



HYT ENGINEERING COMPANY PVT. LTD.



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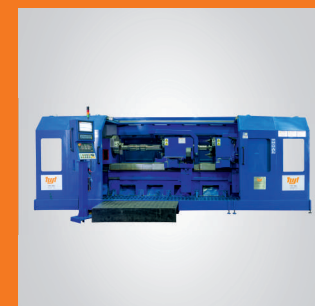
Solutions For Rolling Stock Production & Maintenance

Headquarter:

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HYT ENGINEERING COMPANY PVT. LTD.
INDIA



SOLUTIONS FOR ROLLING STOCK PRODUCTION AND MAINTENANCE

SOLUTIONS FOR ROLLING STOCK PRODUCTION & MAINTENANCE

HYT Engineering Company Pvt Ltd formerly known as HYT Engineering Corporation started its operation in 1977 with manufacturing drilling machines and lathes. Since then the company has grown into a technology driven organization which has manufactured over 1100 machines adopting international standards.

We are proud to say that most of the rolling stock in Indian Railways is turned on our Wheel Lathes. Till date we have supplied more than 500 Wheel Lathes and 500 other SPMs. Our machines are working in Railways since last 49 years and giving highly satisfactory services to the customers.

HYT Engineering Company Pvt Ltd has an Ultra-Modern Facility of 16000 square metres for design, manufacturing and testing of machines. A team of 1000 Highly skilled, semi-skilled manpower and 350 staff members including qualified engineers is devoted to fulfil all customer requirements. We are having a Service set up in PAN India with a dedicated team of 150 Service Engineers. HYT has developed and established agencies for maintaining our machines globally as well.

We at HYT are constantly upgrading technology to provide economical solutions for challenging demands. We believe in providing turnkey solutions from design, manufacturing to after sales maintenance. Our unique approach towards planning and prompt execution has also made us a dominant player in the infrastructure industry. HYT is widely acclaimed for its design excellence, innovation and customer centric attitude.

HYT HAS DEVELOPED AND MANUFACTURED THE FOLLOWING MACHINES:

- CNC Tandem Underfloor Wheel Lathe
 - CNC Underfloor (Pit) Wheel Lathe
 - CNC Portal (Above Floor) Wheel Lathe
 - CNC Surface (Above Floor) Wheel Lathe
 - CNC Vertical Turning & Boring machine
 - CNC Vertical Turning & Boring Machine in Multiple Customised Configuration
 - CNC Axle Journal Turning & Burnishing Lathe
 - Wheel Measuring Station
 - Rail cum Road Vehicle (Shunter)
 - Dynamic Wheel Balancing Machine
 - CNC Centering, End Facing and Cup Turning for Processing of Forged Axles
- CNC End Drilling, Tapping, Countersinking and Re-Centering Machine
 - Multipurpose Armature Machine
 - Automatic Train Wash Plant
 - Lifting Systems
 - Axle Turning Lathe

Special Purpose Machines

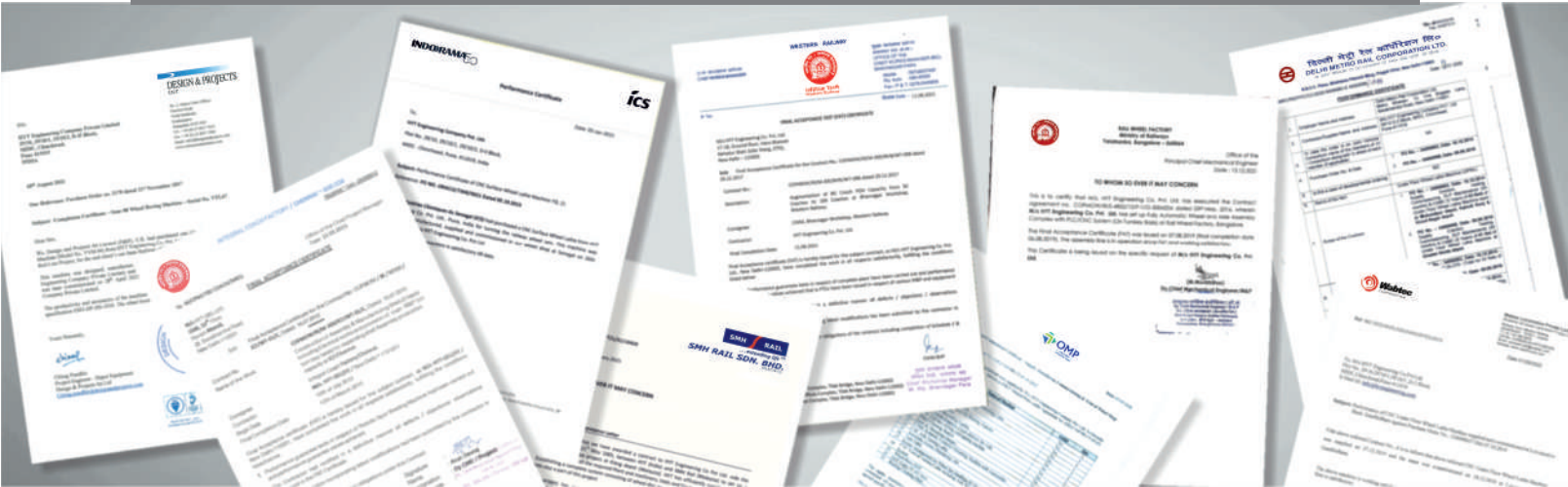
- Sprue Grinding Machine
- Hub Cutting Machine
- Multipurpose Horizontal Lathes
- Customized 3 axis solutions



OUR VALUED CUSTOMERS



THE STAMP OF APPROVAL



AT HYT, SUPERLATIVE TECHNOLOGY BECOMES COST-EFFECTIVE.



VISION

"We pledge to build railway projects and supply machine tools worldwide, becoming the nation's No. 1 project execution company and a global leader in manufacturing special-purpose machine tools."



- Our products and projects are economical, smart, and eco-friendly.
- Our success is the product of devoted people and constructive partnerships.
- We are the first manufacturing and project execution company that focuses on service.

CORE VALUES

- ▶ Future-ready high technology products and services.
- ▶ Accountable, proactive, and timely delivery of complex projects.
- ▶ Quality and design excellence for providing vital solutions.
- ▶ Customer satisfaction and excellent team spirit.
- ▶ Long-term cooperation and partnerships for delivering promises.
- ▶ Responsible towards the safety of people and the planet.

QUALITY IS OUR PRIME PRIORITY

Machines we supply are checked and tested under rigorous quality standards to ensure that only the best product reaches customers. Our products are compliant with the latest quality and design standards and are well-known for their performance and reliability. We have a state-of-the-art facility with all the latest equipment in quality. All our machines undergo inspection from approved and accredited labs. HYT has a structured Quality Assurance Plan (QAP) for all activities, which ensures the delivery of high-quality products and services. It is a critical part of any project, as it enables to agree to a set of quality targets. It explains Material Control Procedure, Acceptance Norms, In-process Control, Bought-out Items Control, Final Inspection Norms.

SERVICE IS OUR DNA

HYT has established an elaborate after-sales and service organization to render our services on a real-time basis to our valued customers. We undertake Comprehensive Annual Maintenance services as the machines are vital equipment for Railways/Metro production and maintenance procedures. HYT has established multiple spares depots for faster availability of spares. A dedicated remote diagnostic and assistance facility has been created to support clients within 24 hours of issue reporting. HYT has expertise in Operations and Maintenance services including comprehensive maintenance, spares scope, consumables, tools and inserts and the manpower required to operate the machines.

R&D FOCUS

HYT has a world-class R&D team comprised of a good mix of experienced and highly qualified staff focusing on New Product Development, enhancing the features of existing machines and developing new solutions for the clients.

MOVING FORWARD WITH INNOVATION & EXCELLENCE





HYT ENGINEERING COMPANY PVT. LTD.



YUGLX

CNC TANDEM UNDERFLOOR WHEEL LATHE

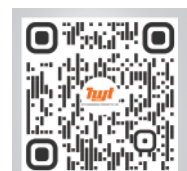
CNC Tandem Underfloor Wheel Lathe is a combination of two CNC Underfloor wheel lathes for simultaneous re-profiling of new or worn-out two-wheelsets of one bogie of railway vehicles in situ. It is also capable of machining brake discs assembled on wheelsets of rolling stock. One of the machine in Tandem configuration is fixed and other machine can be either movable or fixed.

High degree of automation like automatic loading & unloading, automatic wheel profile & diameter measurement, suggestion of optimum depth of cut to restore profile, automatic machining process and easy to understand interactive HMI screens enables machines very easy to operate.

Automatic synchronised lifting of each wheelset by 4 drive rollers to ensure correct alignment of wheelset with respect to machine centre line. Rollers in individual follow up mode after application of jacks and hold down claws to the axle / bearing boxes. This ensures continuous drive roller contact to wheelset during machining operations.

Dedicated control software with customised HMI Screens takes care of various safety measures for easy & safe operations as well as displays fault messages. Provision of remote maintenance support from HYT Headquarter is also available. Easy and quick access to parts requiring maintenance attention results in faster maintenance of machine.

This Machine integrates both Industry 4.0 and Industry 5.0 features.



