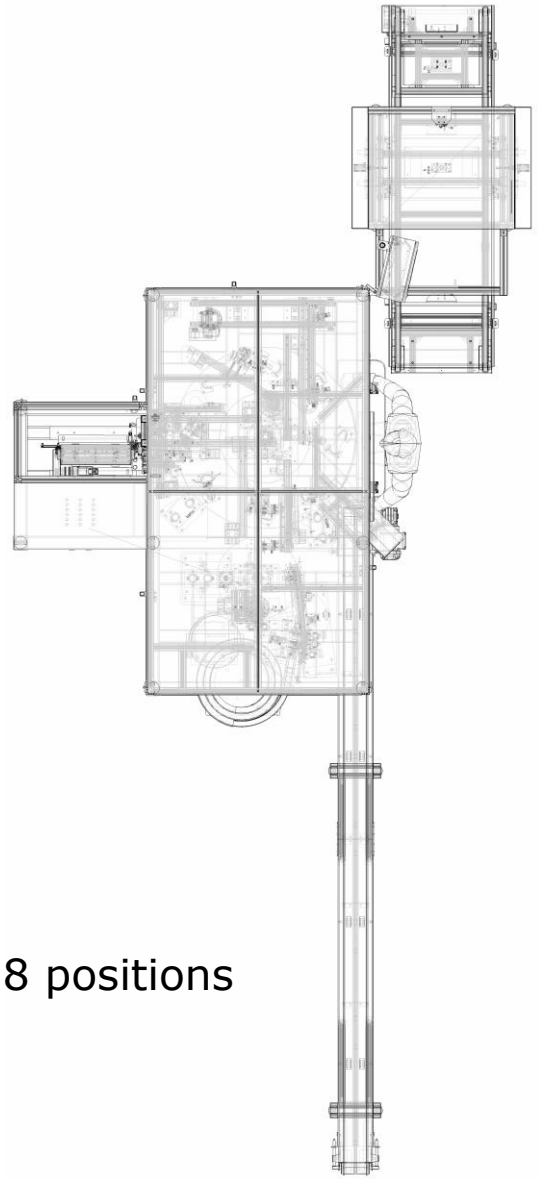


SMALL MACHINES

RED MACHINE s.r.o.

AUTOMOTIVE





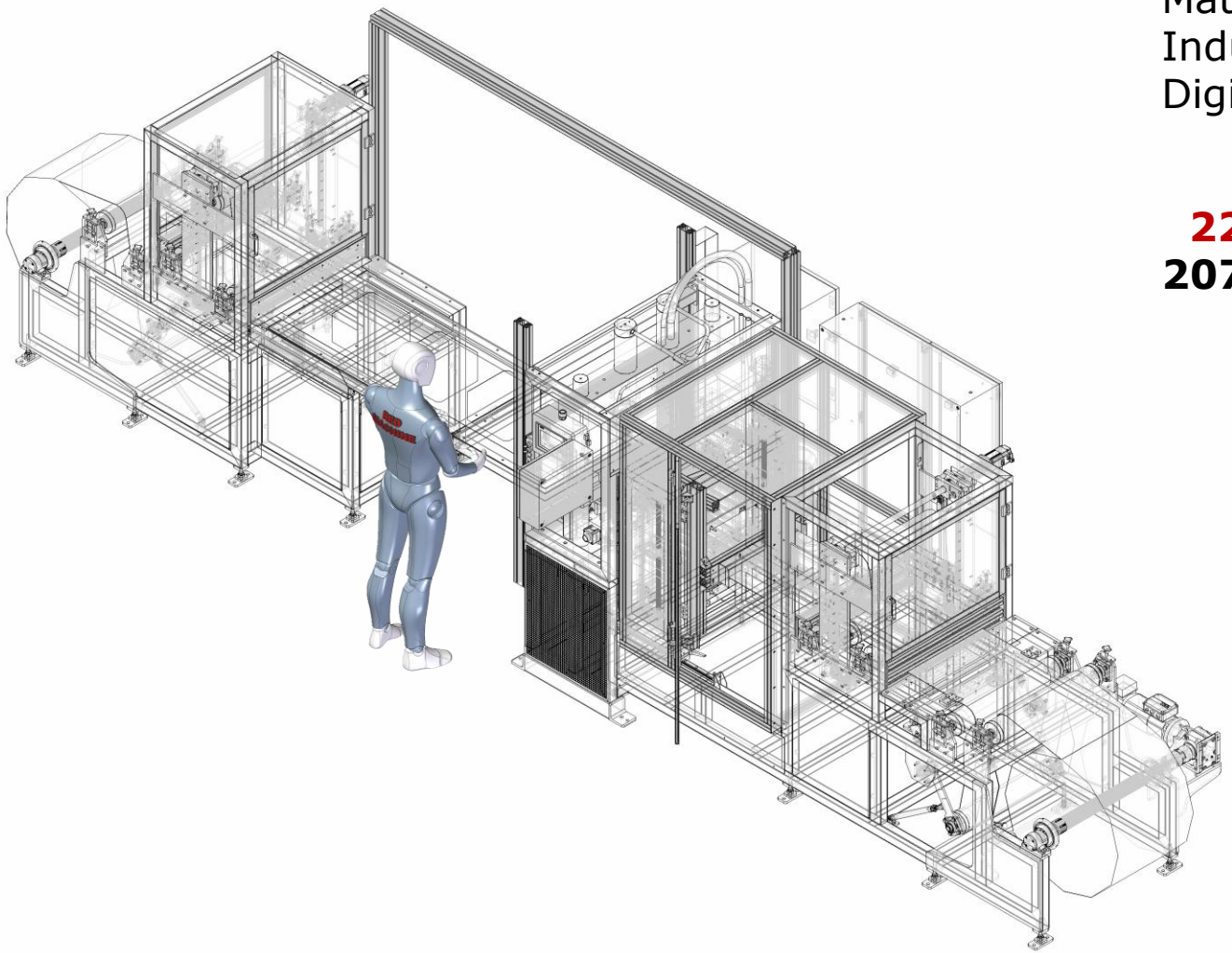
580 drawings
2840 pieces

MAIN PARTS:
2x Vibratory feeders
2x Belt conveyors
2x Carousels with 4+8 positions
Cutting
Electric screwing
Camera inspection

SMALL MACHINES

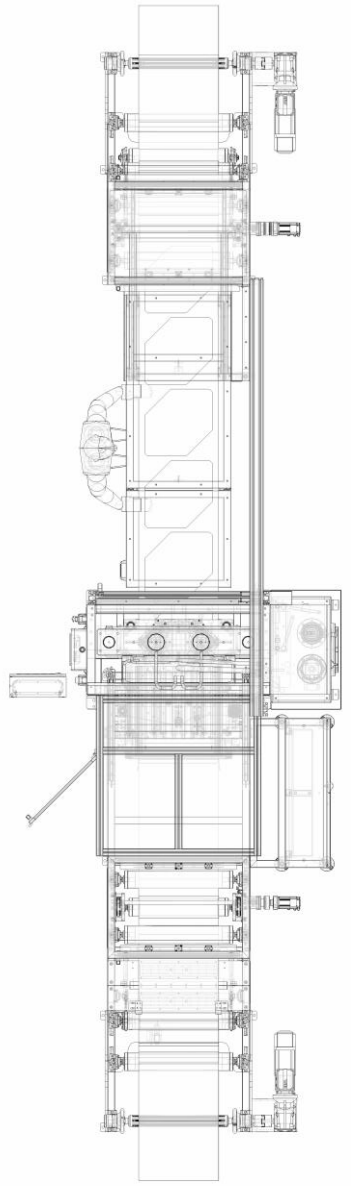
ENERGETIC SAVINGS

RED MACHINE s.r.o.



