

TX 4414 | Art. no.: 3432422

Lead and feed screw lathe
fulfils the highest requirements in
technical equipment and precision.



Lead and feed screw lathe meets the highest requirements in terms of technical equipment and precision. With digital position display DPA 32



Facts that impress in terms of quality, performance and price

- ▶ Machine bed and chassis made of heavily ribbed cast material
- ▶ Single-part steel machine chassis
- ▶ High degrees of rigidity of the spindle bar housing thanks to heavily ribbed 25GG cast material
- ▶ Precision slide
- ▶ shafts on needle bearings, all components lubricated in oil bath
- ▶ Hardened and ground bed guides
- ▶ All electronic controls centrally accessible
- ▶ All gear wheels of the feed gear made of steel, hardened
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Two-channel safety electronics
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Complete feed and lead spindle cover
- ▶ Working area completely illuminated
- ▶ Hardened and ground spindle guarantees high degrees of accuracy and durability
- ▶ The powerful machining performance means that a high level of chip removal during roughing work is no problem
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Lockable chip guard moves with the bed slide with integrated position indicator and coolant hose, manually adjustable
- ▶ No change gears required
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Electronically braked motor
- ▶ Electronic feed shut-off of Z axis
- ▶ Electrical position shut-off with quadruple positioning stop
- ▶ Three-jaw lathe chuck included in scope of delivery
- ▶ Quick change tool holder SWH 5-B included in scope of delivery



Fig.: TX 4414

Arguments,...



CONTROL CABINET

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or **Schneider**



DIGITAL POSITION DISPLAY DPA 32

- › LED display
- › User-friendly membrane keyboard,
- › splash-proof, closed and glare-free
- › Greater operation accuracy
- › Clear reduction of manufacturing times
- › Reduction of error quota
- › X, Y/Z0, Z axis each with 8-digit display
- › Three evaluable measurement inputs, each with seven correction memories for tools



TOUCH PANEL CENTRALISED CONTROL

- › For switching lighting and coolant and operating the feed screw
- › Foil keypad, easily cleanable



BACK PANEL

- › Easy to service thanks to removable rear panel

Technical specifications, accessories and dimensions

Model	TX 4414
Article no.	3432422
Output	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	6.1 kW
Coolant pump motor	100 W
Spindle	
Drive motor	5.5 kW
Spindle taper	MT6
Spindle seat	Camlock DIN ISO 702- 2 No. 6
Spindle hole, bar passage diameter	Ø 52 mm
Quick change tool holder	SWH 5-B
Work area	
Centre height	220 mm
Centre width	1280 mm
Swing Ø above machine bed ⁽²⁾	440 mm
Swing Ø above cross slide	250 mm
Bed width	300 mm
Speed range	
Spindle speed	40 - 2200 min ⁻¹
Number of speeds	12 stages
Traverse paths	
Top slide	153 mm
Cross slide	290 mm
Bed slide	950 mm
Feeds and pitches	
Longitudinal feed within the range	0.05- 0.752 mm/rev (44 feeds)
Cross feed within	0.025 - 0.376 mm/rev (44 feeds)
Metric pitch	0.5 - 7.5 mm/rev (44 pitches)
Pitch - inch in range	60 - 4 turns/inch (44 pitches)
Modular thread in range	0.25 - 3.75mm x π (44 threads)
Diametral pitch in range	120 - 8 turns/ π (44 threads)
Tailstock	
Tailstock seat	MT4
Tailstock quill diameter/travel	Ø 58 mm / 180 mm
Dimensions and weight	
Dimensions (L x W x H) approx.	2410 x 1085 x 1825 mm
Net weight approx.	2030 kg

