





TDP – Wheelset lathe with 2 tool saddles TSP – Wheelset lathe with 1 tool saddle

These lathes are designed to accommodate various types of wheelsets with bearing boxes to meet the specific requirements for profiling dismantled wheelsets (wheels, brake discs...). The main mechanical components are made of SG cast iron. Usually, wheels are badly damaged with hardness up to 1400 N/mm². Solid and compact, TDP or TSP lathes do meet these requirements.

Operation principle:

TDP achieves profiling two wheels in 25 minutes. TSP achieves profiling four wheels in 35 minutes. The lathe is CNC controlled and will master the 5 cycles:

- · Wheelset positioning
- Profile measuring
- · Wheel profiling and break disc machining
- Profile measuring (accessory)
- Wheelset removal

▶ Information and services:

The machine is delivered completely assembled and inspected. As the electrical and hydraulic cabinets are mounted directly on the machine frame, civil works are easy to do and installation time is short.

The lathe is equipped with an Autodiagnostic and Telemaintenance system. At the end of the machining cycle, the CNC releases a profiling report that includes all useful information. This information can be exported to a Wheelset Management Database.

In the event of a failure, the CNC will display a message showing the faulty element. The telemaintenance system enables SCULFORT Service Department to connect to the lathe and help the operator to find the fault. This will avoid diagnostic mistakes and maximize lathe availability.

▶ Product:

In order to ensure the operator perfect ergonomics, the lathe comprises:

- · A control panel facing the working area
- An Autodiagnostic and Telemaintenance system
- An elevator for wheelset positioning (TDP)
- A chip disposal device
- A fume extractor (optional)