MAIN PARTS:
Material unwinding
Induction heating
Digital hydraulic press

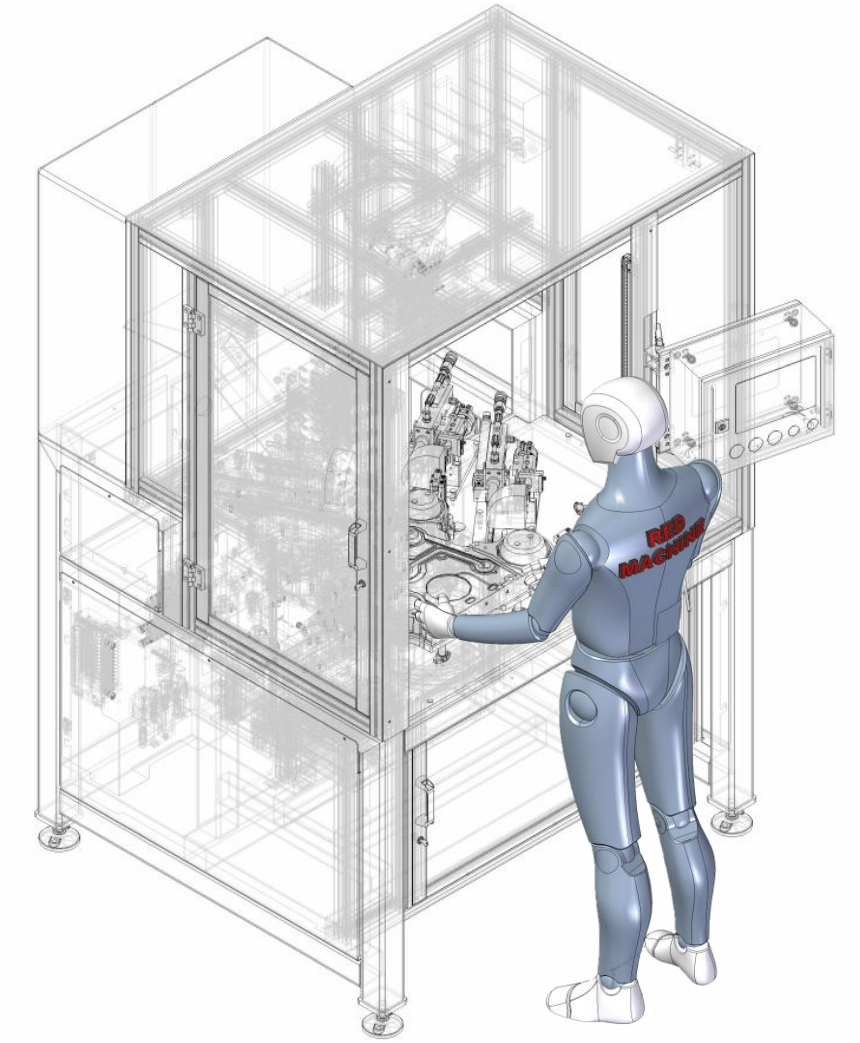
220 drawings
2070 pieces

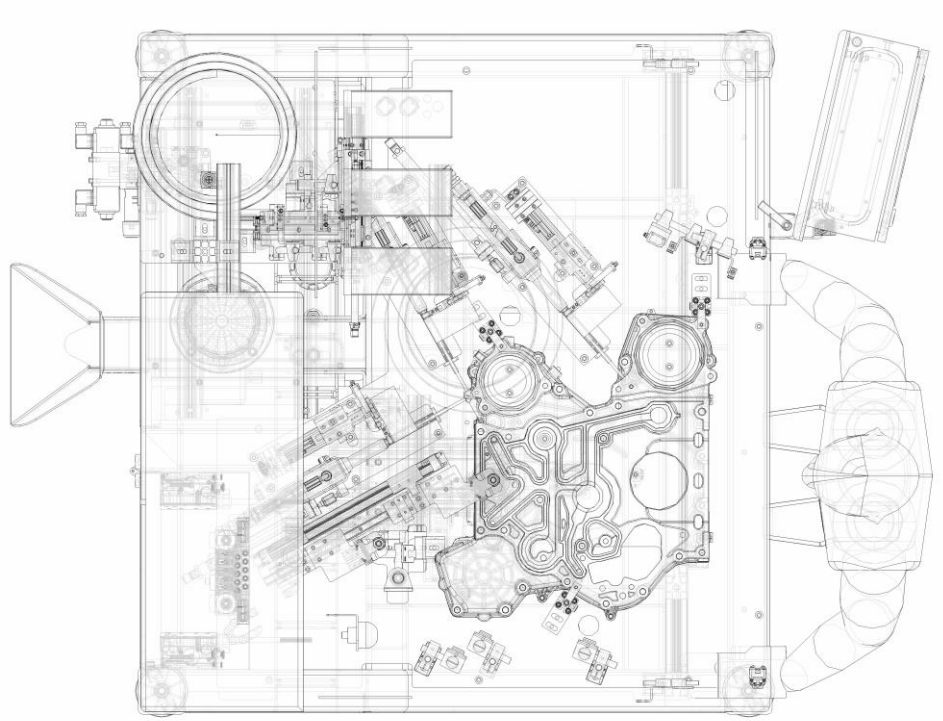


SMALL MACHINES

RED MACHINE s.r.o.

AUTOMOTIVE





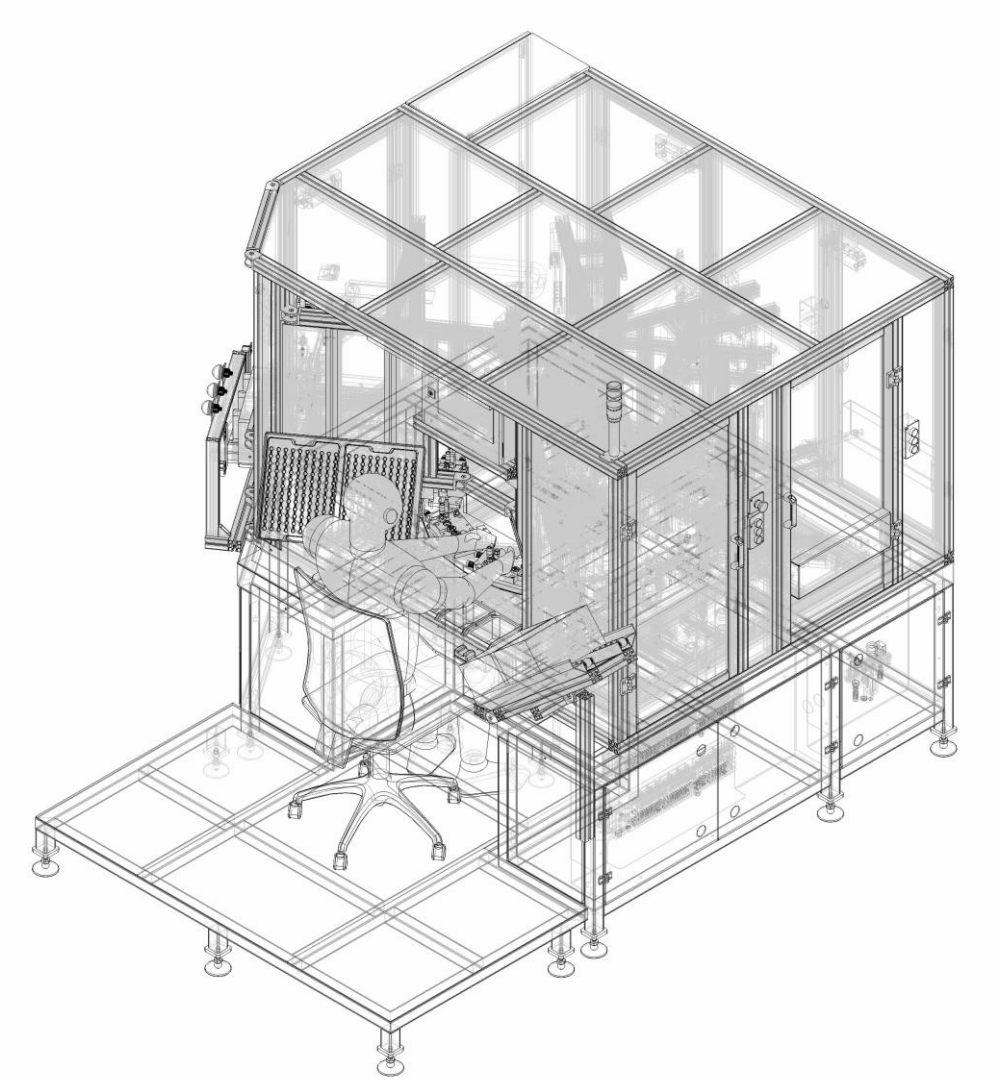
MAIN PARTS:
2x vibration feeder
3x press heads
Hydraulic unit
Electric screwdriving