Accessories

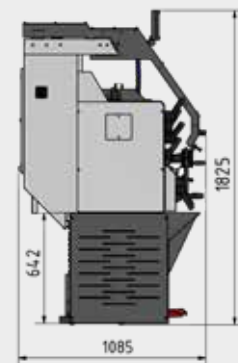
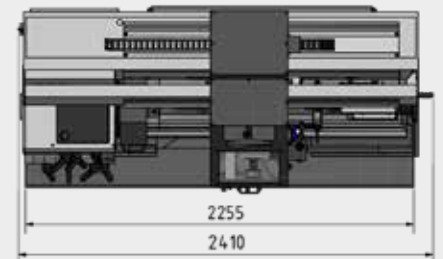
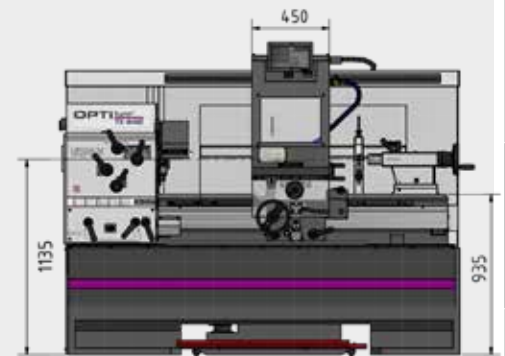
Lathe chuck Ø 200 mm Camlock DIN ISO 702-2 No. 6	Article no.
OPTIMUM Four-jaw lathe chuck, centric clamping	3442846
BISON Four-jaw lathe chuck, centric clamping	3450370

Information on lathe chuck from page 240

Accessories	Article no.
Follow steady rest, passageway Ø 10 - Ø 170 mm	3438015
Fixed steady rest, passageway Ø 15 - Ø 165 mm	3438017
Co-rotating centring tip MT 4	3440704
BISON co-travelling centre MT 4	3451004
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 350 mm Camlock DIN ISO 702-2 No. 6	3442980

More accessories and information about accessories from page 237 onwards

Dimensions



Scope of delivery

- > Three-jaw lathe chuck Ø 200 mm Camlock No. 6
- > 2 non-rotating centring tip MT3 and MT5
- > Adapter MT6-MT5
- > Quick change tool holder SWH 5-B
- > Machine initially filled with premium grade oil
- > Operating tool

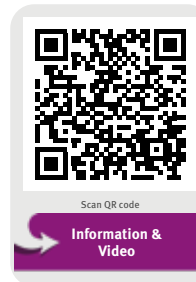


Lead and feed screw lathe meets the highest requirements in terms of technical equipment and precision. With digital position display DPA 32



Facts that impress in terms of quality, performance and price

- ▶ Machine bed and chassis made of heavily ribbed cast material
- ▶ Single-part steel machine chassis
- ▶ High degrees of rigidity of the spindle bar housing thanks to heavily ribbed 25GG cast material
- ▶ All gear wheels of the feed gear made of steel, hardened
- ▶ shafts on needle bearings, all components lubricated in oil bath
- ▶ Hardened and ground spindle guarantees high degrees of accuracy and durability
- ▶ The powerful machining performance means that a high level of chip removal during roughing work is no problem
- ▶ Easy to service thanks to removable rear panel
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Lockable chip guard moves with the bed slide with integrated position indicator and coolant hose, manually adjustable
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Two-channel safety electronics
- ▶ No change gears required
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Hardened and ground bed guides
- ▶ Electronically braked motor
- ▶ Electronic feed shut-off of Z axis
- ▶ Electrical position shut-off with quadruple positioning stop
- ▶ Three-jaw lathe chuck included in standard scope of delivery
- ▶ Digital position indicator DPA 32 with cutting constant VSC



DIGITAL POSITION DISPLAY DPA 32 CUTTING CONSTANT VSC



Fig.: TX 4814V

Arguments,...



CONTROL CABINET

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or Schneider

Made in EU



Siemens SINAMICS G120D inverter

- › Safety Integrated
- › Recovery, low circuit feedback
- › Energy savings up to 20 %
- › No brake resistors required
- › You can find more detailed information in the main catalogue or at www.optimum-machines.com



TOUCH PANEL CENTRALISED CONTROL

- › For switching lighting and coolant and operating the feed screw
- › Foil keypad, easily cleanable



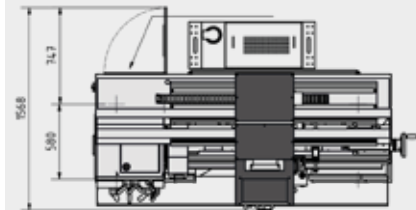
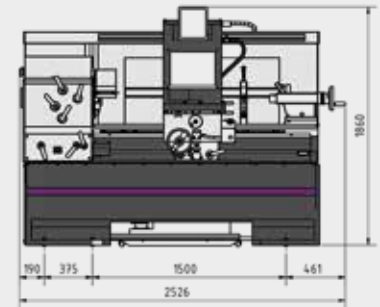
BACK PANEL