TDP - Wheelset lathe with 2 tool saddles



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Track Track gauge 1000 - 1435 - 1 676 mm Wheelset Maximum wheelset weight 4 tons Axle length 16000 to 2700 mm Wheels Wheel diameter on tread 6600 to 1 250 mm Brake discs Brake discs diameter 250 to 700 mm Driving motors Quantity 2 Spindle motors 71 kw Spindle rotation speed 0 to 80 rev/min Chucks Quantity 2 Diameter 1 180 mm 3 Adal stroke of jaws 230 mm Clamping effort per jaw 4 000 daN Spindles Spindle motion speed 2 m/min Spindle motion speed 2 m/min Sleeve diameter 240 mm Sleeve stroke 460 mm Max. sleeve effort 7,5 tons Sleeve motion speed 1 m/min Tool saddles Quantity 2 Vertical stroke 600 mm Horizontal stroke 600 mm Horizontal stroke 1 500 mm Feed speed range 0 to 4 mm/r <th></th> <th>SURFACE WHEEL LATHE CHARACTERISTICS</th> <th></th>		SURFACE WHEEL LATHE CHARACTERISTICS	
Wheelset Maximum wheelset weight Axie length 1600 to 2400 mm Wheels Wheel diameter on tread 600 to 1 250 mm Brake discs Brake discs claimeter 250 to 700 mm Brake discs Brake discs claimeter 250 to 700 mm Driving motors Quantity 2 Spindle motors 7.1 kw Chucks Quantity 2 Diameter 1 180 mm 3 Jaws 3 3 Radial stroke of jaws 230 mm Clamping effort per jaw 4 0000 daN Spindles Spirdle encoton speed 2 m/min Spirdle motion speed 2 m/min Seeve stroke 450 mm Max. sleeve effort 7,5 tons Sleeve stroke 460 mm Max. sleeve effort 7,5 tons Sleeve stroke 600 mm Horizontal stroke 1 m/min Tool saddles Quantity 2 Vertical stroke 600 mm Horizontal stroke 1 m/min Maximum cutting effort 4 000 daN	Туре	Surface Wheel Lathe	TDP
Meles	Track	Track gauge	1000 - 1435 - 1 676 mm
Wheels Wheel dismeter on tread 600 to 1 250 mm Brake discs Brake discs diameter 250 to 700 mm Driving motors Quantity 2 Spindle motors 71 Kw Spindle rotation speed 0 to 80 rec/min Chucks Quantity 2 Diameter 1 180 mm Jaws 3 Radial stroke of jaws 230 mm Clamping effort per jaw 4 000 das Spindle stroke 500 mm Spindle motion speed 2 m/min Sleeve diameter 240 mm Sleeve stroke 460 mm Max. Sleeve effort 7.5 tons Sleeve motion speed 1 m/min Tool saddles Quantity 2 Vertical stroke 600 mm Horizontal stroke 1500 mm Feed speed range 0 to 4 mm/r Fast feed speed 6 m/min Maximum cutting depth 0.2 mm CNC Model SEMENS 8400 Measure increment 1 µm Software in	Wheelset	Maximum wheelset weight	4 tons
Brake discs Brake discs diameter 250 to 700 mm Driving motors Quantity 2 spindle motors 71 kw Spindle motors 71 kw 2 pointle motors 71 kw Chucks Quantity 2 pointles 2 pointles Diameter 1 180 mm 3 pointles 3 pointles 3 pointles 230 mm 3 pointles 20 mm 3 pointles 5 pointle stroke 5 pointle stroke 5 pointles 2 m/min 4 pointles 2 m/min 4 pointles 3 pointles 3 pointles 5 pointle stroke 5 pointles 5 pointle stroke 4 pointles 4 pointles 4 pointles 4 pointles 4 pointles 4 pointles 1 pointles 1 pointles 2 m/min 4 pointles 1 pointles 1 pointles 2 m/min 4 pointles 6 m/min 4 pointles 4 pointles 6 m/min 4 pointles 6 m/min 4 pointles 4 pointles 6 m/min 4 pointles 4 pointles 4 pointles 4 pointles <		Axle length	1600 to 2700 mm
Driving motors Quantity Spindle motors Spindle motors Spindle motors Spindle motors Spindle motors Spindle rotation speed 0 to 80 rev/min Chucks Chucks Quantity 2	Wheels	Wheel diameter on tread	600 to 1 250 mm
Spindle motors	Brake discs	Brake discs diameter	250 to 700 mm
Chucks Quantity 2 Diameter 1 180 mm Jaws 3 Radial stroke of jaws 230 mm Clamping effort per jaw 4 0000 daN Spindles Spindle motion speed 2 m/min Spindle motion speed 2 m/min Sleeve diameter 240 mm Sleeve stroke 460 mm Max. sleeve effort 7,5 tons Sleeve motion speed 1 m/min Tool saddles Quantity 2 Vertical stroke 600 mm Horizontal stroke 600 mm Feed speed range 0 to 4 mm/r Maximum cutting depth 0.2 mm Maximum cutting depth 0.2 mm Maximum cutting depth 0.2 mm Measure increment 1, 10 mm CNC Model SIEMENS 840D Measure increment 1, 1000	Driving motors	Quantity	2
Chucks Quantity Diameter Diameter 1 180 mm Jaws 3 3 8 Radial stroke of jaws Diameter 230 mm Jaws 3 3 8 Radial stroke of jaws Diameter 230 mm Jaws Pindles 230 mm Jaws Pindles 230 mm Jaws Pindles 250 mm Jaws Pindles 500 mm Jaws Pindles 600 mm Jaws Pindles 7,5 tons Pindles 600 mm Jaws Pindles 600 mm Jaws Pindles 7,5 tons Pindles 600 mm Jaws Pindles 7,5 tons Pindles 600 mm Jaws Pindles 600 mm Jaws Pindles 7,5 tons Pindles 600 mm Jaws Pindles 600 mm Jaws Pindles 7,5 tons Pindles 600 mm Jaws Pindles 600 mm Jaws Pindles 7,5 tons Pindles 7,5 to		Spindle motors	71 Kw
Diameter		Spindle rotation speed	0 to 80 rev/min
Jaws Radial stroke of jaws Camping effort per jaw 4 000 daN	Chucks	Quantity	2
Radial stroke of jaws		Diameter	1 180 mm
Clamping effort per jaw		Jaws	3