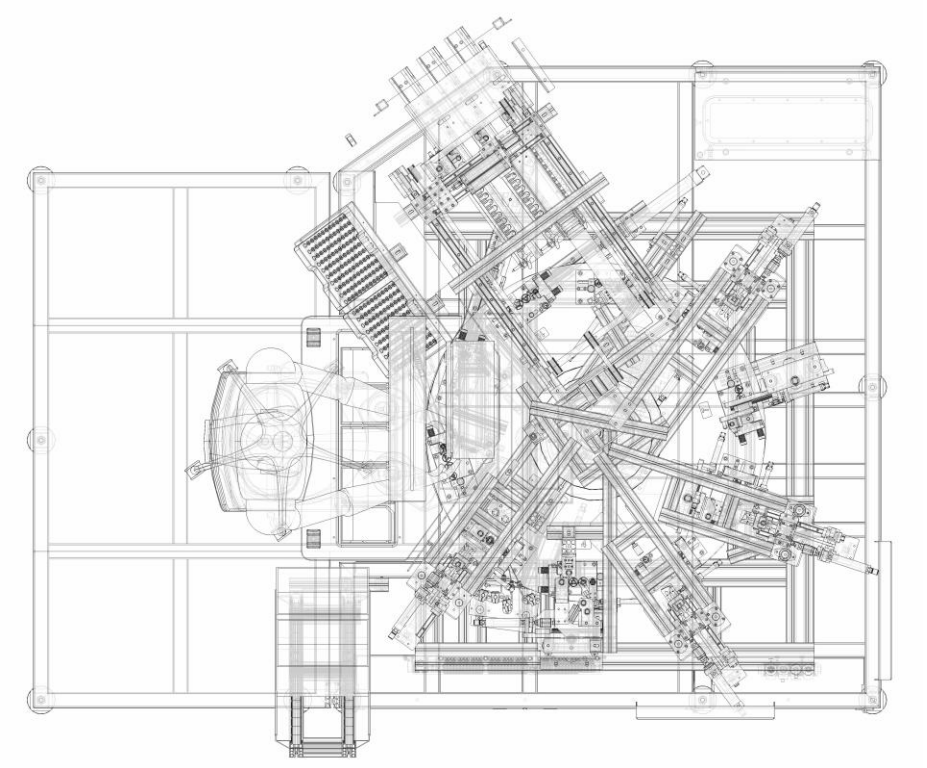
210 drawings
1380 pieces

SMALL MACHINES

RED MACHINE s.r.o.

BUILDING SAFETY

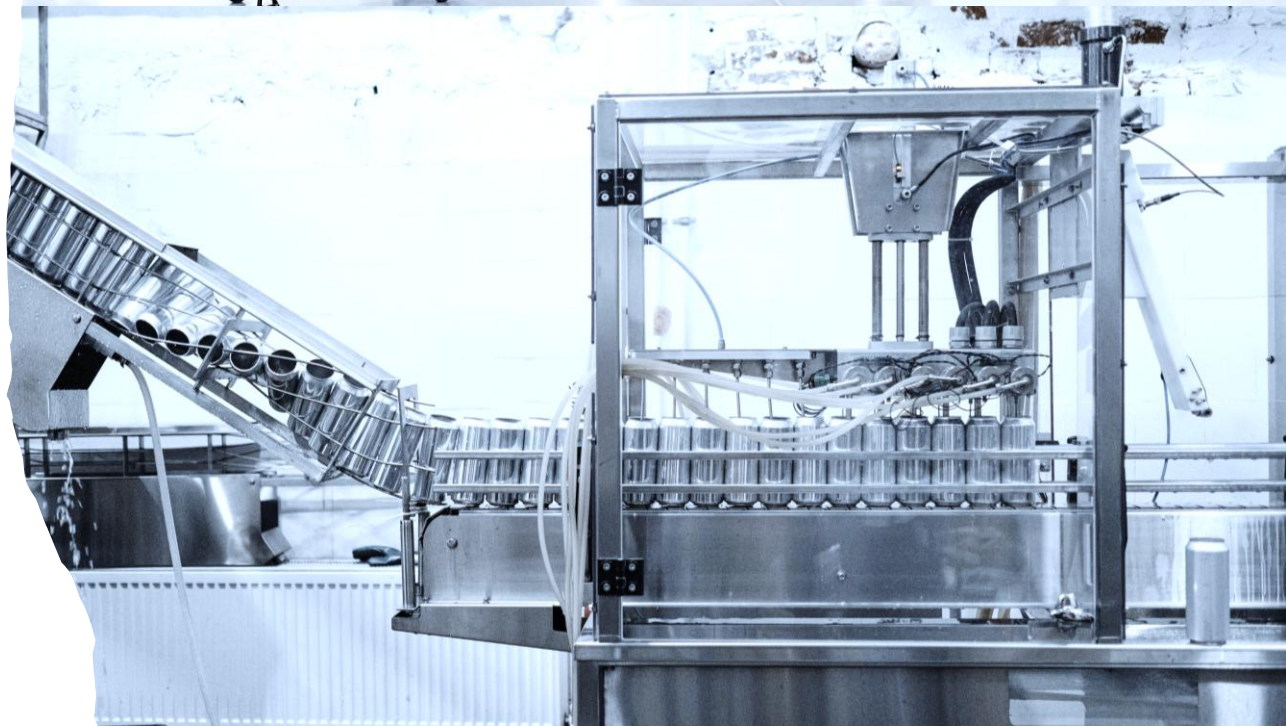




MAIN PARTS:
1x 10-position carousel
part presence check
3-axis manipulator

280 drawings
1810 pieces

PRODUCTION LINES



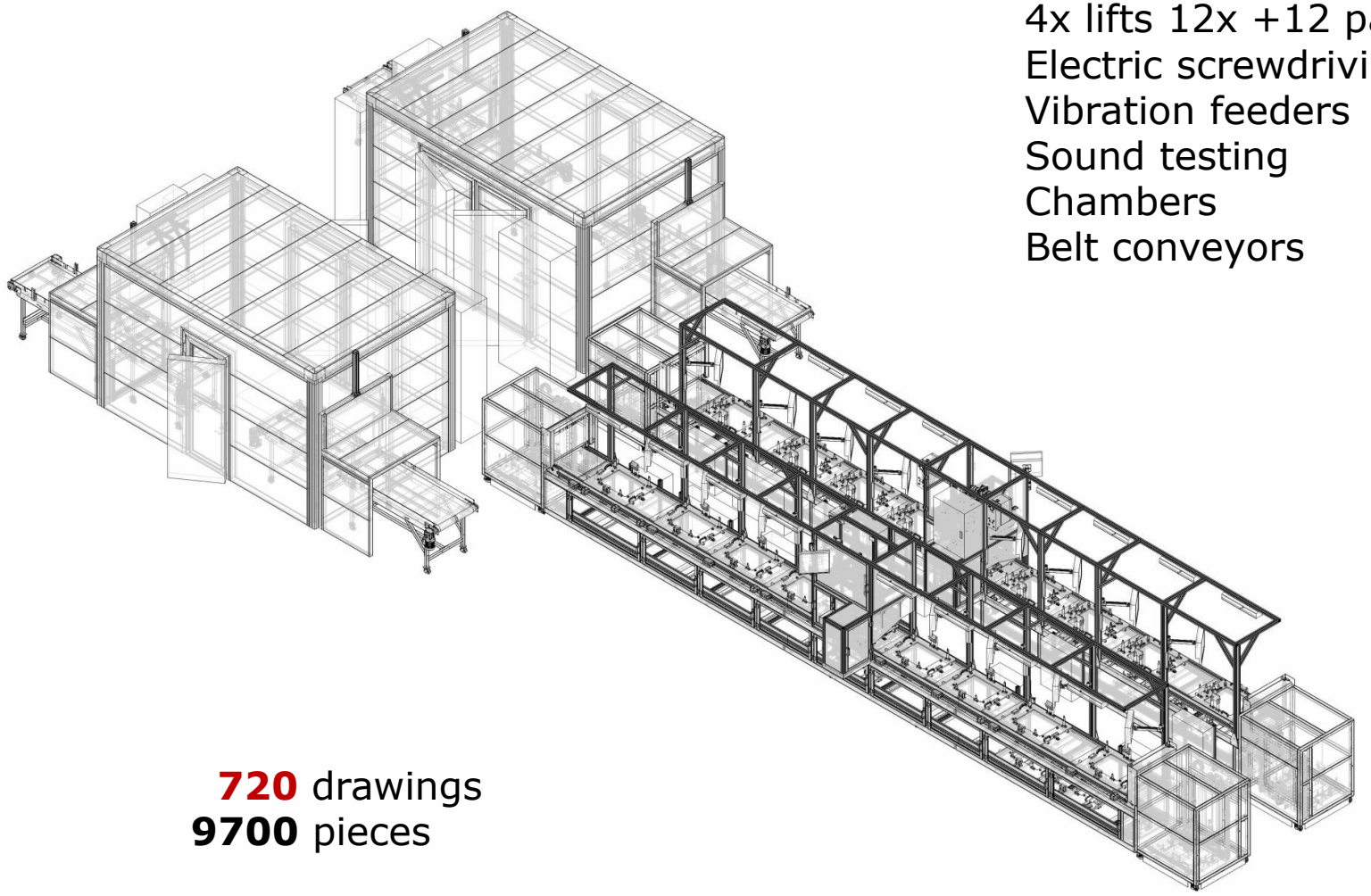
RED MACHINE s.r.o.