- › Easy to service thanks to removable rear panel

Technical specifications, accessories and dimensions

Model	TX 4814V
Article no.	3432425
Output	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	6.1 kW
Coolant pump motor	100 W
Spindle	
Drive motor	5.5 kW
Spindle taper	MK7
Spindle seat	Camlock DIN ISO 702- 2 No. 8
Spindle hole, bar passage diameter	Ø 80 mm
Quick change tool holder	SWH 5-B
Work area	
Centre height	240 mm
Centre width	1380 mm
Swing Ø without bed bridge	280 mm
Swing Ø above machine bed ⁽²⁾	440 mm
Bed with	300 mm
Speed range	
Spindle speed	12 - 2500 min ⁻¹
Number of speeds	2 x 3 speeds
Traverse paths	
Top slide	153 mm
Cross slide	290 mm
Bed slide	950 mm
Feeds and pitches	
Longitudinal feed within the range	0.05- 0.75 mm/rev (44 feeds)
Cross feed within	0.025 - 0.376 mm/rev (44 feeds)
Metric pitch	0.5 - 7.5 mm/rev (44 pitches)
Pitch - inch in range	60 - 4 turns/inch (44 pitches)
Modular thread in range	0.25 - 3.75mm x π (44 threads)
Diametral pitch in range	120 - 8 turns/ π(44 threads)
Tailstock	
Tailstock seat	MT5
Tailstock quill diameter/travel	Ø 60 mm / 130 mm
Dimensions and weight	
Dimensions (L x W x H) approx.	2526 x 1,050 x 1,860 mm
Net weight approx.	1700 kg

Dimensions



Accessories

Lathe chuck	Article no.
OPTIMUM Four-jaw lathe chuck Ø 315 mm Camlock No. 8 Centre clamping	3442856
BISON four-jaw lathe chuck Ø 250 mm Camlock no. 8 Centre clamping	3450381

Information on lathe chuck from page 240

Accessories	Article no.
Follow steady rest, passageway Ø 10 - Ø 170 mm	3438015
Fixed steady rest, passageway Ø 15 - Ø 165 mm	3438017
Travelling centre MT 4	3440704
BISON co-travelling centre MT 4	3451004
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

More accessories and information about accessories from page 237 onwards

Scope of delivery

- › Three-jaw lathe chuck Ø 200 mm Camlock No. 8
- › 2 non-rotating centring tip MT3 and MT5
- › Adapter MT6-MT5
- › Quick change tool holder SWH 5-B
- › Machine initially filled with premium grade oil
- › Operating tool

Fig.:
Steady rest



Fig.:
Follow steady



Lead and feed screw lathes meet the highest standards in terms of technical equipment and precision

Facts that impress in terms of quality, performance and price

- ▶ Machine bed and chassis made of heavily ribbed cast material
- ▶ Single-part steel machine chassis
- ▶ High degrees of rigidity of the spindle bar housing thanks to heavily ribbed 25GG cast material
- ▶ Precision slide
- ▶ shafts on needle bearings, all components lubricated in oil bath
- ▶ Hardened and ground bed guides
- ▶ All electronic controls centrally accessible
- ▶ All gear wheels of the feed gear made of steel, hardened
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Two-channel safety electronics
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Complete feed and lead spindle cover
- ▶ Working area completely illuminated
- ▶ Hardened and ground spindle guarantees high degrees of accuracy and durability
- ▶ The powerful machining performance means that a high level of chip removal during roughing work is no problem
- ▶ Lockable chip guard moves with the bed slide with integrated position indicator and coolant hose, manually adjustable
- ▶ Easy to service thanks to removable rear panel
- ▶ No change gears required
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Electronically braked motor
- ▶ Electronic feed shut-off of Z axis
- ▶ Electrical position shut-off with quadruple positioning stop
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Three-jaw chuck included in standard scope of delivery

TX 5216:

- ▶ Large spindle bore Ø 80 mm

TX 6222:

- ▶ Large spindle bore Ø 105 mm



Arguments,...