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Spindle motion speed 2 m/min Sleeve diameter 240 mm Sleeve stroke 460 mm Max. sleeve effort 7,5 tons Sleeve motion speed 1 m/min 7,5 tons Sleeve motion speed 1 m/min 2		Clamping effort per jaw	4 000 daN
Sleeve diameter 240 mm Sleeve stroke 460 mm Max. sleeve effort 7,5 tons Sleeve motion speed 1 m/min Tool saddles Quantity 2	Spindles	Spindle stroke	500 mm
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Nax. sleeve effort 7,5 tons Sleeve motion speed 1 m/min Tool saddles Quantity 2 Vertical stroke 600 mm Horizontal stroke 1 500 mm Feed speed range 0 to 4 mm/r Fast feed speed 6 m/min Maximum cutting effort 4 0000 daN Minimum cutting depth 0.2 mm Maximum cutting depth 0.2 mm CNC Model SIEMENS 840D Measure increment 1 µm Software increment 1, 10, 100 µm Measure display 1 µm Software increment 1, 10, 100 µm Measure display 1 µm Software increment 1, 10, 100 µm Measure display 1 µm Software increment 1, 10, 100 µm Measure display 1 µm Software increment 1, 10, 100 µm Width 3 280 mm Height 4 160 mm Hydraulic group Tan k capacity 400 Length 1 700 mm		Sleeve diameter	240 mm
Sleeve motion speed		Sleeve stroke	460 mm
Tool saddles Quantity 2 Vertical stroke 600 mm Horizontal stroke 1 500 mm Feed speed range 0 to 4 mm/r Fast feed speed 6 m/min Maximum cutting effort 4 000 daN Minimum cutting depth 0.2 mm Maximum cutting depth 10 mm CNC Model SIEMENS 840D Measure increment 1 µm Software increment 1, 10, 100 µm Measure display 1 µm Program language SIEMENS Step7 (Ladder) TDP lathe dimensions Length 240 mm Width 3 280 mm 3 280 mm Height 4 160 mm 4 160 mm Hydraulic group Tank capacity 400 l Length 1 700 mm 400 l Length 1 700 mm Approximate weights TDP lathe 46 000 kg Accessories 9 000 kg Power supply Total power installed 200 km Feed Voltage AC 4000 kg 3ph – 50-60Hz <		Max. sleeve effort	7,5 tons
Vertical stroke 600 mm Horizontal stroke 1500 mm Feed speed range 0 to 4 mm/r Fast feed speed 6 m/min Maximum cutting effort 4000 daN Minimum cutting depth 0.2 mm Maximum cutting depth 0.2 mm Maximum cutting depth 10 mm Cutting speed 40 to 120 m/min CNC Model SIEMENS 840D Measure increment 1 µm Software increment 1,10,100 µm Measure display 1 µm Program language SIEMENS Step7 (Ladder) TDP lathe dimensions Length 9 240 mm Width 3 280 mm Height 4160 mm Hydraulic group Tank capacity 4001		Sleeve motion speed	1 m/min
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Fast feed speed		Horizontal stroke	1 500 mm
Maximum cutting effort 4 000 daN Minimum cutting depth 0.2 mm Maximum cutting depth 10 mm CNC Model \$1EMENS 840D Measure increment 1 μm Software increment 1, 10, 100 μm Measure display 1 μm Program language \$1EMENS \$2ep7 (Ladder) TDP lathe dimensions Length 9 240 mm Width 3 280 mm Height 4 160 mm Hydraulic group Tank capacity 4001 Length 1 700 mm Width 1 000 mm Approximate weights TDP lathe 46 000 kg Accessories 9 000 kg Power supply Total power installed 200 kw Feed Voltage AC 400V (± 10%) Accessories 3 ph − 50-60Hz Operating performances Average cycle time (depending of wheel diameter) 3 ph − 50-60Hz Reprofiling allowances Difference between the wheel diameters on a wheelset < 0.1 mm		Feed speed range	0 to 4 mm/r
Minimum cutting depth 0.2 mm Maximum cutting depth 10 mm Cutting speed 40 to 120 m/min CUC Model SIEMENS 8400 Measure increment 1 µm Software increment 1, 10, 100 µm Measure display 1 µm Program language SIEMENS Step7 (Ladder) 1 µm Program language SIEMENS Step7 (Ladder) 1 µm Width 3 280 mm Height 4 160 mm		Fast feed speed	6 m/min
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CNC Model SIEMENS 840D Measure increment 1 μm Software increment 1, 10, 100 μm Measure display 1 μm Program language SIEMENS Step7 (Ladder) TDP lathe dimensions Length 9 240 mm Width 3 280 mm Hydraulic group Tank capacity 4001 Length 1 700 mm Width 1 000 mm Height 1 400 mm Approximate weights TDP lathe 46 000 kg Accessories 9 000 kg Power supply Total power installed 20 Kw Feed Voltage AC 400V (± 10%) Operating performances Average cycle time (depending of wheel diameter) 25 minutes Section of chips (class B wheels 110 kg max) Max 16 mm² Reprofiling allowances Difference between the wheel diameters on a wheelset < 0.1 mm		Minimum cutting depth	0.2 mm
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Section of chips (class B wheels 110 kg max) Max. 16 mm2 Reprofiling allowances Difference between the wheel diameters on a wheelset < 0.1 mm Radial eccentricity < 0.05 mm			
Reprofiling allowances Difference between the wheel diameters on a wheelset < 0.1 mm Radial eccentricity < 0.05 mm	Operating performances		
Radial eccentricity < 0.05 mm	5 CH 11	, ,	
,	Reprofiling allowances		
Wheel tyre strength max. 3 000 N/mm2		•	
		wneer tyre strength	max. 3 000 N/mm2