CNC TANDEM UNDERFLOOR WHEEL LATHE

LEADING PARAMETER

TECHNICAL DATA OF MACHINE

YUGLX 15

○ Total power on friction rollers	: 4×9 kW for each machine
○ Max. Chip Cross Section while Profiling	: 6 mm ²
○ Machine weight approx.	: 40 tons
○ Pit dimensions (LxWxH)	: 12×7×2.3 m

YUGLX 30

○ Total power on friction rollers	: 4×13.5 kW for each machine
○ Max. Chip Cross Section while Profiling	: 10 mm ²
○ Machine weight approx.	: 60 tons
○ Pit dimensions (LxWxH)	: 12×7×2.3 m

YUGLX 15 & YUGLX 30

○ Cutting Speed while profiling	: 20-120 m/min (Optional 20-300 m/min)
○ Tool post feed for wheel profiling	: 0.1 to 2.5 mm/rev
○ Rapid traverse of longitudinal carriage	: 5000 mm/min
○ Rapid traverse of vertical slide	: 3000 mm/min
○ Supply Voltage	: 415 VAC, 50 Hz**

** Special Electrical Supply can be considered, if required.

VEHICLE & WHEELSET DATA

○ Track Gauge	: 1000-1676 mm
○ Min./max. wheel diameter	: 375 - 1250 mm
○ Wheel width	: 75-155 mm
○ Min./max. wheelset distance	: 1700-3200 mm
○ Max. admissible axle load	: 18 tons

○ Track Gauge	: 1000-1676 mm
○ Min./max. wheel diameter	: 580-1600 mm
○ Wheel width	: 75-155 mm
○ Min./max. wheelset distance	: 1700-3200 mm
○ Max. admissible axle load	: 30 tons / 40 tons*

*On request

ACCURACIES OF WHEELSET (WHEEL PROFILING)

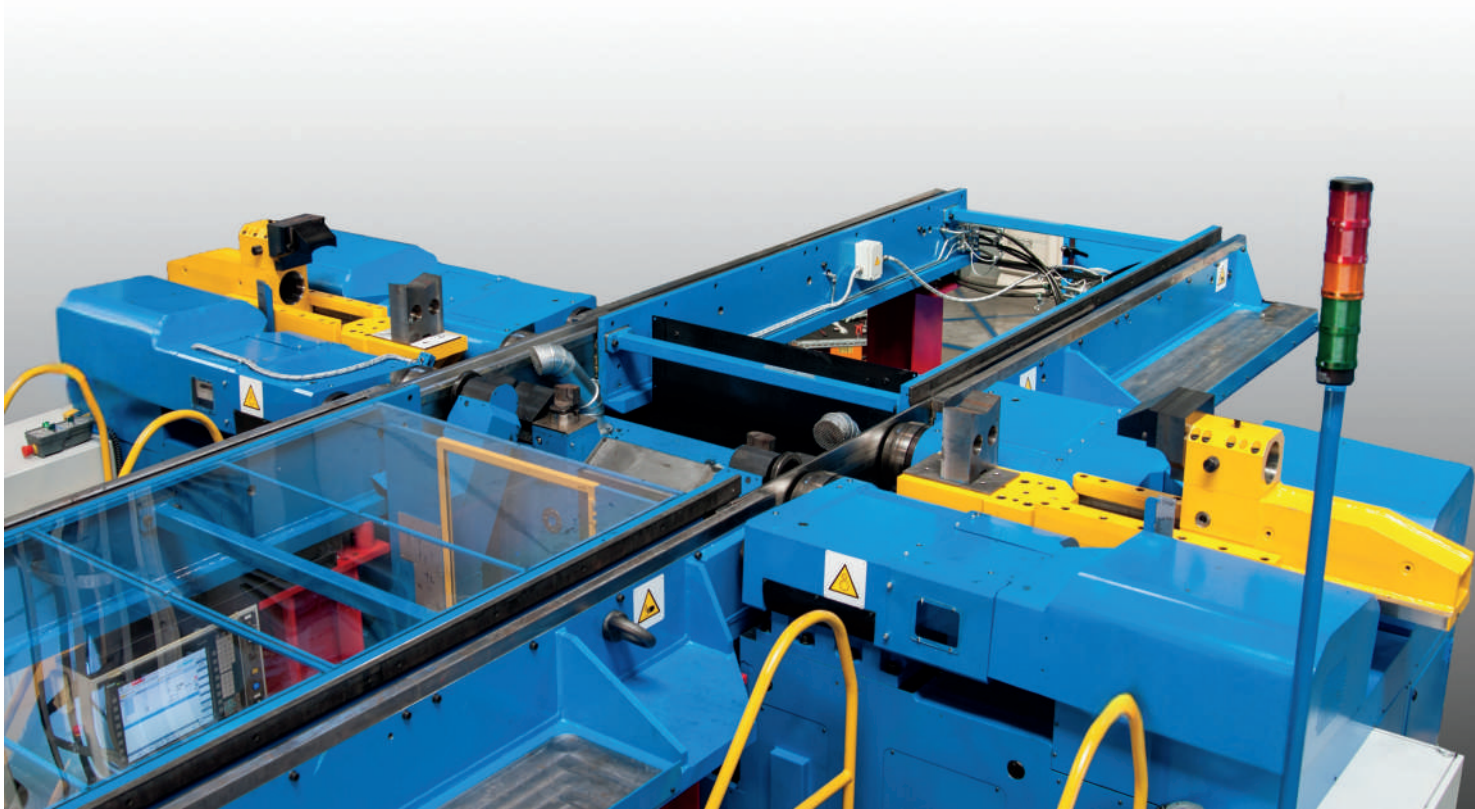
○ Difference in diameter of Both Wheels	: <0.10 mm
○ Difference in diameter of 4 wheels in one bogie	: <0.3 mm
○ Accuracy of Wheel Profile when Compared with Standard Profile Gauge	: <0.2 mm
○ Radial Runout of Wheel	: <0.10 mm
○ Axial Runout of Wheel	: <0.15 mm
○ Profile Surface Finish	: <12.5 μm Ra

UNIQUE PROPOSITION

- Re-Profiling time reduced by upto 50%.
- One of the machine is fixed and other machine is movable to accommodate varying Bogie wheelbase.
- CNC System of both the machines communicate with each other.
- Data Exchange between two machines for enhanced accuracy.
- Load-bearing structures are made from high-strength, close-grained cast iron for stability and efficient vibration damping.
- System for measuring wheel profile and diameter to optimize cutting depth economically.
- Individual Jack and hold-down device for securing axle/bearing boxes.
- Quick change tool for wheel profiling and disc brake machining.
- Heavy-duty chip conveyor & chip Shredder / crusher for effective evacuation of chips.
- Shunter interlocking provision with machine controls.
- Remote office as an optional arrangement.



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YUGL

CNC UNDERFLOOR WHEEL LATHE

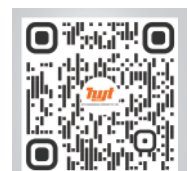
CNC Underfloor Wheel Lathe is an automatic machine used for simultaneous re-profiling of new or worn-out wheels of railway vehicles in situ. It is also capable of machining brake discs assembled on wheelsets of rolling stock.

High degree of automation like automatic loading & unloading, automatic wheel profile & diameter measurement, suggestion of optimum depth of cut to restore profile, automatic machining process and interactive HMI screens enables machines very easy to operate.

Automatic synchronised lifting of wheelset by 4 drive rollers to ensure correct alignment of wheelset with respect to machine centre line. Rollers in individual follow up mode after application of jacks and hold down claws to the bearing boxes. This ensures continuous drive rollers contact to wheelset during machining operations.

Dedicated control software with customised HMI Screens takes care of various safety measures for easy & safe operations as well as displays fault messages. Provision of remote maintenance support from HYT Headquarter is also available. Easy and quick access to parts requiring maintenance attention results in faster maintenance of machine.

This Machine integrates both Industry 4.0 and Industry 5.0 features.



CNC UNDERFLOOR WHEEL LATHE

LEADING PARAMETER

TECHNICAL DATA OF MACHINE

YUGL 15

○ Total power on friction rollers	: 4×9kW
○ Max. Chip Cross Section while Profiling	: 6 mm ²
○ Machine weight approx.	: 17 tons
○ Pit dimensions (LxWxH)	: 5.6×7×2.3 m

YUGL 30

○ Total power on friction rollers	: 4×13.5 kW
○ Max. Chip Cross Section while Profiling	: 10 mm ²
○ Machine weight approx.	: 25 tons
○ Pit dimensions (LxWxH)	: 5.6×7×2.3 m

VEHICLE & WHEELSET DATA

○ Track Gauge	: 1000-1676 mm
○ Min./max. wheel diameter	: 375-1250 mm
○ Wheel width	: 75-155 mm
○ Min./max. wheelset distance	: 1700-3200 mm
○ Max. admissible axle load	: 18 tons

○ Track Gauge	: 1000-1676 mm
○ Min./max. wheel diameter	: 580-1600 mm
○ Wheel width	: 75-155 mm
○ Min./max. wheelset distance	: 1700-3200 mm
○ Max. admissible axle load	: 30 tons / 40 tons*

*On request

YUGL 15 & YUGL 30

○ Cutting Speed while profiling	: 20-120 m/min (Optional 20-300 m/min)
○ Tool post feed for wheel profiling	: 0.1 to 2.5 mm/rev
○ Rapid traverse of longitudinal carriage	: 5000 mm/min
○ Rapid traverse of vertical slide	: 3000 mm/min
○ Supply Voltage	: 415 VAC, 50 Hz**

** Special Electrical Supply can be considered, if required.

ACCURACIES OF WHEELSET (WHEEL PROFILING)

○ Difference in Diameter of Both Wheels	:	<0.10 mm
○ Accuracy of Wheel Profile when Compared with Standard Profile Gauge	:	<0.2 mm
○ Radial Runout of Wheel	:	<0.1 mm
○ Axial Runout of Wheel	:	<0.15 mm
○ Profile Surface Finish	:	<12.5 µm Ra

UNIQUE PROPOSITION

- Load-bearing structures are made from high-strength, close-grained cast iron for stability and vibration damping.
- Drive rollers are made from high carbon, high chromium alloy steel for extreme wear resistance.
- System for measuring wheel profile and diameter to optimize cutting depth economically.
- Jack and hold-down device for securing bearing boxes.
- CNC system with operator-friendly customized HMI screens.
- Quick change tool for wheel profiling and disc brake machining.
- Machine operation by single operator panel with good visibility of machining process.
- Heavy duty chip conveyor & chip shredder / crusher for effective evacuation of chips.
- Shunter interlocking provision with machine controls.
- Remote office as an optional arrangement.



HYT ENGINEERING COMPANY PVT. LTD.



YPL - 02

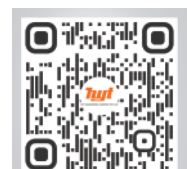
CNC PORTAL WHEEL LATHE

CNC Portal Wheel Lathe is extremely rigid, an automatic machine in portal construction with roll through movement of wheelsets. It is suitable for simultaneous or independent re-profiling, inside & outside facing of new or worn-out wheels when disassembled from railway vehicles. It is also capable of machining the brake discs.

Machine installed on a floor level with electrical, electronics, pneumatics and hydraulic equipment's installed overhead ensures very high reliability & minimum maintenance requirements. High degree of automation like automatic loading & unloading, automatic wheel profile & diameter measurement, suggestion of optimum depth of cut to restore profile, automatic machining process and easy to understand interactive HMI screens enables machine very easy to operate.

Rigid cross rail, Headstocks with wheelset drive at both ends and dual tool carriages enables higher material removal rate and faster machining of wheelset. Dedicated control software with customised HMI Screens takes care of various safety measures for easy & safe operations as well as displays fault messages. Provision of remote maintenance support from HYT Headquarter is also available. Easy and quick access to parts requiring maintenance attention results in faster maintenance of machine.

This Machine integrates both Industry 4.0 and Industry 5.0 features.