PRODUCTION LINES

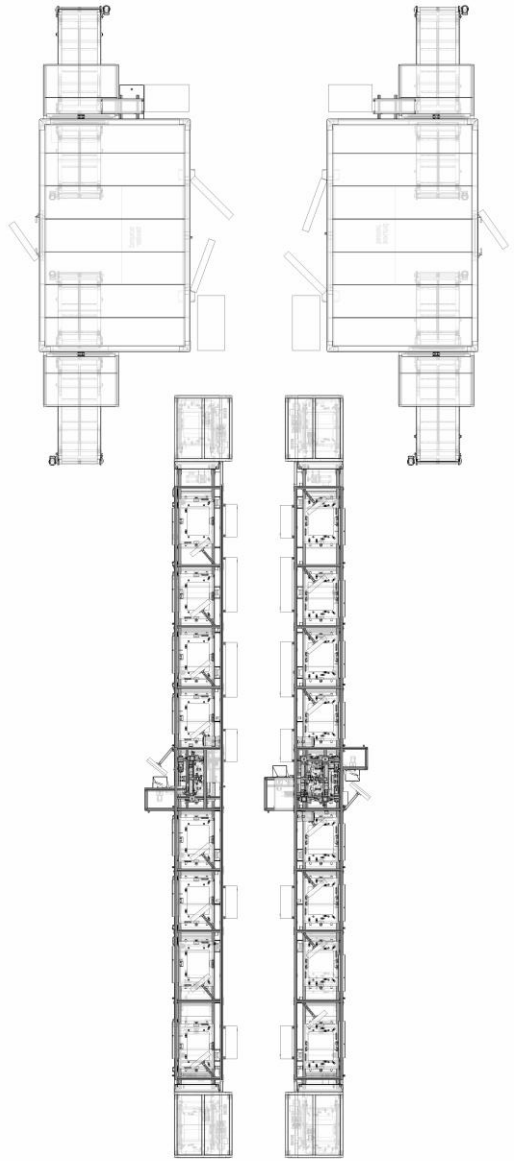
RED MACHINE s.r.o.

AUTOMOTIVE

MAIN PARTS:
2x tsubaki conveyor
4x lifts 12x +12 pallets
Electric screwdriving
Vibration feeders
Sound testing
Chambers
Belt conveyors



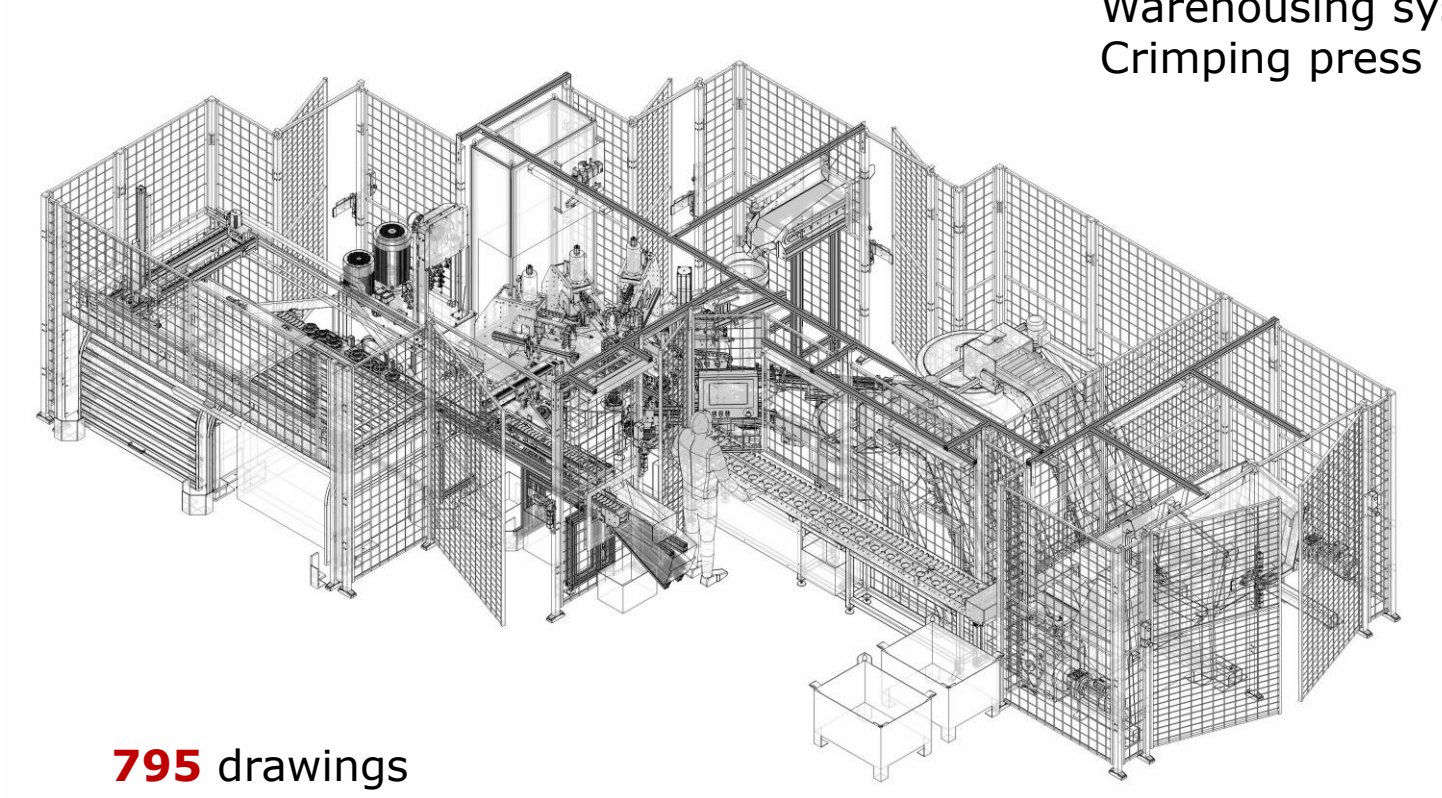
720 drawings
9700 pieces

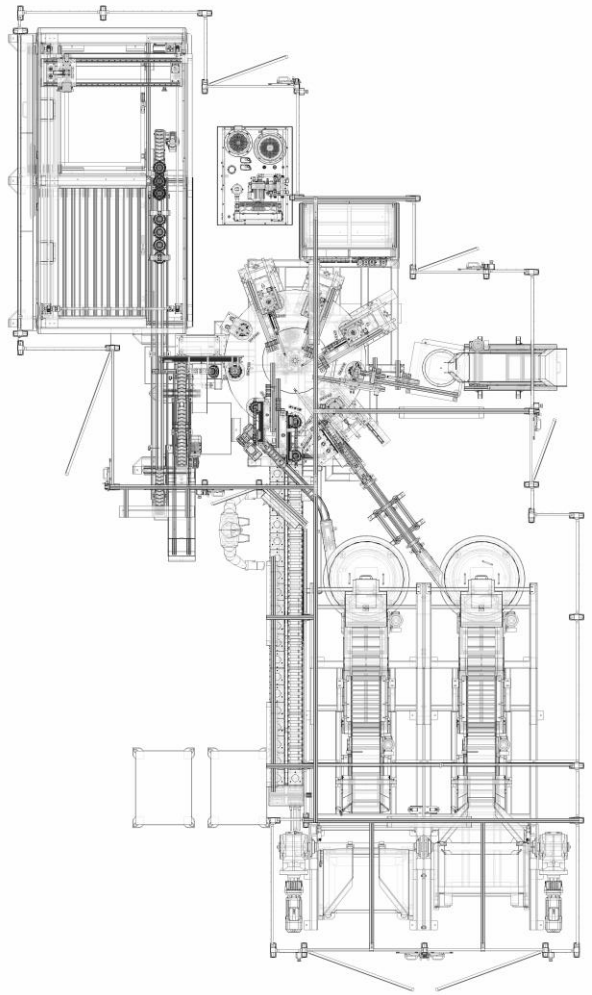


PRODUCTION LINES

RUBBER INDUSTRY

MAIN PARTS:
1x position carousel
Belt conveyors
3x vibration feeders
hydraulic unit
Warehousing system
Crimping press