TSP - Wheelset lathe with 1 tool saddle



These lathe is designed to accommodate various types of wheelsets with bearing boxes to meet the specific requirements for profiling dismantled wheelsets (wheels, brake discs...). The main mechanical components are made of SG cast iron. Usually, wheels are badly damaged with hardness up to 1400 N/mm². Solid and compact, TSP lathe does meet these requirements.

	SURFACE WHEEL LATHE CHARACTERISTICS	
Туре	Surface Wheel Lathe	TSP
Track	Track gauge	1000 - 1435 - 1 676 mm
Wheelset	Maximum wheelset weight	4 tons
	Axle length	1600 to 2700 mm
Wheels	Wheel diameter on tread	600 to 1 250 mm
Brake discs	Brake discs diameter	250 to 700 mm
Driving motors	Quantity	1
	Spindle motors	71 Kw
	Spindle rotation speed	0 to 80 rev/min
Chucks	Quantity	1
	Diameter	1 180 mm
	Jaws	3
	Radial stroke of jaws	230 mm
	Clamping effort per jaw	4 000 daN
Spindles	Spindle stroke	500 mm
	Spindle motion speed	2 m/min
	Sleeve diameter	240 mm
	Sleeve stroke	460 mm
	Max. sleeve effort	7,5 tons
	Sleeve motion speed	1 m/min
Tool saddles	Quantity	1
	Vertical stroke	600 mm
	Horizontal stroke	1 500 mm
	Feed speed range	0 to 4 mm/r
	Fast feed speed	6 m/min
	Maximum cutting effort	4 000 daN
	Minimum cutting depth	0.2 mm
	Maximum cutting depth	10 mm
	Cutting speed	40 to 120 m/min
CNC	Model	SIEMENS 840D
	Measure increment	1 μm
	Software increment	1, 10, 100 μm
	Measure display	1 μm
	Program language	SIEMENS Step7 (Ladder)
TDP lathe dimensions	Length	9 240 mm
	Width	3 280 mm
	Height	4 160 mm
Hydraulic group	Tank capacity	400
. ,	Length	1 700 mm
	Width	1 000 mm
	Height	1 400 mm
Approximate weights	TDP lathe	40 000 kg
	Accessories	9 000 kg
Power supply	Total power installed	120 Kw
Tower supply	Feed Voltage	AC 400V (± 10%)
	1 000 101000	3ph – 50-60Hz
Operating performances	Average cycle time (depending of wheel diameter)	35 minutes
o per demb per formances	Section of chips (class B wheels 110 kg max)	Max. 16 mm2
Reprofiling allowances	Difference between the wheel diameters on a wheelset	< 0.1 mm
neproming anowances	Radial eccentricity	< 0.05 mm
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	Wheel tyre strength	max. 3 000 N/mm2