YPL - 02

CNC PORTAL WHEEL LATHE

LEADING PARAMETER

TECHNICAL DATA OF MACHINE

○ Main Motor Capacity	:	2x55 kW
○ Cutting Speed while Profiling	:	25 to 80 m/min
○ Tool Post Feed for Wheel Profiling	:	0.1 to 4 mm/rev
○ Tool Post Rapid Speed for Both Axes	:	4500 mm/min
○ Max. Chip Cross Section while Profiling	:	32 - 50 mm ²
○ Cycle Time / Wheelset	:	8 - 12 mins
○ Supply Voltage	:	3Ph, 415V AC, 50 Hz**

** Special electrical supply can be considered, if required.

WHEELSET DATA FOR MACHINING

○ Track Gauge	:	As required	○ Min. Axle Length	:	1850 mm*
○ Max. Tread Diameter	:	1250 mm*	○ Max. Weight of Wheelset	:	50 kN
○ Min. Tread Diameter	:	750 mm*	○ Max. diameter for Brake	:	700 mm
○ Wheel Width	:	75 to 145 mm	Disc Machining		
○ Max. Axle Length	:	2750 mm*	○ Min. diameter for Brake	:	250 mm
			Disc Machining		

*Depends on Track Gauge

The parameters are for standard specification. However, suitable models for Locomotives, Metros, Trams and other Lightweight Vehicles are available.

ACCURACIES OF WHEELSET (WHEEL PROFILING)

○ Difference in diameter of Both Wheels	:	<0.15 mm
○ Accuracy of Wheel Profile when Compared with Standard Profile Gauge	:	<0.2 mm
○ Radial Runout of Wheel	:	<0.1 mm
○ Axial Runout of Wheel	:	<0.2 mm
○ Profile Surface Finish	:	<12.5 µm Ra

UNIQUE PROPOSITION

- Load-bearing structures are made from high strength close-grained cast iron for stability and efficient vibration damping.
- System for measuring wheel profile and diameter to optimize cutting depth economically.
- Automatic loading, unloading and roll-in & roll-out arrangement to increase productivity.
- Rigid Portal Frame in slant construction.
- CNC Systems with Operator-friendly customised HMI Screens.
- Hardened and ground box guideways for Headstocks & Tool Carriages for maximum rigidity.
- Extremely rigid and durable spindle assemblies.
- 4 Jaw synchronised, powered chuck for heavy duty machining.
- Machine operation by single operator panel with good visibility of machining process.
- Camera and display system for enhanced visibility of measurement & machining process.
- Heavy duty chip conveyor & chip Shredder / crusher for effective evacuation of chips.



HYT ENGINEERING COMPANY PVT. LTD.



YPL - 04

CNC ROLLER TYPE PORTAL WHEEL LATHE (CNC-RPWL)

CNC Portal Wheel Lathe is an automatic machine in portal construction with roll through movement of wheelsets. It is suitable for simultaneous re-profiling of new or worn-out wheels when disassembled from railways vehicles like locomotives, electrical & diesel multiple units, coaches, wagons, metro & tram coaches, etc.

The design allows the Lifting, Centering & Rotation of the wheelset through Friction Roller. The Portal structure permits the wheelset loading from operator side and unloading from both sides of the machine, allowing a perfect wheelset flow.

Dedicated control software with customized HMI Screens takes care of various safety measures for easy & safe operations as well as displays fault messages. Provision of remote maintenance support from HYT Headquarter is also available. Easy and quick access to parts requiring maintenance attention results in faster maintenance of machine.

This Machine integrates both industry 4.0 and industry 5.0 features.



CNC ROLLER TYPE PORTAL WHEEL LATHE (CNC-RPWL)

LEADING PARAMETER

TECHNICAL DATA OF MACHINE

Upper Friction Roller Drive Motor	:	2 x 37 kW
Lower Friction Roller Drive Motor	:	2 x 18.5 kW
Cutting Speed while Profiling	:	25 to 80 m/min
Tool Post Feed for Wheel Profiling	:	0.1 to 4 mm/rev
Tool Post Rapid Speed for Both Axes	:	4500 mm/min
Max. Chip Cross Section while Profiling	:	10 – 18 mm ²
Cycle Time / Wheelset	:	12 – 16 min.
Supply Voltage	:	415 VAC, 50 Hz**

** Special electrical supply can be considered, if required.

WHEELSET DATA FOR MACHINING

Track Gauge	:	As required
Max. Tread Diameter	:	1250 mm*
Min. Tread Diameter	:	650 mm*
Wheel Width	:	100 to 145 mm
Max. Axle Length	:	2750 mm*
Min. Axle Length	:	1850 mm*
Max. Weight of Wheel Set	:	50 kN
Max. Dia. for Brake Disc Machining	:	700 mm
Min. Dia. for Brake Disc Machining	:	400 mm

*Depends on Track Gauge

ACCURACIES OF WHEELSET (WHEEL PROFILING)

Difference in diameter of both wheels	:	<0.1 mm
Accuracy of Wheel Profile when Compared with Standard Profile Gauge	:	<0.2 mm
Radial Runout of Wheel	:	<0.1 mm
Axial Runout of Wheel	:	<0.2 mm
Profile Surface Finish	:	<12.5 µm Ra

BRAKE DISC MACHINING (OPTIONAL)

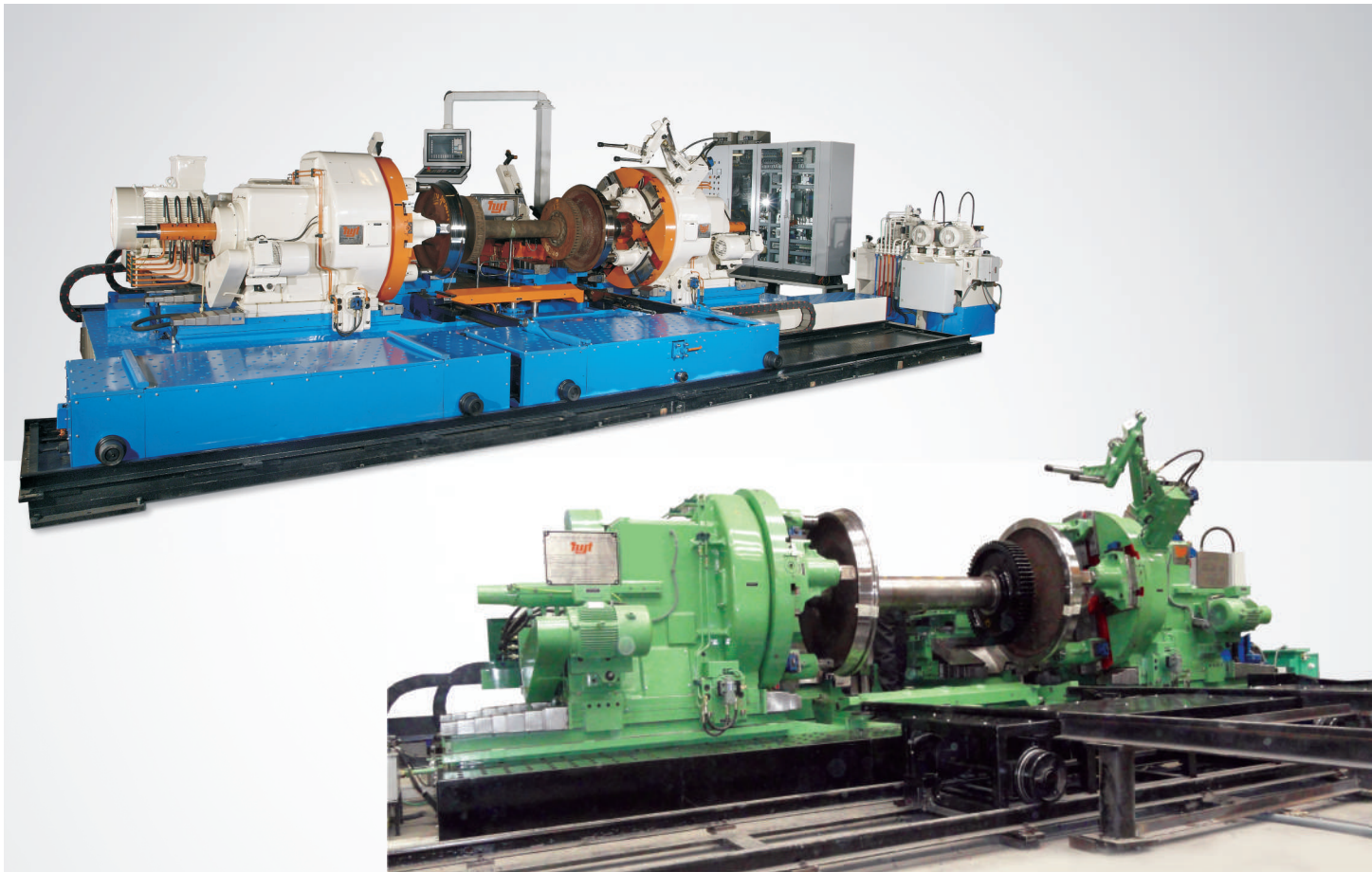
Surface Finish	:	<2.5 µm Ra
Flatness of Surface	:	<0.1/100 mm
Lateral Wobble	:	<0.2mm

UNIQUE PROPOSITION

- All load-bearing structures are made from high strength, close-grained cast iron for stability and efficient vibration damping.
- High-precision measuring system for wheel profile and diameter measurement to optimize cutting depth economically.
- CNC systems with operator-friendly customised HMI screen.
- Machines wheel and axle mounted brake discs.
- Automatic roll through arrangement to increase productivity.
- Extremely rigid & wear-resistant linear motion guide ways for carriages.
- Heavy duty chip conveyor & chip Shredder / crusher for effective evacuation of chips.
- The wheelset is driven by six friction rollers (three per wheel) contacting the flange area.



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YSL - 08 & 12

CNC SURFACE WHEEL LATHE

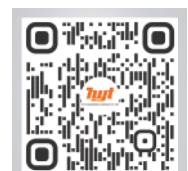
CNC Surface Wheel Lathe is extremely rigid, an automatic machine with roll-in & roll-out movement of wheelsets. It is suitable for simultaneous or independent re-profiling, inside & outside facing of new or worn-out wheels when disassembled from railways vehicles. It is also capable of machining the brake discs.

High degree of automation like automatic loading & unloading, automatic wheel profile & diameter measurement, suggestion of optimum depth of cut to restore profile, automatic machining process and easy to understand interactive HMI screens enables machine very easy to operate.