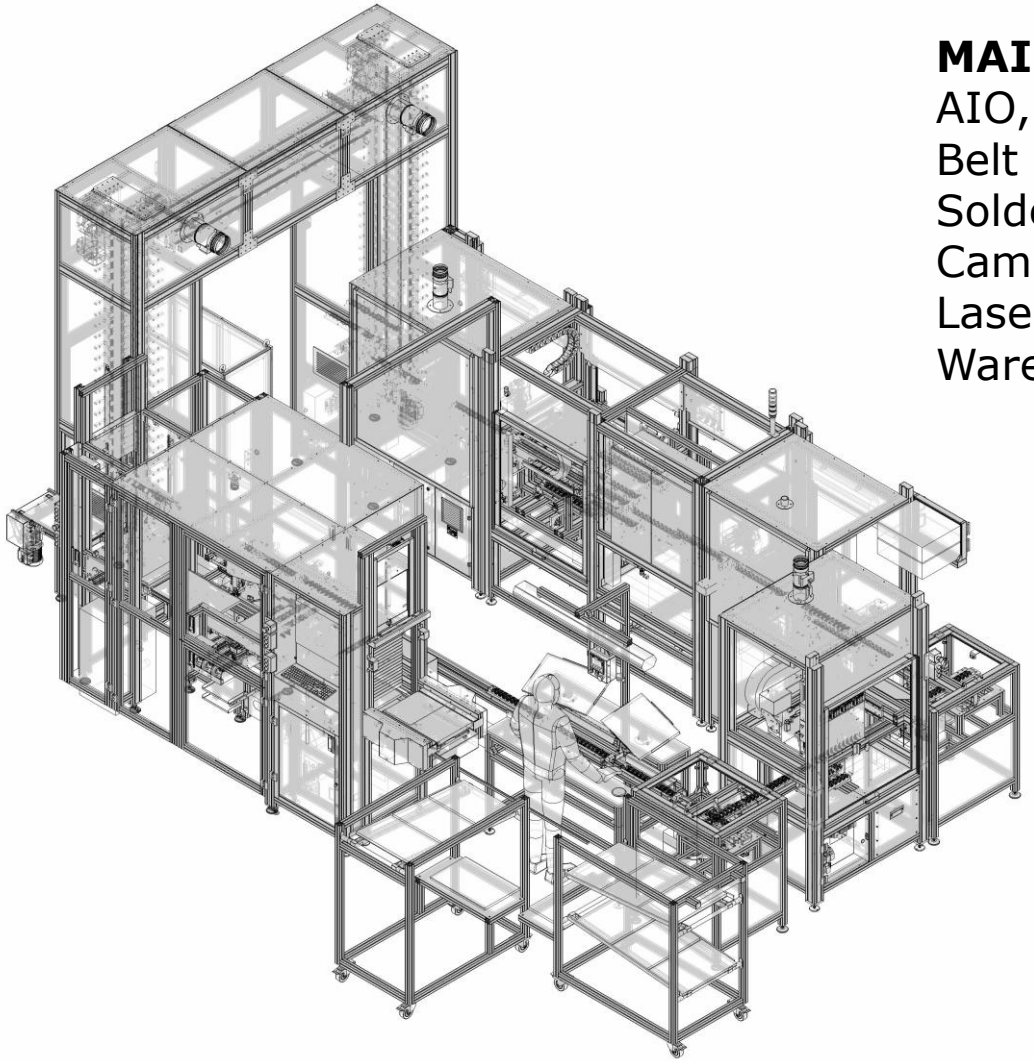


795 drawings
6600 pieces

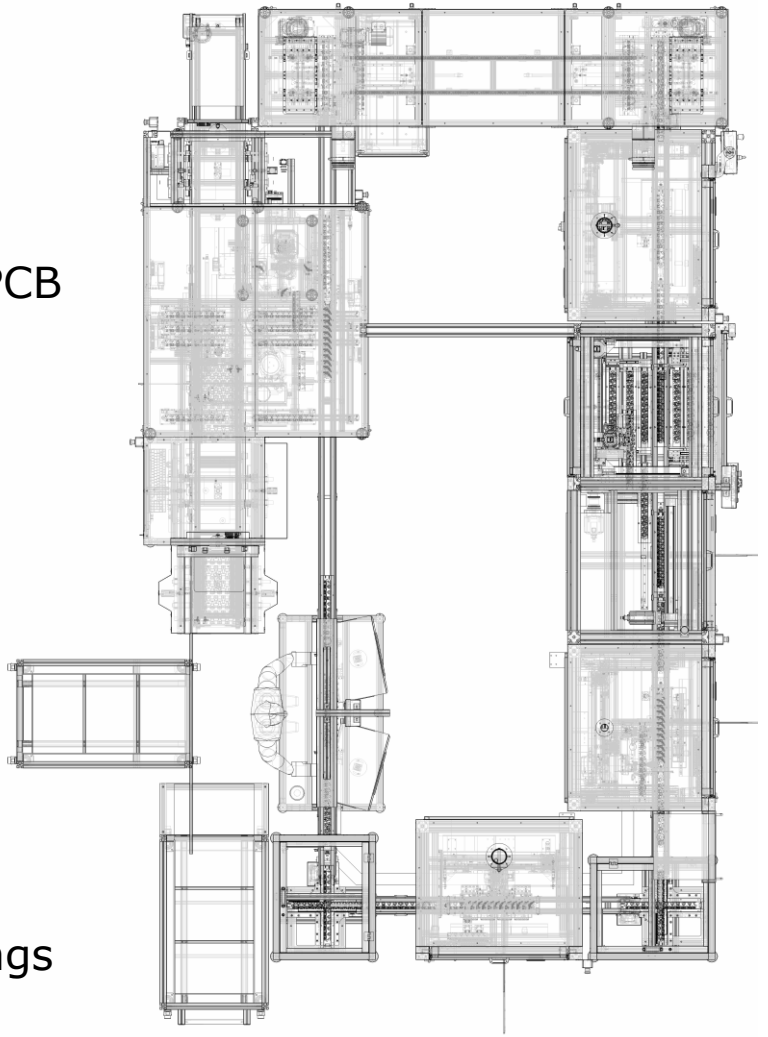
PRODUCTION LINES

RED MACHINE s.r.o.

ELECTRICAL INDUSTRY



MAIN PARTS:
AIO, EOL testers
Belt conveyors
Soldering station for PCB
Camera inspections
Laser marking
Warehousing system



1180 drawings
13500 pieces

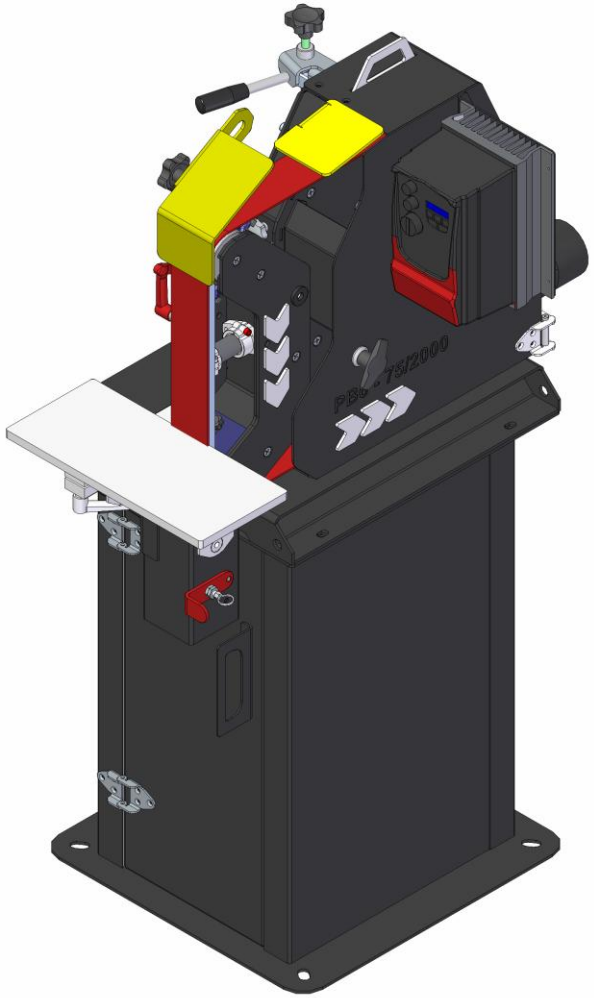
RED MACHINE s.r.o.