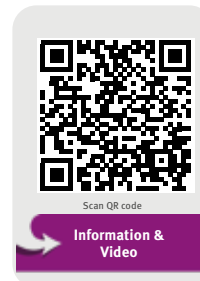
CONTROL CABINET

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or **Schneider**



DIGITAL POSITION DISPLAY DPA 32

- › LED display
- › User-friendly membrane keyboard,
- › splash-proof, closed and glare-free
- › Greater operation accuracy
- › Clear reduction of manufacturing times
- › Reduction of error quota



TOUCH PANEL CENTRALISED CONTROL

- › Pitch deactivation using button
- › Feed bar drive
- › Rapid motion X and Y axis
- › Machine lamp
- › Coolant



QUICK-CHANGE TOOL HOLDER SWH 7-C

- › In the standard scope of delivery



Fig. TX 5216

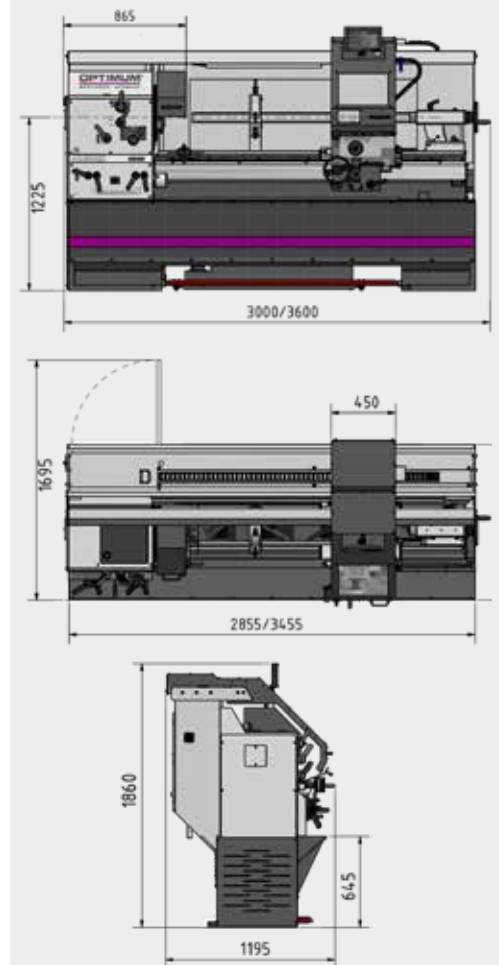
Technical specifications, accessories and dimensions

Model	TX 5216	TX 6222
Article no.	3432442	3432462
Output		
Electrical connection	400 V / 3 Ph ~50 Hz	
Total rated value	6.1 kW	8.5 kW
Coolant pump motor	100 W	
Spindle		
Drive motor	5.5 kW	7.5 kW
Spindle taper	MK7	Ø 113 mm (Taper 1:20)
Spindle seat	Camlock DIN ISO 702- 2 No. 8	
Spindle hole, bar passage diameter	Ø 80 mm	Ø 105 mm
Quick change tool holder	SWH 7-C	
Work area		
Centre height	260 mm	310 mm
Centre width	1600 mm	2225 mm
Swing Ø above machine bed ⁽²⁾	520 mm	620 mm
Swing Ø above cross slide	324 mm	424 mm
Bed width	350 mm	
Speed range		
Spindle speed	30 - 1500 min ⁻¹	40 - 1650 min ⁻¹
Number of speeds	12 stages	
Traverse paths		
Top slide	170 mm	
Cross slide	350 mm	
Bed slide	1400 mm	2000 mm
Feeds and pitches		
Longitudinal feed within the range	0.05 - 1.5 mm/rev (55 feeds)	
Cross feed within	0.025 - 0.75 mm/rev (55 feeds)	
Metric pitch	0.5 - 15 mm/rev (55 pitches)	
Pitch - inch in range	60 - 2 turns/inch (55 pitches)	
Modular thread in range	0.25 - 7.5mm x π (55 threads)	
Diametral pitch in range	120 - 4 turns/ π (55 threads)	
Tailstock		
Tailstock seat	MT5	
Tailstock sleeve diameter / travel	Ø 72 mm / 180 mm	
Dimensions and weight		
Dimensions (L x W x H) approx.	3016 x 1270 x 2217 mm	3550 x 1200 x 1830 mm
Net weight approx.	2470 kg	2800 kg