Rigid bed, Headstocks with wheel set drive at both ends and dual tool carriages enables higher material removal rate and faster machining of wheelset.

Dedicated control software with customised HMI Screens takes care of various safety measures for easy & safe operations as well as displays fault messages. Provision of remote maintenance support from HYT Headquarter is also available. Easy and quick access to parts requiring maintenance attention results in faster maintenance of machine.

This machine integrates both Industry 4.0 and Industry 5.0 features.



YSL - 08 & 12

CNC SURFACE WHEEL LATHE

LEADING PARAMETER

TECHNICAL DATA OF MACHINE :

	YSL - 08	YSL - 12
○ Main Motor Capacity	: 2 x 45 or 55 kW	2 x 37 kW
○ Cutting Speed while Profiling	: 25 to 80 m/min	25 to 80 m/min
○ Tool Post Feed for Wheel Profiling	: 0.1 to 3.5 mm/rev	0.1 to 3.5 mm/rev
○ Tool Post Rapid Speed for Both Axes	: 3000 mm/min	3000 mm/min
○ Max. Chip Cross Section while Profiling	: 20 mm ²	16 mm ²
○ Floor to Floor Cycle Time/Wheelset	: 14-16 min	16-18 min
○ Supply Voltage	: 3Ph, 415VAC, 50 Hz**	3Ph, 415VAC, 50 Hz**

** Special Electrical Supply can be considered, if required.

For Higher Productivity, YPL-01 & YPL-02 Models are available.

Simultaneous re-profiling of both wheels in YSL-08 & YSL-12 Model

WHEELSET DATA FOR MACHINING

○ Track Gauge	: As required	○ Min. Axle Length	: 1200 mm*
○ Max. Tread Diameter	: 1250 mm*	○ Max. Weight of Wheelset	: 50 kN
○ Min. Tread Diameter	: 750 mm*	○ Max. Dia. for Brake Disc Machining	: 700 mm
○ Wheel Width	: 75 to 145 mm	○ Min. Dia. for Brake Disc Machining	: 250 mm
○ Max. Axle Length	: 2750 mm*		

*Depends on Track Gauge

ACCURACIES OF WHEELSET (WHEEL PROFILING) :

	YSL - 08	YSL - 12
○ Difference in Dia. of Both Wheels	: <0.15 mm	<0.3 mm
○ Accuracy of Wheel Profile when Compared with Standard Profile Gauge	: <0.2 mm	<0.2 mm
○ Radial Runout of Wheel	: <0.2 mm	<0.3 mm
○ Axial Runout of Wheel	: <0.2 mm	<0.3 mm
○ Profile Surface Finish	: <12.5 µm Ra	<12.5 µm Ra

UNIQUE PROPOSITION

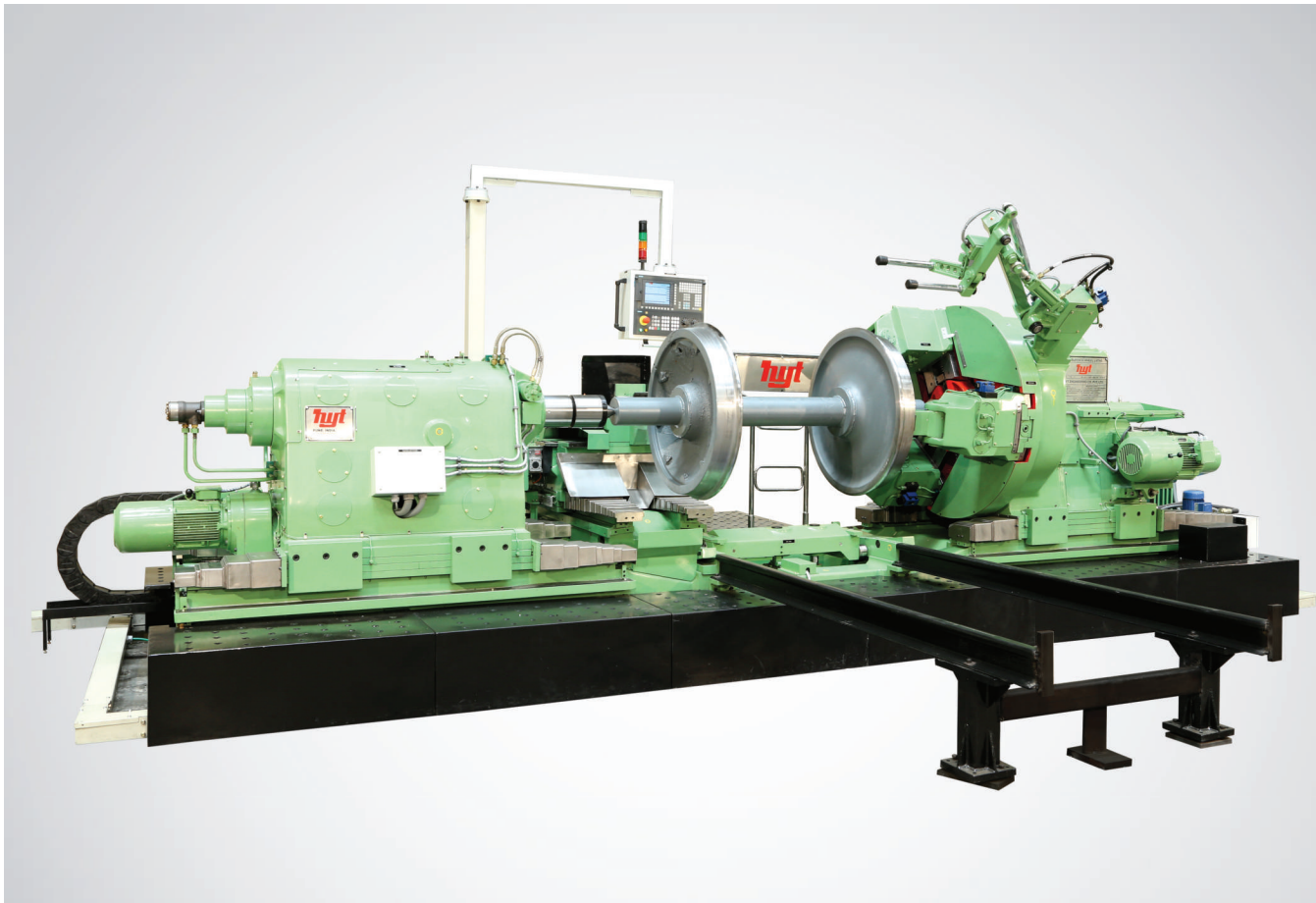
- Load-bearing structures are made from high-strength, close-grained cast iron for stability and efficient vibration damping.
- System for measuring wheel profile and diameter to optimize cutting depth economically.
- Automatic loading, unloading and roll-in & roll-out arrangement to increase productivity.
- CNC Systems with Operator-friendly customised HMI Screens.
- Hardened and ground box guideways for headstock and Tool Carriages for maximum rigidity.
- Extremely rigid and durable spindle assemblies.
- 4 Jaw synchronized, powered chuck for heavy duty machining.
- Machine operation by single operator panel with good visibility of machining process.
- Heavy duty chip conveyor & chip Shredder / crusher for effective evacuation of chips.

Optional

- Optional Wheel traverser trolley to reduce wheelset roll in & roll out time.
- Optional Camera and display system for enhanced visibility of measurement & machining process.



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YSL - 21

CNC SURFACE WHEEL LATHE

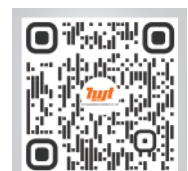
CNC Surface Wheel Lathe is suitable for low-volume requirement. It is suitable for independent re-profiling, inside & outside facing of new or worn-out wheels when disassembled from railways vehicles. It is also capable of machining the brake discs.

Manually assisted loading & unloading, wheel profile & diameter measurement, machining process and easy to understand interactive HMI screens enables machine very easy to operate.

Rigid bed, Headstock with wheelset drive at one end with tailstock support at other end and single tool carriages enables machining of one wheel at a time.

Dedicated control software with customised HMI Screens takes care of various safety measures for easy & safe operations as well as displays fault messages. Provision of remote maintenance support from HYT Headquarter is also available. Easy and quick access to parts requiring maintenance attention results in faster maintenance of machine.

This machine integrates both Industry 4.0 and Industry 5.0 features.



YSL - 21

CNC SURFACE WHEEL LATHE

LEADING PARAMETER

TECHNICAL DATA OF MACHINE

○ Main Motor Capacity	:	1 x 22 kW
○ Cutting Speed while Profiling	:	25 to 80 m/min
○ Tool Post Feed for Wheel Profiling	:	0.1 to 3.5 mm/rev
○ Tool Post Rapid Speed for Both Axes	:	3000 mm/min
○ Max. Chip Cross Section while Profiling	:	10 mm ²
○ Floor to Floor Cycle Time/Wheelset	:	50-60 min
○ Supply Voltage	:	3Ph, 415VAC, 50 Hz**

** Special Electrical Supply can be considered, if required.

For Higher Productivity, YSL-08 & YPL-01, YPL-02 Models are available.