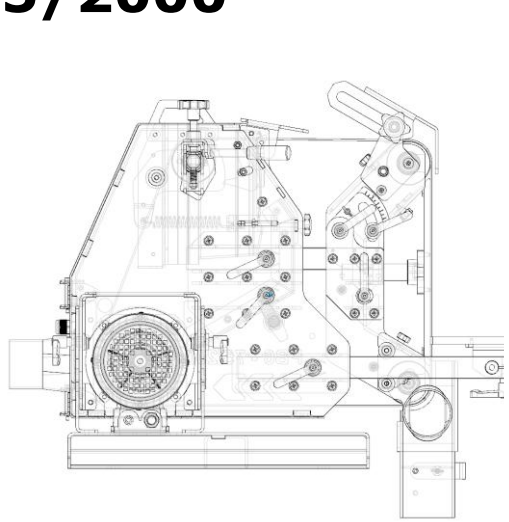
SERIES PRODUCTS

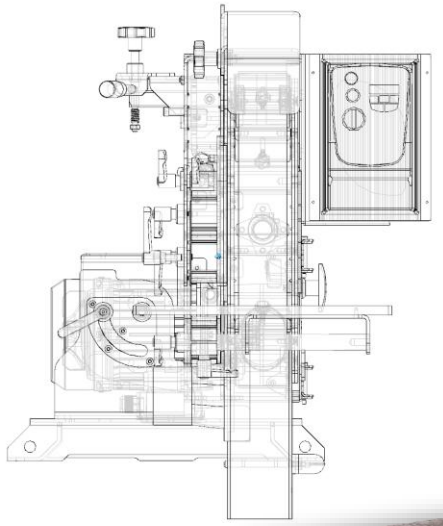
SERIES PRODUCTS

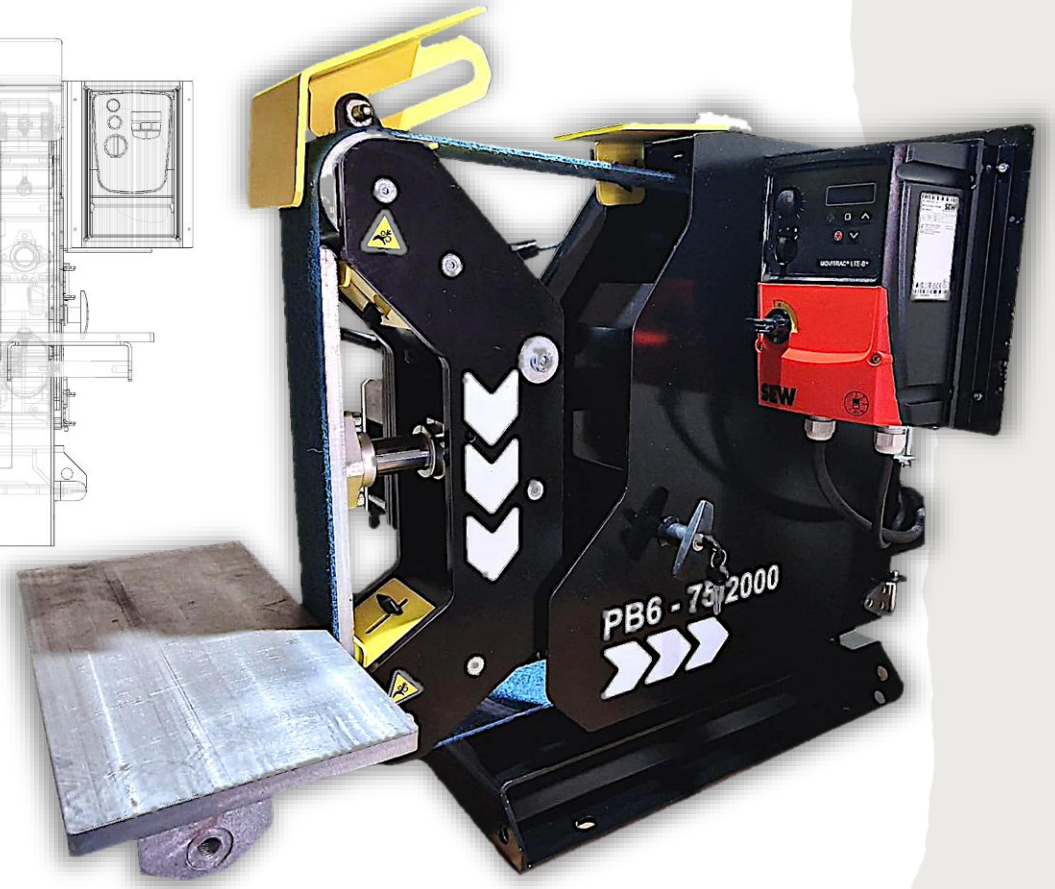
RED MACHINE s.r.o.

BELT SANDER PB6-75/2000







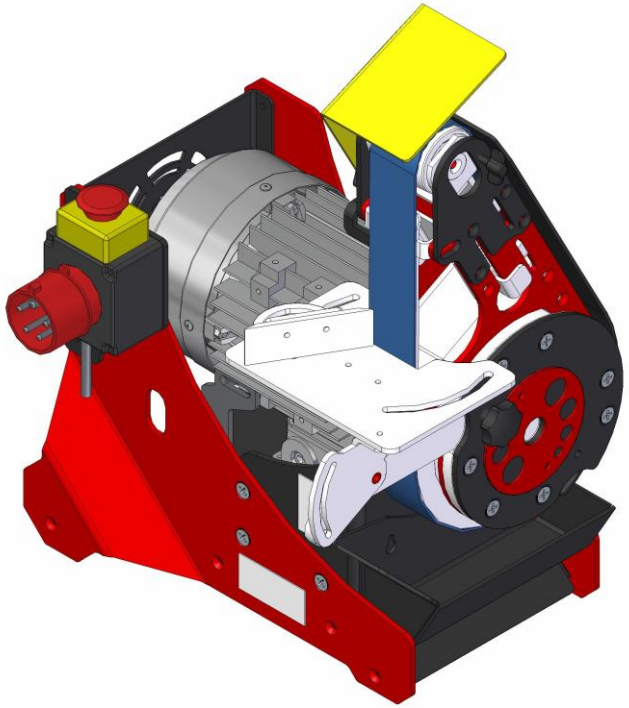


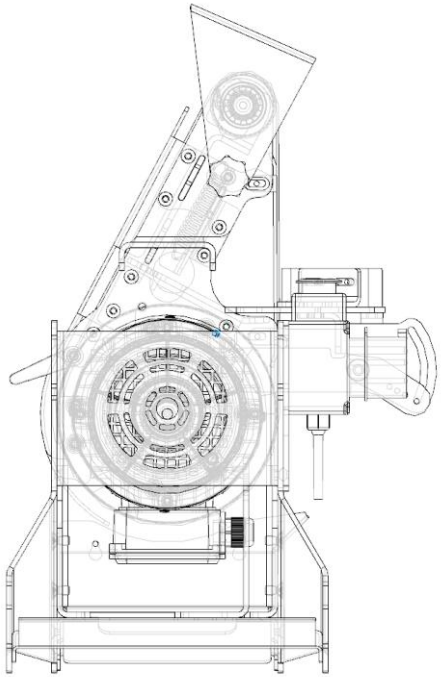
- belt width 75mm
- belt length 2000mm
- dimensions: h=670mm, w=490mm, d=657mm (without base)
- basic weight 90 kg - 1.5kW motor (2.2kW option)
- engine speed 3000 rpm
- with speed control