Accessories

Accessories	Article no.
TX 5216	
Follow steady rest, passageway Ø 15 - Ø 125 mm	3438020
Fixed steady rest, passageway Ø 10 - Ø 185 mm	3438023
Fixed steady rest, passageway Ø 160 - Ø 285 mm	3438024
Carbide lathe tool set 20 mm	3441670
Carbide lathe tool set 20 mm, extension kit	3441617
TX 6222	
Follow steady rest, passageway Ø 15 - Ø 125 mm	3438030
Fixed steady rest, passageway Ø 10 - Ø 185 mm	3438033
Fixed steady rest, passageway Ø 160 - Ø 285 mm	3438034
Carbide lathe tool set 25 mm	3441672
Carbide lathe tool set 25 mm, extension kit	3441623
Accessories	Article no.
BISON MT5 non-rotating centring tip	3451005
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

Dimensions



Scope of delivery

- › Three-jaw lathe chuck Ø 315 mm Camlock No. 8
 - › Non-rotating centring tip MT5, long
 - › Non-rotating centring tip MT5, short
 - › Quick change tool holder SWH 7-C
 - › Tool holder for square chisels 32 x 130 Type D for square chisels 25 mm
 - › Machine initially filled with premium grade oil
 - › Operating tool
- TX 5216:
- › Adapter MT7-MT5
- TX 6222:
- › Adapter Ø 113 mm-MT 5



Fig.: Steady rest



Fig.: Follow steady



Precision lead and feed screw lathes with electronically adjustable drive and digital position indicator DPA 32

Facts that impress in terms of quality, performance and price

- ▶ Machine bed and chassis made of heavily ribbed cast material
- ▶ Single-part steel machine chassis
- ▶ High rigidity of the headstock housing thanks to heavily ribbed
- ▶ Precision slide
- ▶ shafts on needle bearings, all components lubricated in oil bath
- ▶ Hardened and ground bed guides
- ▶ All electronic controls centrally accessible
- ▶ All gear wheels of the feed gear made of steel, hardened
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Two-channel safety electronics
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Complete feed and lead spindle cover
- ▶ Working area completely illuminated
- ▶ Easy to service thanks to removable rear panel
- ▶ Hardened and ground spindle guarantees high degrees of accuracy and durability
- ▶ The powerful machining performance means that a high level of chip removal during roughing work is no problem
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Lockable chip guard moves with the bed slide with integrated position indicator and coolant hose, manually adjustable
- ▶ No change gears required
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Electronic feed shut-off of Z axis
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Electrical position shut-off with quadruple positioning stop
- ▶ Three-jaw lathe chuck included in standard scope of delivery
- ▶ Quick change tool holder SWH 7-C
- ▶ Tool holder 32 x 130 type D for square chisels 25 mm

TX 5216V:

- ▶ Large spindle bore Ø 80 mm

TX 6222V:

- ▶ Large spindle bore Ø 105 mm



SIEMENS SINAMICS G120D FREQUENCY INVERTER



Fig. TX 5216V

Arguments,...

Made in EU



SIEMENS SINAMICS INVERTER G120D

▶ More informations see page 198



CONTROL CABINET

- ▶ 24 Volt DC power supply
- ▶ All contactors und relays by **SIEMENS** or Schneider



DIG. DIGITAL POSITION INDICATOR DPA 32 WITH CUTTING CONSTANT VSC

- ▶ LED display
- ▶ User-friendly membrane keyboard,
- ▶ splash-proof, closed and glare-free
- ▶ Greater operation accuracy
- ▶ Clear reduction of manufacturing times
- ▶ Reduction of error quota
- ▶ X, Y/Z0, Z axis each with 8-digit display
- ▶ Three evaluable measurement inputs, each with seven correction memories for tools