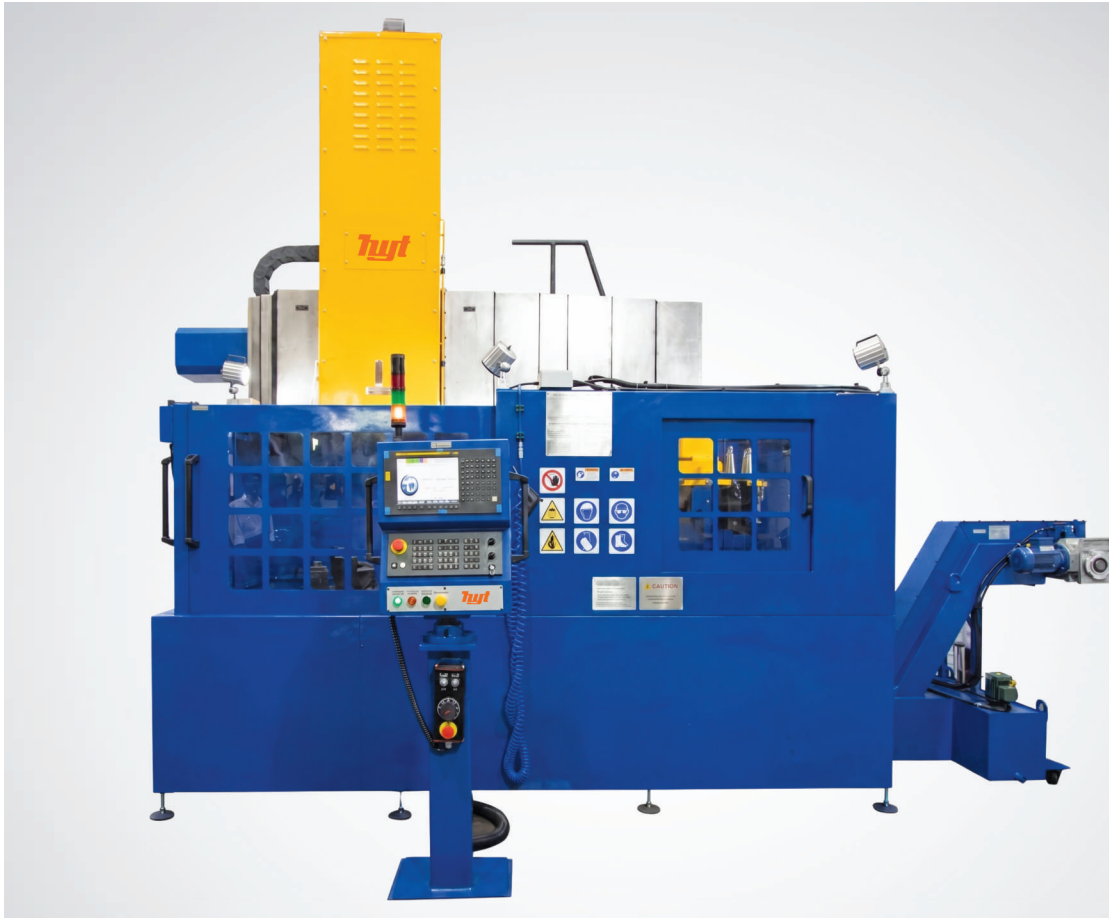
Single Tool Post for YSL-21 model.

ACCURACIES OF WHEELSET (WHEEL PROFILING)

○ Difference in Diameter of Both Wheels	:	<0.5 mm
○ Accuracy of Wheel Profile when Compared with Standard Profile Gauge	:	<0.3 mm
○ Radial Runout of Wheel	:	<0.3 mm
○ Axial Runout of Wheel	:	<0.3 mm
○ Profile Surface Finish	:	<12.5 µm Ra

UNIQUE PROPOSITION

- Load-bearing structures are made from high-strength, close-grained cast iron for stability and efficient vibration damping.
- System for measuring wheel profile and diameter to optimize cutting depth economically.
- CNC Systems with Operator-friendly customized HMI Screens.
- Hardened and ground box guideways for headstock and Tool Carriages for maximum rigidity.
- Extremely rigid and durable spindle assemblies.
- 3 Jaw synchronized, powered chuck for heavy duty machining.
- Machine operation by single operator panel with good visibility of machining process.
- Heavy duty chip conveyor & chip Shredder / crusher for effective evacuation of chips.



YVM - 04

CNC VERTICAL TURNING & BORING MACHINE

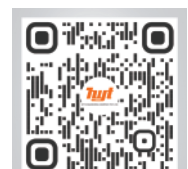
CNC vertical turning & boring machine is extremely rigid, and precision machine especially capable of

- Railway wheel front and back plate profile machining, hub boring and facing, rim front and back facing, tread and flange profile turning and various grooving operations.
- Various drilling & tapping operation as well as oil ejection hole can be drilled on a railway wheel using an optional live spindle.
- General purpose boring, taper boring, taper turning, facing operation on different components like brake discs, axle box etc.

Machine can also be configured for any other component as per customer requirements.

Dedicated control software with customised HMI Screens takes care of various safety measures for easy & safe operations as well as displays fault messages. Provision of remote maintenance support from HYT Headquarter is also available. Easy and quick access to parts requiring maintenance attention results in faster maintenance of machine.

This Machine integrates both industry 4.0 and industry 5.0 features.



YVM - 04

CNC VERTICAL TURNING & BORING MACHINE

FOLLOWING CONFIGURATIONS ARE AVAILABLE

- | | |
|--|--|
| • Moving cross rail | • Tooling up proposal for specific components other than railway wheels |
| • Automatic tool changer with 12 or 20 stations | • Axle wheel seat measuring station |
| • Double RAM | • Automatic wheel bore measurement system |
| • Live spindle with 'C' Axis for table rotation | • Tool wear monitoring system |
| • Specialised component loading, unloading and flipping system as per customer requirements. | • Integration of machine within the continuous production line as per customer requirements. |

LEADING PARAMETER

TECHNICAL DATA OF MACHINE

• Turning/ Swing Diameter	:	1600 mm
• Table Diameter	:	1400 mm
• Table Speed	:	From 3 to 300 rpm
• Turning Height	:	600 mm
• Vertical Travel of the ram head	:	700 mm
• Table drive motor capacity	:	45 kW
• Horizontal Travers of ram head	:	+ 900/-50 mm
• Rapid Travers Rate	:	8000 mm/min
• Ram Cross Section	:	200 x 200 mm or 250 x 250 mm
• Surface Finish While Boring	:	Ra 0.8 µm
• Surface Finish While Turning	:	Ra 1.6 µm
• Surface Finish While Facing	:	Ra 1.6 µm

Machine Accuracies As per ISO 3655

Vertical & Horizontal Travel of Ram Laser Calibrated as per VDI/DGQ 3441

Above Parameter can be suitably customized to meet specific requirement.

UNIQUE PROPOSITION

- | | |
|---|--|
| • Load-bearing structures are made from high-strength, close-grained cast iron for stability and efficient vibration damping. | • Secondary measurement for X and Z axis as per accuracy requirements. |
| • Table supported on large diameter thrust bearing and tapered roller bearing for maximum rigidity and accuracies. | • Machine Enclosure with lockable sliding doors for operator protection. |
| • Three jaw self-centering, hydraulic chuck. | • CNC Systems with single Operator Panel & Operator - friendly customised HMI Screens. |
| • 12 or 20 stations Automatic Tool Changer. | • Chip conveyor system. |
| • Hardened and ground box guideways / Linear Motion guideways as per application requirements. | |



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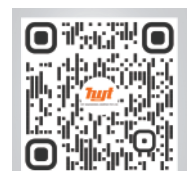
ATL - 01

CNC AXLE TURNING LATHE (CNC ATL)

A CNC Axle turning lathe, ATL-01, which is suitable for high production requirements for machining railway axles. The Axle Turning Lathe Machine is a heavy-duty, high-precision CNC machine specifically engineered for roughing and finish machining of railway axles in maintenance depots and production workshops. The machine architecture ensures high rigidity, thermal stability, and vibration damping, enabling consistent dimensional accuracy throughout the machining cycle.

Dedicated control software with customized HMI Screens takes care of various safety measures for easy & safe operations as well as displays fault messages. Provision of remote maintenance support from HYT Headquarter is also available. Easy and quick access to parts requiring maintenance attention results in faster maintenance of machine.

This Machine integrates both industry 4.0 and industry 5.0 features.



ATL - 01

CNC AXLE TURNING LATHE (CNC ATL)

LEADING PARAMETER

TECHNICAL DATA OF MACHINE

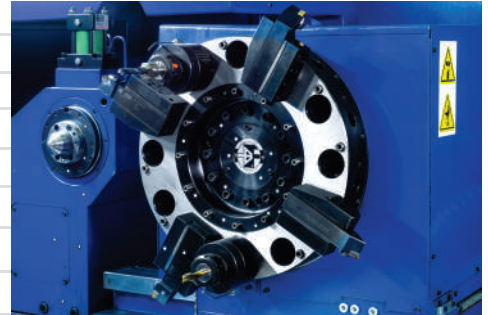
○ Swing over cross slide	:	0-600 mm
○ Number of bed ways	:	3
○ Maximum load between centre	:	1.5 tons
○ Torque admitted by spindle	:	1200 Nm
○ Power	:	41 kW
○ Speed	:	30-2500 rpm
○ Distance between centre	:	3000 mm
○ Diameter of the quill	:	160 mm
○ Supply Voltage	:	3Ph, 415VAC, 50Hz**

** Special electrical supply can be considered, if required.

The parameters are for standard specification.

In automatic cycle the following operations are executed:

- Complete turning of axle;
- Machining bearings seats;
- Burnishing (on request);
- Drilling and tapping (on request)
- Retractable 3 jaw chuck with face drive (on request)
- Complete finish machining of axle in single setup (on request)



UNIQUE PROPOSITION

- Robust and durable design suitable for railway workshops/ depots.
- Structural members subjected to cutting loads in close-grain cast-iron construction.
- Infinite Speed Variation.
- Siemens/Fanuc CNC System with Software.
- Sturdy construction with a swing over the cross slide of 600mm.
- Precision machining for Railway axles;
- 8 position or 12 position turret with live tool on request.
- Optimal roundness, ovality, surface roughness and cylindricity.
- Compact and stiff cross carriage to easily machine the axles
- The machine is fully enclosed within a noise-reduction cabin.
- Heavy duty steady rest self centering.
- Direct coolant supply through the turret to the cutting point for efficient cooling.



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YTB - 04MA

CNC AXLE TURNING AND BURNISHING LATHE (CNC ATBL)



YTB - 04MA

CNC AXLE TURNING AND BURNISHING LATHE (CNC ATBL)

CNC Axle Turning & Burnishing Lathe is capable of performing the following operations on bare axle, axle with gear wheel and on wheelsets of coaches, wagons, locomotives and electric / diesel multiple units:

- Turning of bare axle, axle with gear wheel and turning of in-board and out-board journals of wheelsets.
- Journal areas of bare axle, axle with gear wheel and in-board and out-board journals of wheelsets can be roller burnished.

UNIQUE PROPOSITION

- Fully floating burnishing roller arrangement to avoid loading on revolving centers.
- Burnishing roller inclination adjustment for effective burnishing.
- Extremely wear-resistant linear motion guide ways.
- More accurate axle diameter control.
- Uninterrupted axle turning.
- Burnishing Pressure Control through HMI.
- Extremely heavy duty revolving centers for Durability.
- Separate provision for wheelset rotation through a belt drive system
- Specially designed arrangement for rotating bare axles without wheel discs

TECHNICAL PARAMETERS

TECHNICAL DATA OF MACHINE

○ Main Drive Motor Capacity	: 11 kW
○ Tool Post Feed for Axle Turning & Burnishing	: 0.1 to 2.5 mm/rev
○ Max. Depth of Cut while Axle Turning	: 3 mm
○ Supply Voltage	: 3Ph, 415 VAC, 50Hz**

** Special electrical supply can be considered if required.

WHEELSET DATA FOR MACHINING

○ Max. Tread Diameter	: 1250 mm*
○ Min. Tread Diameter	: 540 mm*
○ Wheel Width	: 75 to 145 mm
○ Max. Axle Length	: 2650 mm*
○ Min. Axle Length	: 1200 mm*
○ Max. Weight of Wheelset	: 50 kN
○ Min.-Max. Axle Journal Diameter	: 70 - 230 mm
○ Min.-Max. Axle Journal Length	: 110 - 480 mm

* Depends on track gauge

ACCURACIES OF WHEELSET

○ Ovality of Journal	: <0.01mm
○ Taper of Journal	: <0.01/100 mm
○ Surface Finish of Journal after Burnishing	: <0.2 μ m Ra

This Machine integrates both industry 4.0 and industry 5.0 features.