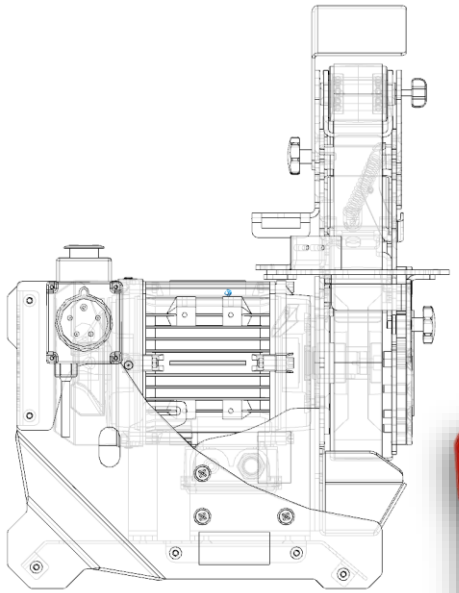
SERIES PRODUCTS

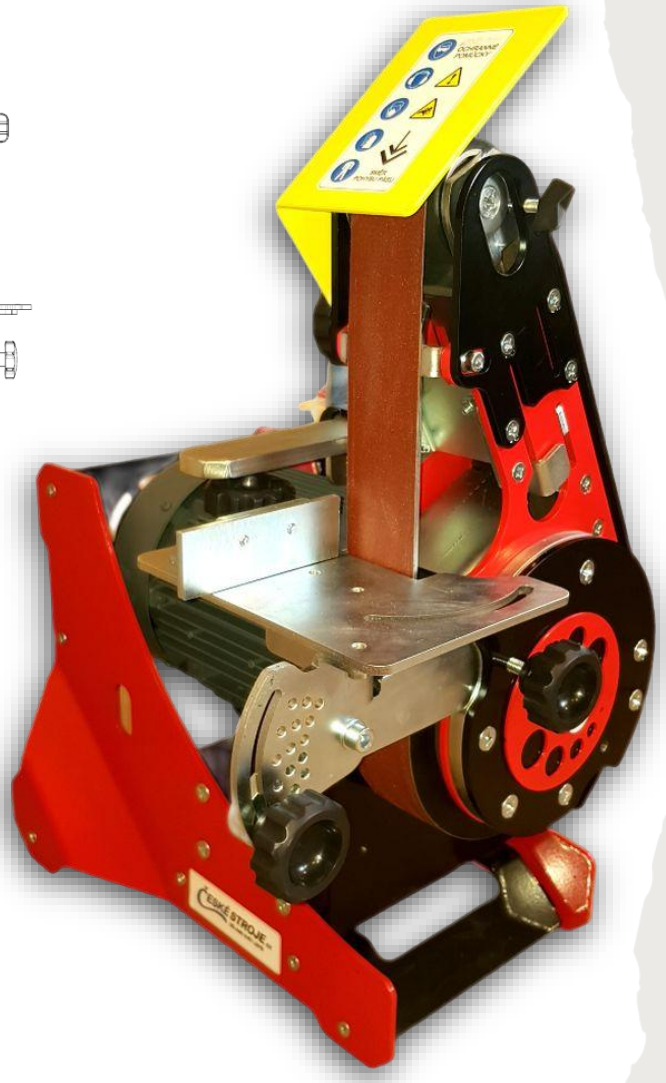
RED MACHINE s.r.o.

BELT SANDER PB20-50/1000







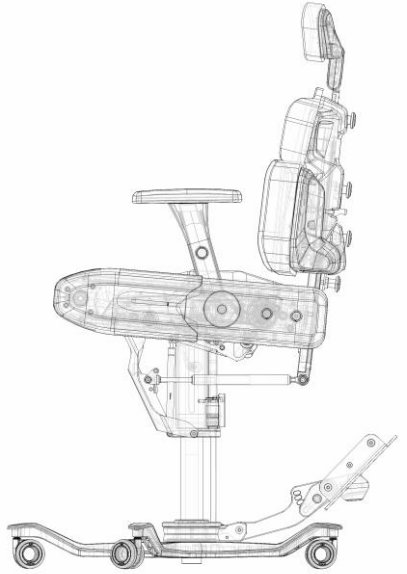


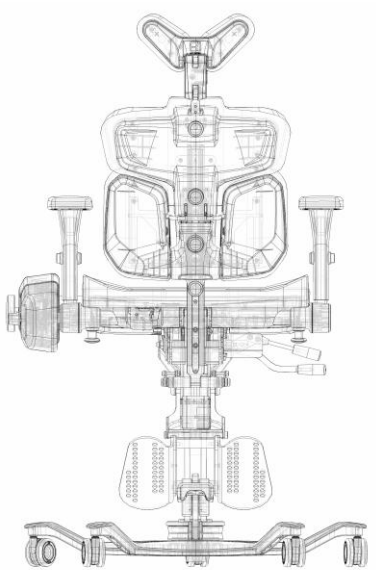
- belt width 50mm
- belt length 1000mm
- dimensions: h=540mm, w=423mm, d=292mm
- weight 45 kg - 1.5kW motor (2.2kW option)
- engine speed 3000 rpm
- without speed control

SERIES PRODUCTS

RED MACHINE s.r.o.

STRETCHING CHAIR





DESCRIPTION:
The world’s first stretching chair.
Complements therapies that require regular stretching

Svar

a=(5+5)=10 mm, l=430 mm (plné provaření α=1, γ=1,1)

$\tau_{\parallel max}$ = 2x50000/(4x10x430) = 5,8 MPa < 200/1,1 = 181,8 MPa

Čep D40 mm

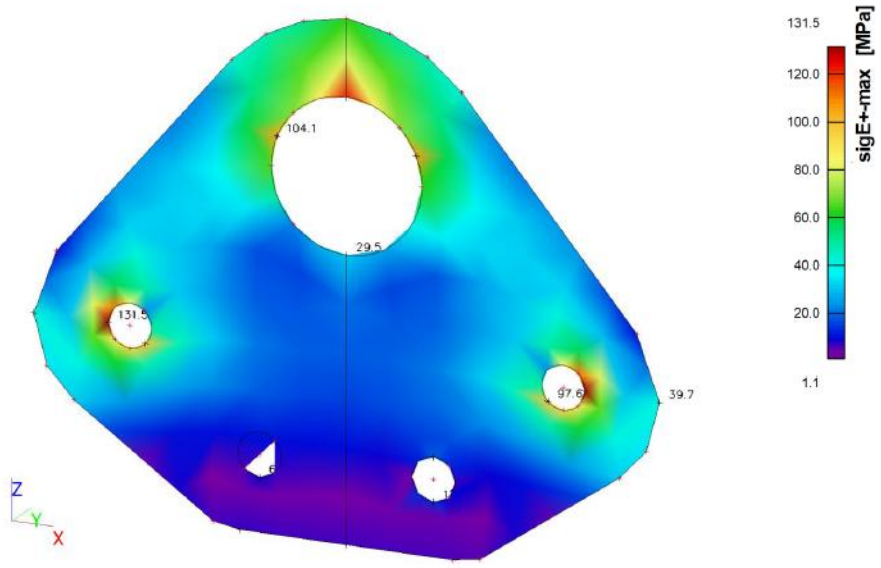
Čep	40 mm	15142.6/S355			
Ry [N]	100000	t [mm]	20	d [mm]	40
Rz [N]	0	a [mm]	40	do [mm]	40,5
Fvys [N]	100000	c [mm]	40	fu [Mpa]	510
σh [MPa]	338,53778			fy [Mpa]	355
fh [MPa]	1347,5	b [mm]	83	fup [Mpa]	740
Fbrd [N]	184600	vůle u[mm]	4	fyp [Mpa]	539
Fvrd [N]	446357,43				
Mrd[Nmm]	2709309,2	Med[Nmm]	190804,6		
souč. [-]	0,0551518				

Čep D60 mm

Čep	60 mm	S355/S355			
Ry [N]	100000	t [mm]	10	d [mm]	60
Rz [N]	0	a [mm]	40	do [mm]	60,5
Fvys [N]	100000	c [mm]	40	fu [Mpa]	510
σh [MPa]	319,17648			fy [Mpa]	355
fh [MPa]	887,5	b [mm]	240	fup [Mpa]	510
Fbrd [N]	138450	vůle u[mm]	40	fyp [Mpa]	355
Fvrd [N]	692155,61				
Mrd[Nmm]	6022432,4	Med[Nmm]	1714286		
souč. [-]	0,101899				