TOUCH PANEL CENTRALISED CONTROL

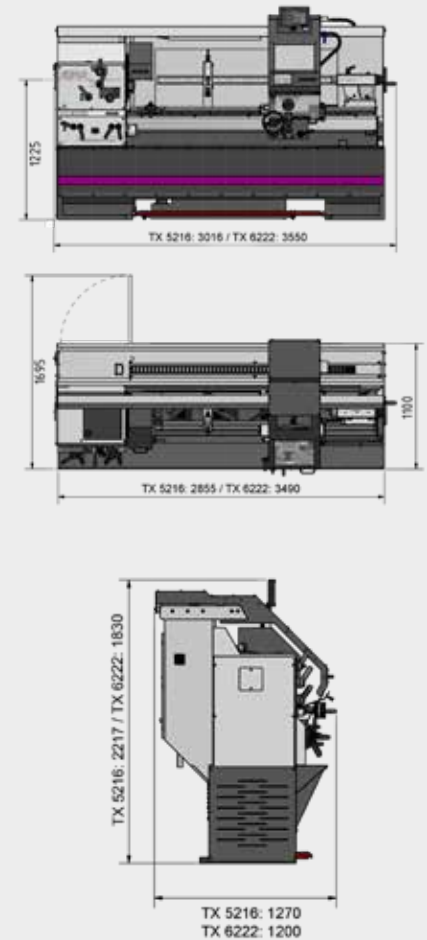
Technical specifications, accessories and dimensions

Model	TX 5216V	TX 6222V
Article no.	3432447	3432467
Output		
Electrical connection	400 V / 3 Ph ~50 Hz	
Total rated value	6 kW	12 kW
Coolant pump motor	100 W	
Spindle		
Drive motor	7.5 kW	11 kW
Spindle taper	MK7	Ø 113 mm (Taper 1:20)
Spindle seat	Camlock DIN ISO 702- 2 No. 8	
Spindle hole, bar passage diameter	Ø 80 mm	Ø 105 mm
Quick change tool holder	SWH 7-C	
Work area		
Centre height	260 mm	310 mm
Centre width	1600 mm	2225 mm
Swing Ø above machine bed ⁽²⁾	520 mm	620 mm
Swing Ø above cross slide	324 mm	424 mm
Bed width	350 mm	
Speed range		
Spindle speed	12 - 1800 min ⁻¹	14 - 1800 min ⁻¹
Number of speeds	2 x 3 speeds	
Traverse paths		
Top slide	170 mm	
Cross slide	350 mm	
Bed slide	1400 mm	2000 mm
Feeds and pitches		
Longitudinal feed within the range	0.05 - 1.5 mm/rev (55 feeds)	
Cross feed within	0.025 - 0.75 mm/rev (55 feeds)	
Metric pitch	0.5 - 15 mm/rev (55 pitches)	
Pitch - inch in range	60 - 2 turns/inch (55 pitches)	
Modular thread in range	0.25 - 7.5mm x π (55 threads)	
Diametral pitch in range	120 - 4 turns/ π(55 threads)	
Tailstock		
Tailstock seat	MT5	
Tailstock sleeve diameter / travel	Ø 72 mm / 180 mm	
Dimensions and weight		
Dimensions (L x W x H) approx.	3016 x 1195 x 1860	3550 x 1200 x 1830
Net weight approx.	2470 kg	2800 kg

Accessories

Accessories	Article no.
TX 5216V	
Follow steady rest, passageway Ø 15 - Ø 125 mm	3438020
Fixed steady rest, passageway Ø 10 - Ø 185 mm	3438023
Fixed steady rest, passageway Ø 160 - Ø 285 mm	3438024
Carbide lathe tool set 20 mm	3441670
Carbide lathe tool set 20 mm, extension kit	3441617
TX 6222V	
Follow steady rest, passageway Ø 15 - Ø 125 mm	3438030
Fixed steady rest, passageway Ø 10 - Ø 185 mm	3438033
Fixed steady rest, passageway Ø 160 - Ø 285 mm	3438034
Carbide lathe tool set 25 mm	3441672
Carbide lathe tool set 25 mm, extension kit	3441623
Accessories	
BISON MT5 co-rotating centring tip	3451005
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

Dimensions



Scope of delivery

- › Three-jaw lathe chuck Ø 315 mm Camlock No. 8
 - › Non-rotating centring tip MT5, long
 - › Non-rotating centring tip MT5, short
 - › Quick change tool holder SWH 7-C
 - › Tool holder for square chisels 32 x 130 Type D for square chisels 25 mm
 - › Machine initially filled with premium grade oil
 - › Operating tool
- TX 5216V:**
- › Adapter MT7-MT5
- TX 6222V:**
- › Adapter Ø 113 mm-MT 5



Fig.:
Steady rest



Fig.:
Follow steady