HYT ENGINEERING COMPANY PVT. LTD.



YMM - 04

UNIVERSAL MULTI-PURPOSE ARMATURE MACHINE



YMM - 04

UNIVERSAL MULTI-PURPOSE ARMATURE MACHINE

TRULY MULTI-PURPOSE, UNIVERSAL ARMATURE MACHINE IS USED FOR THE FOLLOWING OPERATIONS ON TRACTION MOTOR AND TRACTION GENERATOR ARMATURES:

- Fully automatic mica undercutting
- Deburring & polishing of commutator
- Commutator & bearing journal turning
- Commutator & bearing journal grinding
- Armature banding & re-rolling
- Coil cut off
- TIG welding (optional)
- Armature drop testing

UNIQUE PROPOSITION

- Floating Spindle assembly for mica undercutting is incorporated to compensate skew effect of commutator bars.
- Round guideways for precision movement of carriage.
- Automatic indexing for mica undercutting.
- Single machine for multiple operations.
- High machining accuracies.
- Special guideways system for enhanced accuracies.
- Positional current pulsing for TIG welding (Optional.)

TECHNICAL PARAMETERS

Technical Data of Machine

○ Main Drive Motor Capacity	: 15 kW
○ Carriage Rapid Traverse in Longitudinal Direction	: 600 mm/min
○ Head Stock Spindle Speed – Infinitely Variable	: 1.5 to 300 rpm
○ Carriage Feed in Longitudinal Direction	: 0 to 100 mm/min
○ Maximum Depth of Cut while Commutator Turning	: 2.5 mm
○ Maximum Banding Tension during Wire/Tape Banding	: 300 kg
○ Supply Voltage	: 3Ph, 415 VAC** 50 Hz**

**Special electrical supply can be considered if required.

Armature

○ Maximum Armature Weight	: 30 kN
○ Minimum Length Of Armature	: 500 mm
○ Maximum Length of Armature	: 1600 mm
○ Minimum Diameter of Armature	: 130 mm
○ Maximum Diameter of Armature	: 1500 mm

Commutator

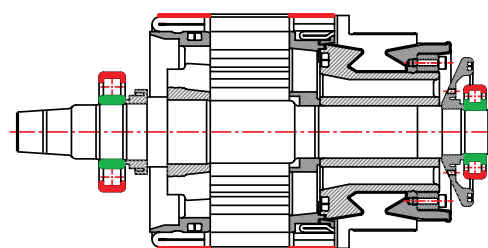
○ Minimum Diameter of Commutator to be Machined	: 120 mm
○ Maximum Diameter of Commutator to be Machined	: 900 mm
○ Minimum Length of Commutator to be Machined	: 75 mm
○ Maximum Length of Commutator to be Machined	: 450 mm

Accuracies

○ Ovality of Commutator Turning	: <0.015 mm*
○ Taper of Commutator Turning	: <0.015 mm*
○ Uniformity of Banding Tension	: <±10 kg

* Accuracies applicable for commutator upto diameter 450mm & length 450mm

This Machine integrates both industry 4.0 and industry 5.0 features.

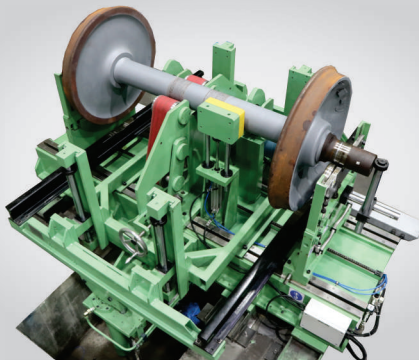
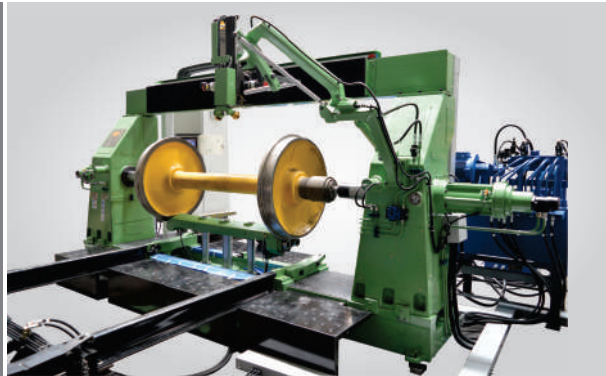




HYT ENGINEERING COMPANY PVT. LTD.

Engineered for Precision, Built for Reliability.

WHEEL
MEASURING
STATION

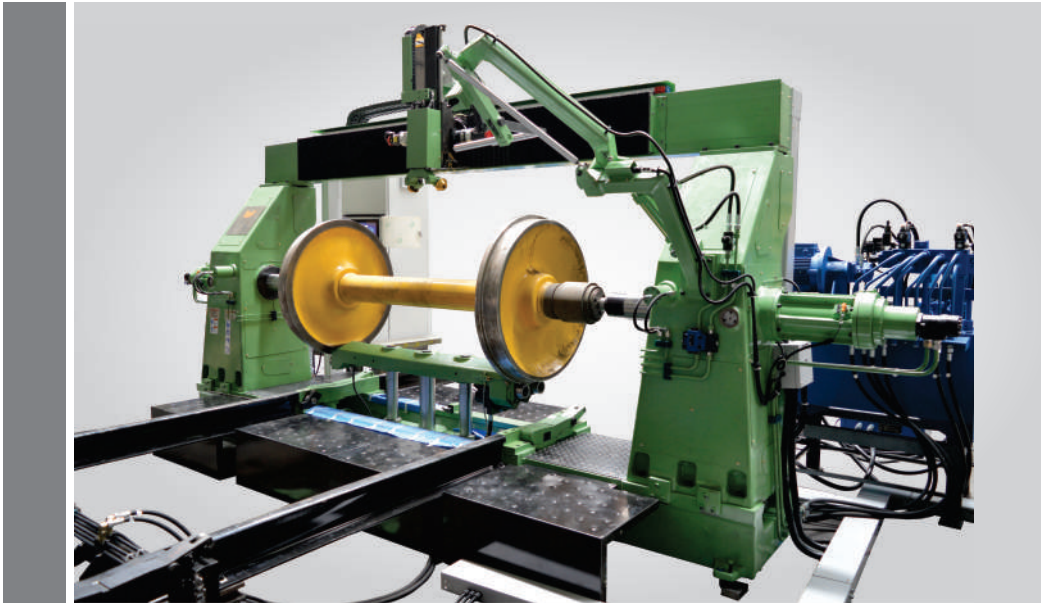


DYNAMIC
WHEEL
BALANCING
MACHINE

WHEEL
CLEANING
STATION



WHEEL MEASURING STATION



BASIC INFORMATION:

- Wheel Measuring Station is capable of measuring tread diameter and wear parameters of railways/metros/trams wheelsets.
- Wheel Measuring Station is used to measure all geometric parameter such as flange thickness, flange height, back-to-back distance, tread diameter, root wear, QR, radial and axial runout etc.

TECHNICAL PARAMETERS:

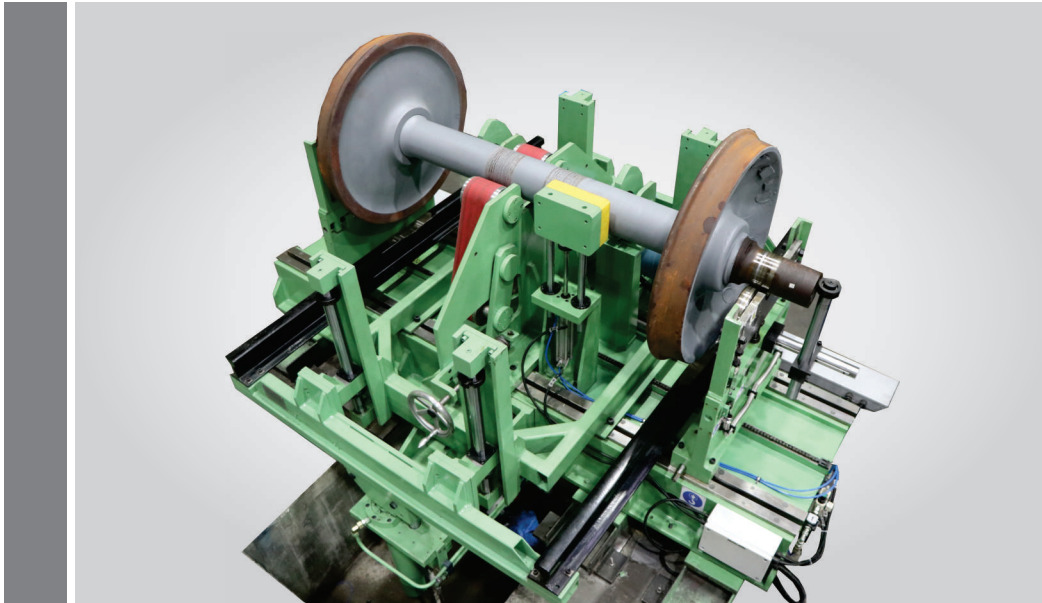
• Length of Axle to be accommodated (Min/Max)	:	1850 mm – 2750 mm.*
• Tread diameter of wheel (Min/Max)	:	750 mm – 1250 mm.*
• Accuracy of measurement	:	+/- 0.05 mm.
• Supply Voltage	:	3Ph, 415 V $\pm$ 10 %, 50 Hz $\pm$ 3%**

*Depends on track gauge.

**Special electrical supply can be considered if required

This Machine integrates both industry 4.0 and industry 5.0 features.