4.2.1.3. Závěsné oko

Obr. 8: Oko – výpočet SCIA - red. napětí dle HMH



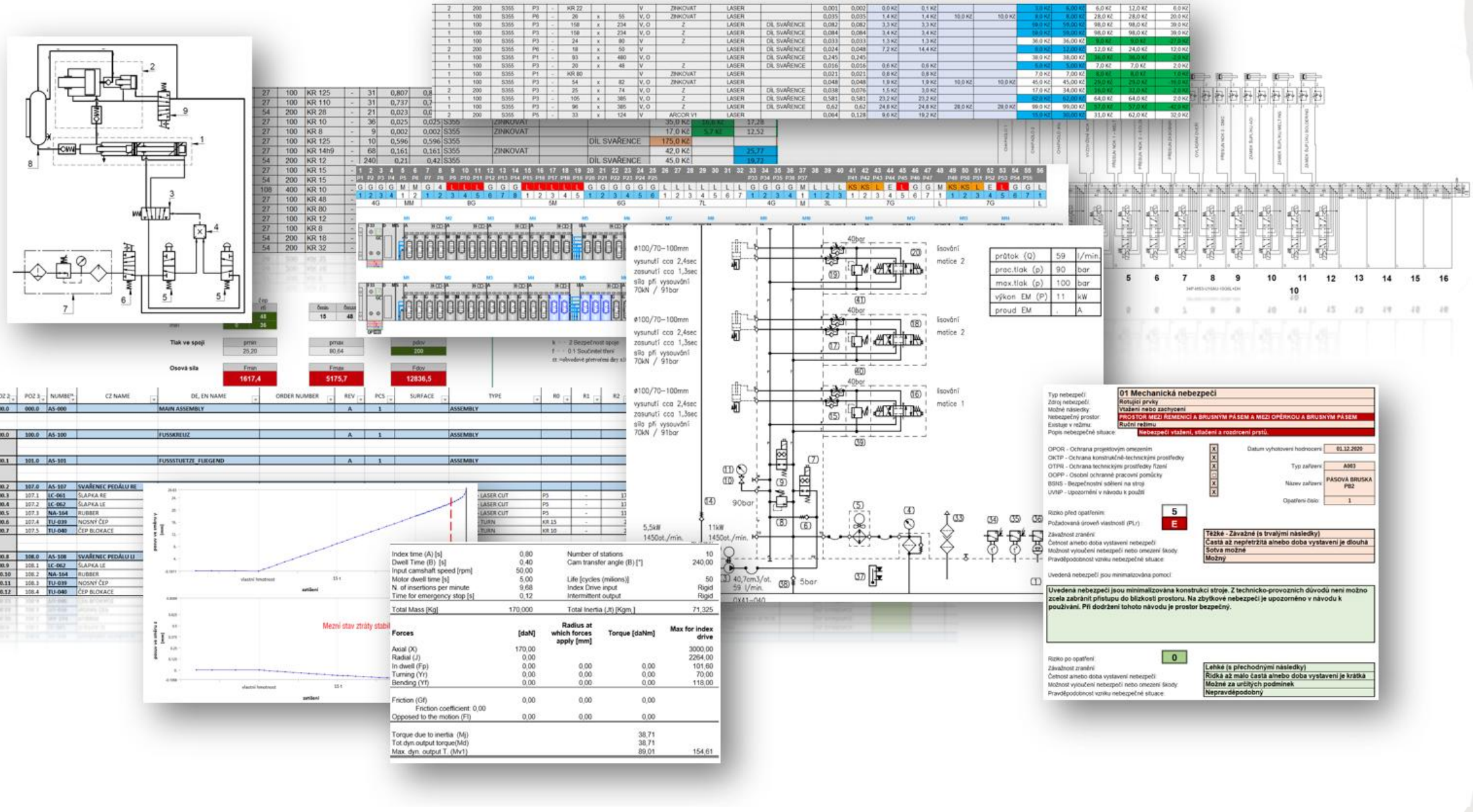
σ_{max} = 131,5 MPa < 345 MPa

RED MACHINE s.r.o.

CALCULATIONS AND ANALYSIS

CALCULATIONS

RED MACHINE s.r.o.



ANALYSIS

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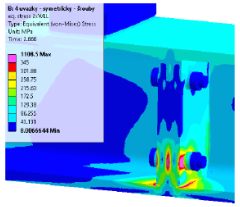
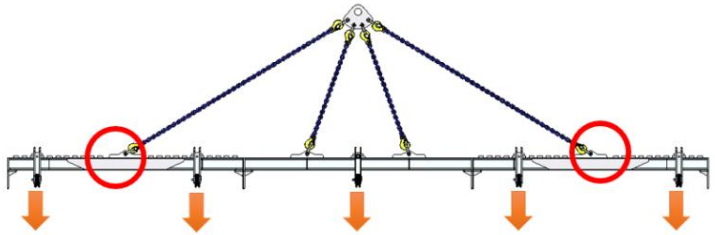
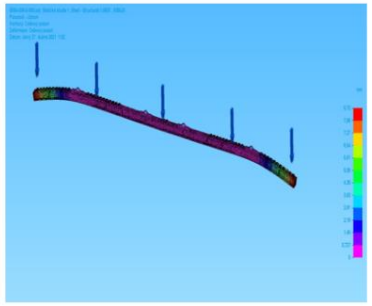
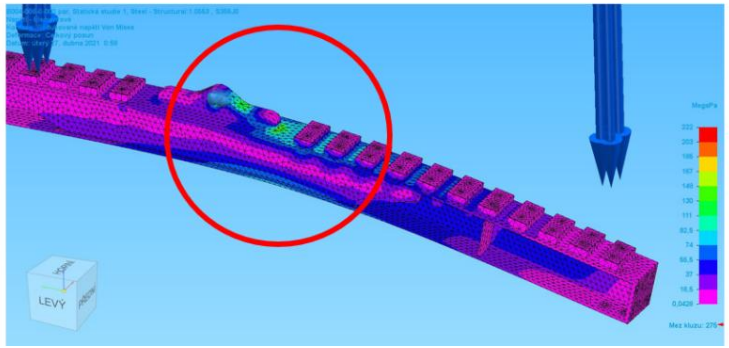








Mpl[Nmm]	11015650	Mpl[Nmm]	7313000				
FT1rd [N]	646079,1789	FT1rd [N]	428914,956				
FT2rd [N]	379642,5662	FT2rd [N]	304232,1792				
i. [-]	**0,54917753**	**i. [-]**	**0,682307043**	<	**1**		

Max. svislý průhyb v provozní kombinaci zatížení:

Přemístění uzlů

Lineární výpočet, Extrém : Globální
Výběr : Vše
Kombinace : CO2

Uzel	Stav	Uz [mm]
N9	CO2/1	-57,6
N4	CO2/2	0,0

CS10- Řetěz

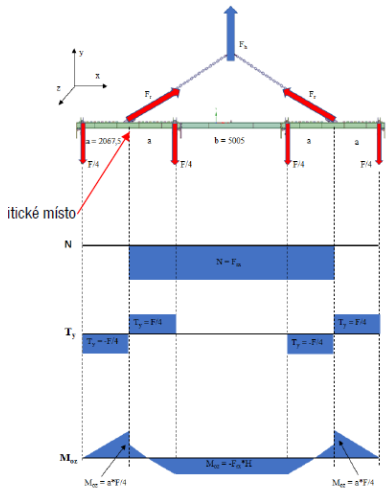
Tah pro provozní kombinaci zatížení:

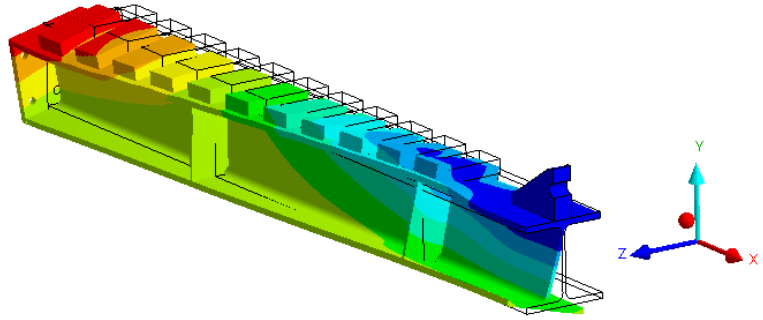
Vnitřní síly na prutu

Lineární výpočet, Extrém : Globální, Systém : Hlavní
Výběr : B2,B8
Kombinace : CO2

Dílec	dx [mm]	Stav	N [N]
B8	0,0	CO2/3	2517
B8	5089,0	CO2/5	330746

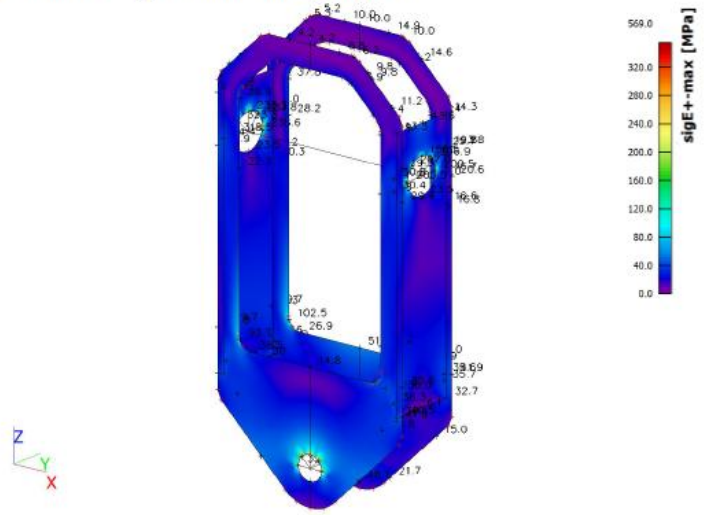
Pro snížení tahové síly v prvku na 190kN je nutno snížit snížit zatížení 1 závěsu na max. 27500 N.





4.2.1.2. Kladnice

Obr. 7: Kladnice – výpočet SCIA - red. napětí dle HMH



σ_{max} = 102,5 MPa < 345 MPa
(vyšší hodnoty jsou nepřesností modelu)

RED MACHINE s.r.o.

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