DYNAMIC WHEEL BALANCING MACHINE



BASIC INFORMATION & UNIQUE PROPOSITION ABOUT MACHINE:

- Machine is capable of dynamic balancing with precision of all type of wheelsets of Railways/Metros.
- Machine is such that once calibrated, there isn't any need to re-calibrate it irrespective of job weight.
- Provision for adjustment in setting of:
 - Radii at compensating planes
 - Distance between compensating planes and bearing planes
- The machine has minimum achievable residual specific imbalance of 0.1 micron or better. It has minimum readable facility of 0.05 gm-mm or better.
- The machine is capable of indicating the out of balance weight and pinpoint the location of imbalance.
- It is possible to adjust the controls to any geometrical configuration and feed in data through the key board. It is available for separate indication of static as well as couple imbalance.

TECHNICAL DATA OF MACHINE

Main drive motor capacity	:	15 kW
Journal diameter range	:	70 to 210 mm
Bearing width range	:	100 to 450 mm
Balancing speed range	:	200 to 1000 rpm (Infinitely variable)
Residual imbalance in each plane	:	0.1 microns (gm-mm/kg)
Minimum readable imbalance	:	0.05 gm-mm
Unbalance reduction ratio	:	Better than 95%
Supply Voltage	:	3Ph, 415 V $\pm$ 10%, 50 Hz $\pm$ 3%**

**Special Electrical supply can be considered, if required.

This Machine integrates both industry 4.0 and industry 5.0 features.

WHEEL CLEANING STATION



THE STATION IS CAPABLE OF:

- Removing grease, oil and road dirt from wheelset profile area.
- Working in line with multiple workshop activities on wheelset for a roll-through operation.

TECHNICAL PARAMETERS:

• Wheel Diameter	:	540 to 1250 mm.*
• Axle Length	:	1850-2750 mm.*
• Supply Voltage	:	3Ph, 415 V $\pm$ 10 %, 50 Hz $\pm$ 3%**

*As per the customer requirement

**Special electrical supply can be considered if required

STANDARD EQUIPMENT WITH MACHINE:

- Optimized capacity water tank
- Jet spray system with high Pressure pump.
- Water filtration unit
- PLC System

This Machine integrates both industry 4.0 and industry 5.0 features.



HYT ENGINEERING COMPANY PVT. LTD.



ENGINEERING, PROCUREMENT AND CONSTRUCTION (EPC) PROJECTS

BUILDING YOUR VISION... FROM CONCEPT TO CREATION



HYT ENGINEERING CO. PVT. LTD.

UNDERTAKES VARIOUS INFRASTRUCTURAL PROJECTS FOR THE RAILWAYS ON A TURNKEY BASIS:

Turnkey solutions from designing and manufacturing to after sales maintenance. Our unique approach towards planning and prompt execution with the most economical solution has made us a dominant player in providing rolling stock maintenance services and executing infrastructure projects on a turnkey basis.

- ▶ Wheel Repair / Maintenance Shop
- ▶ Railways / Metro Maintenance Depots / Shops
- ▶ Rolling Stock Manufacturing Plant
- ▶ Automatic Axle Machining line
- ▶ Automatic Wheel and Axle Assembly complex
- ▶ Bogie Assembly / Disassembly line

PROJECTS EXECUTED BY HYT

COACH SHELL MANUFACTURING FACILITY FOR INDIAN RAILWAYS AT CHENNAI, INDIA.

Integral Coach Factory, Chennai is a premier production unit of the Indian Railways manufacturing all steel & all welded integral Railway passenger coaches. For expanding their capacity for manufacturing stainless LHB (Linke Hofmann Busch) coaches, Indian Railways had awarded a new project to us.

This project of modernization & expansion was to create a new facility for manufacturing technologically - upgraded LHB coaches. The facility is capable of manufacturing 25 LHB coach shells in a month. The project was completed within a time frame of 2.5 Years and had already been handed over to Indian Railways in June 2015.



THE SCOPE OF SUPPLIES & SERVICES WERE AS FOLLOWS:

- Supply, Installation, Commissioning & Prove out following major M&P equipment:
 - CNC Robotic Arm Spot Welding Machine
 - CNC Laser Cutting & Welding Machine
 - All related Jigs & Fixtures
 - All Material Handling Equipment
 - Bulk Gas Storage facility with associated pipelines
- Civil engineering & construction activities including construction of 25000 sqm of industrial sheds
- All Electrical works along with necessary illumination
- Manufacturing of 25 coach shells before its handover to Integral coach Factory, Chennai
- 2 years warranty
- 3 years Annual Maintenance Contract



FULLY AUTOMATIC WHEEL AND AXLE ASSEMBLY COMPLEX AT RAILWAY WHEEL FACTORY (RWF), BENGALURU, INDIA.

HYT Engineering Co. Pvt. Ltd. has set up a Fully Automatic Wheel and Axle Assembly Complex at Railway Wheel Factory (RWF) in Bengaluru for Indian Railways. The Plant is capable to deliver one assembled wheel set (two wheel discs and one axle) in every 4 minutes.

THE SCOPE OF SUPPLY & SERVICES WERE AS FOLLOWS:

- Supply, Installation, Commissioning & Prove out following major M&P equipment:
 - Automated CNC Vertical wheel Boring Machine.
 - Automated Wheel mounting Press
 - Axle Wheel seat measuring system
 - Material handling system
 - Centralized data storage & processing system
- Associated Civil works.
- Associated Electrical works.
- Delivery Time 24 Months.
- 2 Years Warranty.
- 5 Years Annual Maintenance Contracts.



SETTING UP MAINTENANCE DEPOT FOR VANDE BHARAT TRAINSETS AT SHAKURBASTI, NORTHERN RAILWAY

Depot to be set-up for Maintenance of Vande Bharat Trainsets (16 Coach rake) at Shakurbasti.

CRITICALITY

1st Maintenance Depot for Vande Bharat Train Set in India

SCOPE OF WORK

WORKSHOP BAY

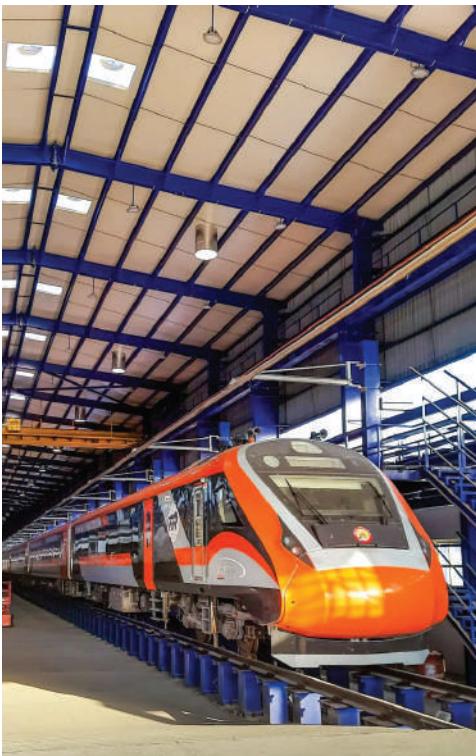
- PEB Shed (Size 205m x 28m x 11.50m height) with provision of:
 - 2 Tracks: 1 Track - Pit and 1 Track -Synchronized Pit Jacks (for lifting of Trainset of 8 coaches)
 - 2 - 15T EOT cranes
 - Rail cum Road Shunter
 - Bogie Storage & Wheel Storage

INSPECTION BAY

- PEB Shed (Size 420m x 20m x 12.10m height) with provision of:
 - 2 Elevated Tracks for Maintenance with 2 layer Catwalk on one side of each Track
 - Bogie Drop Pit on 1 Track (for faster exchange of bogies)
 - Retractable OHE (facilitates safe and easy maintenance of Rolling Stock)
 - 2 - 3T EOT Cranes

DEMU SHED EXTENSION

- Extension in RCC (50m x 12.5m)



WHEEL LATHE SHED

- PEB Shed (Size 50m x 15m x 9.75m height) with Tandem Underfloor Wheel Lathe (for machining of both wheelsets of bogie simultaneously)
- Remote office for Tandem Underfloor Wheel Lathe

AUTOMATIC COACH WASHING PLANT

- For automatic washing of Vande Bharat Trainsets with 90% water recycling facility.

BUILDINGS

- Service Building G+1
- Canteen cum Control & Electrical Sub Station
- Fire Fighting Room & Time Office

FEATURES FOR MAJOR MACHINES

- Misc. Other scope of work like Sewerage Network, Firefighting work, Horticulture & Scrap yard, Roads & Water supply arrangement, Steel Toilet etc.
- Electrification and illumination of shop & sheds works
- Telecom conduiting and wiring
- Warranty of 2 years
- 5 years AMC of Major machines



SETTING UP OF FORGED AXLE MACHINING LINE AT RAIL WHEEL FACTORY, BENGALURU

- The Axle Machining Line is required to machine various types of forged Railway axles as a continuous production belt capable of producing output of finished machined axles.
- Continuous line in which all the machines, UT, MPI along with material handling system are interfaced in such a way that output of previous machine in line is input of the subsequent machine.
- Output: A finished & tested axle in every 7.5 minutes from the axle machining line.

CAPABILITY OF AXLE MACHINING LINE

- Runs round the clock, 6 days a week throughout the year.
- Outturn about 50,000 finish-machined Broad Gauge axles with input raw material.



SCOPE OF SUPPLY

- CNC Centering, End Facing and Cup Turning Machine
- CNC Dual End Drive Rough Turning Lathe (4 tool carriages)
- Fully Automatic Ultrasonic Radial Scanning Machine
- CNC End Drilling, Tapping, Counter sinking & re-centering machine
- CNC Axle Finish Turning Lathes
- CNC Cylindrical Grinding Machine
- Magnetic Particle testing machine
- Material handling system consisting of overhead gantry and input, output storage conveyors
- Chip Conveyors
- Machine Monitoring and Data Collection System
- Warranty of 2 Years
- CAMC of 5 Years



BOGIE ASSEMBLY & DISASSEMBLY LINE

Modernization of Manufacturing Technology for LHB, CASNUB & Train-18 / Vande Bharat Bogies ensuring higher efficiency, quality and reliability for next-generation rail systems.

ENHANCED FEATURES / ADVANTAGES

- Compliance with LHB / Train-18 / Vande Bharat bogie assembly drawings.
- Transducerized torque tools with automatic data recording for critical fasteners.
- Optimized workflow with advanced equipment for bogie & component handling.
- Reduced fatigue for workmen through mechanization and ergonomic operation.
- Faster assembly & disassembly, improving productivity and precision.

SCOPE OF SUPPLY & SERVICES

MAJOR M&P EQUIPMENT

- Bogie Manipulator
- Bolster Manipulator
- Hydraulic Presses
- Material Handling Equipment
- Jigs & Fixtures

ALL ASSOCIATED ELECTRICAL & PNEUMATIC WORKS ALONG WITH NECESSARY ILLUMINATION

WARRANTY & AMC

- 2 Years Warranty
- 5 Years Annual Maintenance Contract (AMC)



DESIGN CONSULTANCY, SUPPLY, INSTALLATION & COMMISSIONING OF WHEEL SHOP MACHINERIES FOR WAGONS AND LOCOMOTIVES, GSEZ MINERAL PORT, GABON, CENTRAL AFRICA

GSEZ Mineral Port serves as a strategic export hub for minerals. Operated by Owendo Mineral Port (formerly known as Gabon Special Economic Zone), it is directly connected to the Trans-Gabon Railway, enabling efficient bulk transport of manganese and other minerals from inland mines. The port operates 44 locomotives and 1,450 wagons, each with an 80-ton capacity, ensuring large-scale mineral handling and export.

HYT Engineering Co. Pvt. Ltd. has established a fully equipped wheelshop to maintain wheelsets, wheel discs, and axles for locomotives and wagons.

SCOPE OF WORK

- Design & Consultancy
 - Mechanical Design
 - Civil design
 - Electrical Design
 - Information Technology
 - Safety & Fire Fighting
- Machineries / Equipment Supply (Total 38 Nos '21 different Types')
- Installation & Commissioning
- Trial & Prove Out

MACHINE SUPPLY M&Ps LIST:

Supply, Installation, Commissioning and Prove out of following HYT M&Ps:

- | | |
|--|---------------------------|
| ○ CNC Surface Wheel Lathe (Portal type) | ○ Wheel Measuring Station |
| ○ CNC Axle Journal Turning & Burnishing Lathe | ○ Wheel Cleaning Station |
| ○ CNC Vertical Turning Lathe Including Axle Wheelseat Measuring System | ○ Turn Table (Hydraulic) |
| ○ CNC Axle Turning Lathe | ○ Kicker Arrangement |
| ○ CNC End Face Drilling & Tapping Machine | ○ Chip Compactor |



WHEEL REPAIR SHOP FOR SMH RAIL, MALAYSIA

Malaysian Railways (KTMB) had decided to subcontract railway wheelset re-profiling, re-discing and re-axling work to outside agencies. SMH Rail, Malaysia wanted to set up this wheel shop and HYT took up the challenge of setting up the wheel shop for repairing 15000 wheelsets per annum and providing necessary technical support to SMH Rail in the year 2006.

In addition to supply of machines, HYT has given technical support from site selection to installation of all the required workshop facilities. It has provided the necessary technical specification for other ancillary workshop facilities, right from provision of electrical supply to management of inspection equipment. HYT has provided the necessary technical support for recruiting competent manpower for the operation & maintenance of the machines. HYT also coordinated with Malaysian Railways, the end customer, to ensure the workshop was set up as per KTMB guidelines. Since 2006, the wheel shop has been working satisfactorily and regularly giving the desired output.



HYT has supplied, installed & commissioned the following major machines:

- CNC Surface Wheel Lathe
- Axle Journal Turning And Burnishing Machine
- Vertical Turret Lathe
- 500 Ton Wheel Press
- Bearing Assembly And Disassembly Equipment



RAILWAY COIL SPRING MANUFACTURING FACILITY AT INTEGRAL COACH FACTORY, CHENNAI, INDIA.

HYT Engineering Co. Pvt. Ltd. has set up A Coil Spring Manufacturing Facility at ICF Chennai. This facility is capable to manufacture 480 coach springs per 8 hours shift.

THE SCOPE OF SUPPLY & SERVICES ARE AS FOLLOWS:

- Supply, Installation, Commissioning & Prove out following major M&P equipment:
 - CNC Spring Coiling Machine
 - CNC Spring End Tapering Machine
 - CNC Spring End Grinding Machines
 - LPG Fired Furnaces
 - Testing Equipment
 - Re-pitching Machine
 - Spring Load Testing Machine
- Associated Civil Works.
- Associated Electrical Works.
- Delivery Time 24 Months.
- 2 Years Warranty.
- 5 Years Annual Maintenance Contract.



SUPPLY OF CNC UNDERFLOOR WHEEL LATHE (UFWL) ALONG WITH CONSTRUCTION OF SHED

Indian Railways has decided to procure CNC Underfloor wheel lathe machine along with construction of shed for housing the CNC Underfloor wheel lathe (UFWL) machine.

CNC Underfloor wheel lathe machine is used to re-profile wheelsets of diesel and electric locomotives, coaches, wagons, electric and diesel multiple units and Metro coaches in situ without removing the wheelsets, bogie brake gear, axle box covers or any other components of these railway vehicles.

HYT regularly supplies CNC Underfloor Wheel Lathe along with construction of shed for Indian Railways. HYT has constructed more than 50 sheds at different locations for housing CNC UFWLs, supply of UFWLs was also in HYT scope.

THE SCOPE OF SUPPLY & SERVICES IS AS FOLLOWS:

- Supply, Installation, Commissioning, Prove out of CNC Underfloor Wheel Lathe machine
- Covered PEB shed of size approx. 35 m long and 15 m wide for housing CNC UFWL
- Gantry with EOT crane
- Roofing with Pre-coated sheets and transparent sheets for natural sunlight in shed.
- Heavy duty RCC flooring
- Rooms for maintenance staff
- Laying of rails within the shed and outside the shed for connecting UFWL rails with existing rail network
- Construction of all other related civil works
- Electrical work along with necessary illumination within the shed
- 2 Years of warranty
- 5 Years Annual Maintenance Contract



WHEELS AND BOGIE OVERHAULING FACILITY AT SANPADA EMU CAR SHED, MUMBAI, INDIA.

HYT Engineering Co. Pvt. Ltd. has setup a Wheel and Bogie Overhauling Facility at Sanpada EMU Car Shed, Mumbai, for Indian Railways.

THE SCOPE OF SUPPLY & SERVICES IS AS FOLLOWS:

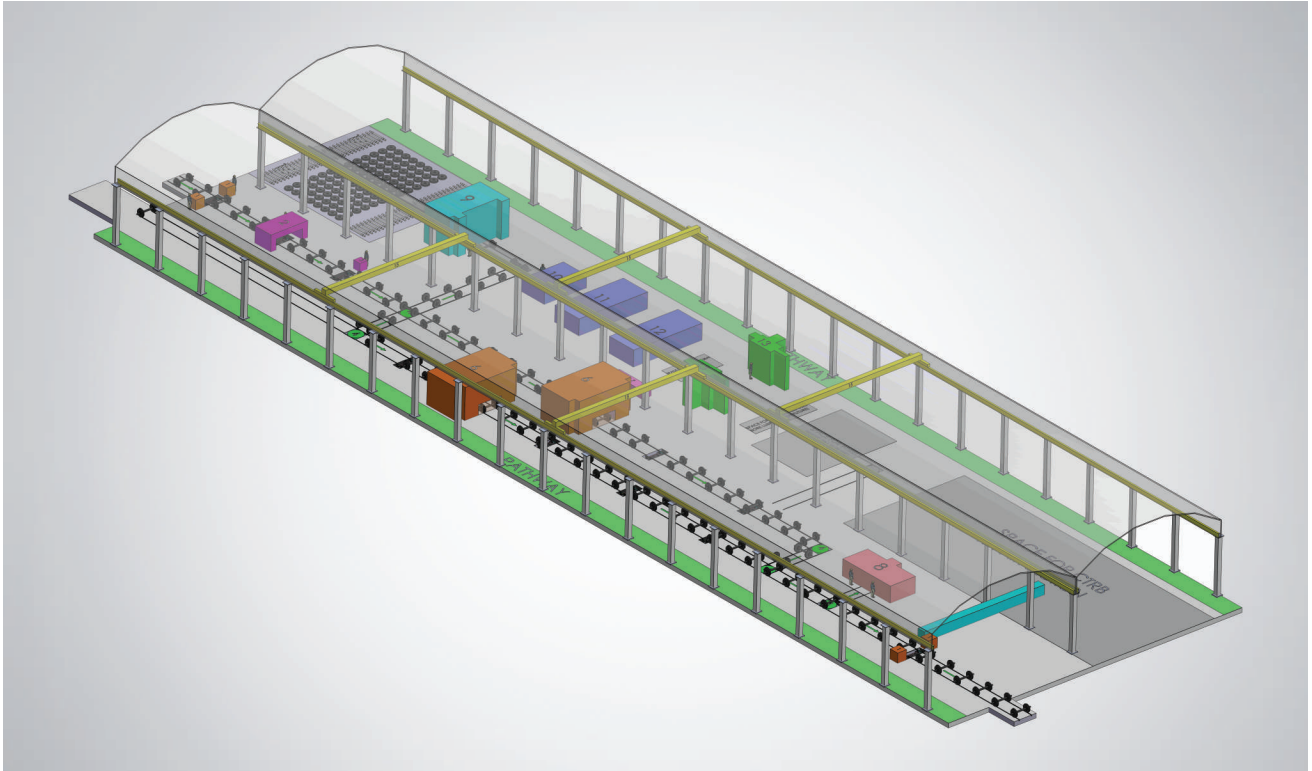
- Supply, Installation, commissioning & prove out following major M&P equipment:
 - CNC Surface Wheel Lathe
 - CNC Wheel Press
 - CNC Vertical Turning Lathe
 - Traverser
 - CNC Axle Lathe
 - Roller Bearing extractor
 - Various cleaning plants
 - Various material handling equipment
- Associated Civil works
- Associated Electrical works
- Delivery in 24 months
- 2 Years warranty
- 5 Years Annual Maintenance Contract



WHEEL SHOP AUTOMATION

HYT undertakes the projects for Wheel Shop Automation for the Railway industry which is a crucial part in the maintenance of the Railway workshops.

Overhead gantries, small turntables, automatic measuring stations along with CNC controlled systems for the reprofiling of the wheelsets lead to the successful automation of wheel shop.



ADVANTAGES OF MECHANIZED WHEEL SHOP

- Automatic measurement of wheelsets on their arrival in wheel shop
- Kicker arrangement for movement of wheelsets
- All the activities are properly planned and necessary M&Ps for these activities are in place
- Adequate space provision for seamless future expansion
- Proper planning for the material movement

BENEFITS OF WHEEL SHOP AUTOMATION

- Less Human Interaction
- Saving of Time and Energy
- Safety with regards to Accidents
- Increase in the productivity

Wheel Shop automation keeps very limited human interference in all the operations thereby maintaining desired output all the time.

HYT has provided semi-automatic wheel shop solution for Centralised Wheel Set Maintenance facility for Rolling stock at New Katni, West Central Railway.