

CNC-Sliding headstock automatic

CNC-Single spindle bar automatic

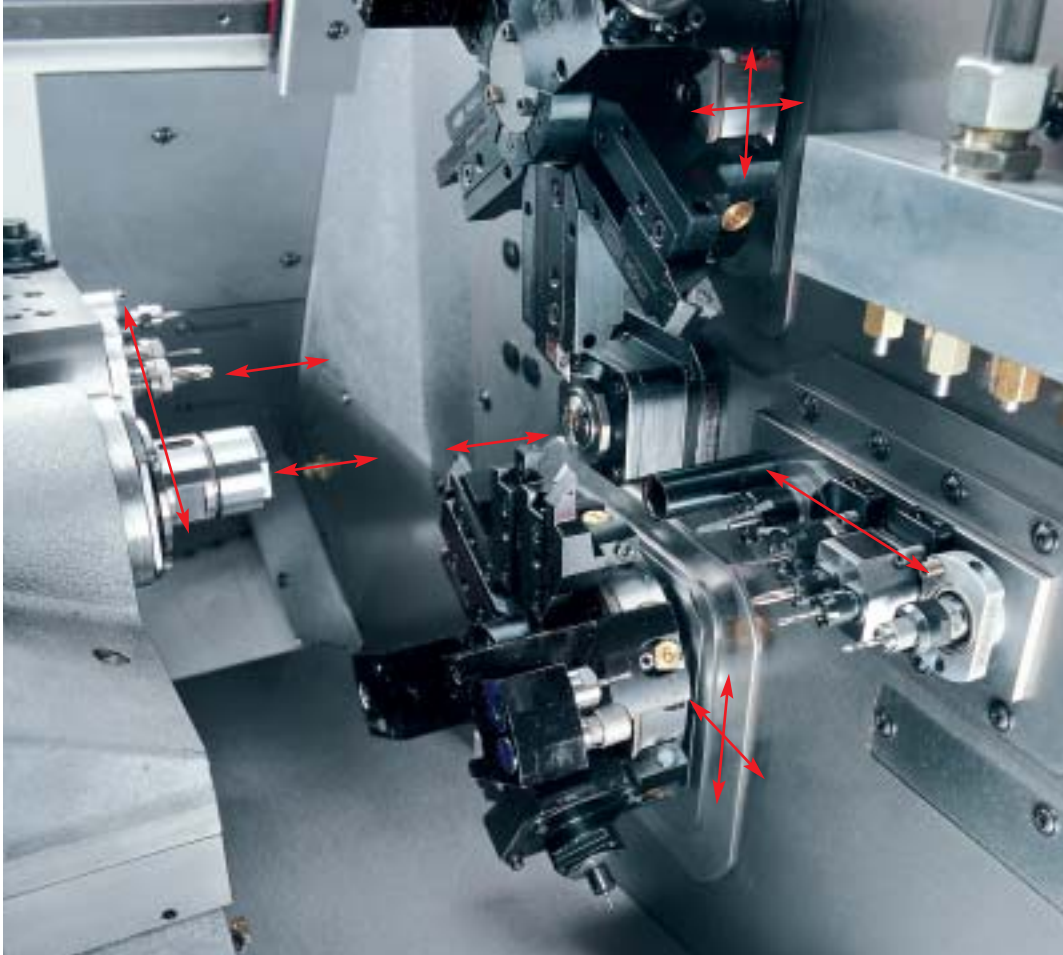


TNL 12

TNL 12K

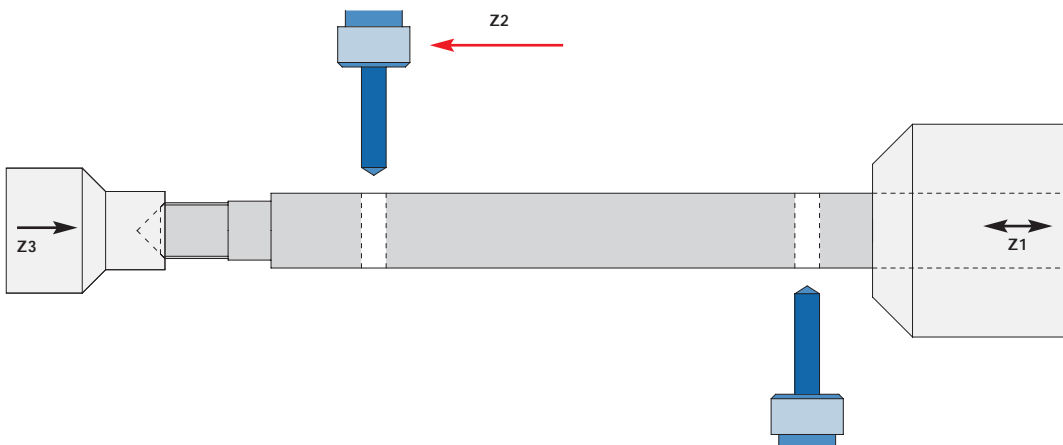


TNL12 - Ideal for your production requirements



The machine concept of the TNL12 has been matched to the daily requirements of the user. But this is not all. In addition, it offers a large number of advantages:

- simultaneous and independent machining of up to 4 tool carriers for highly productive machining in a single clamping setup
- 2 independent working levels (patented) ensure absence of collisions
- optimum operating ergonomics provided by the work area accessible on both sides
- hydraulic hollow clamping cylinders for main spindle and counter spindle
- Guide bushings freely selectable: fixed, synchronously running or programmable



The independent Z2 axis

- Flexibility
- Productivity
- Process safety

Up to 4 tool carriers

for your flexibility

- compact inclined bed of high torsional and bending stiffness at a 60 degree inclination for unrestricted chip fall
- standard thermocompensation provides lasting precision
- small amount of space required for the machine groups through compact machine dimensions suited to the room size



2 tool turrets

- containing 6 stations each (tool drive possible, stations can be fitted with 2 tools)
- Chip-to-chip time 0.3 seconds
- separate Z axis for tool turret top
- Y axis for tool turret bottom

Front working attachment

- with 4 stations
- Tool drive possible for all stations
- 3 stations can be fitted with 2 tools each
- separate Z axis

Backworking attachment

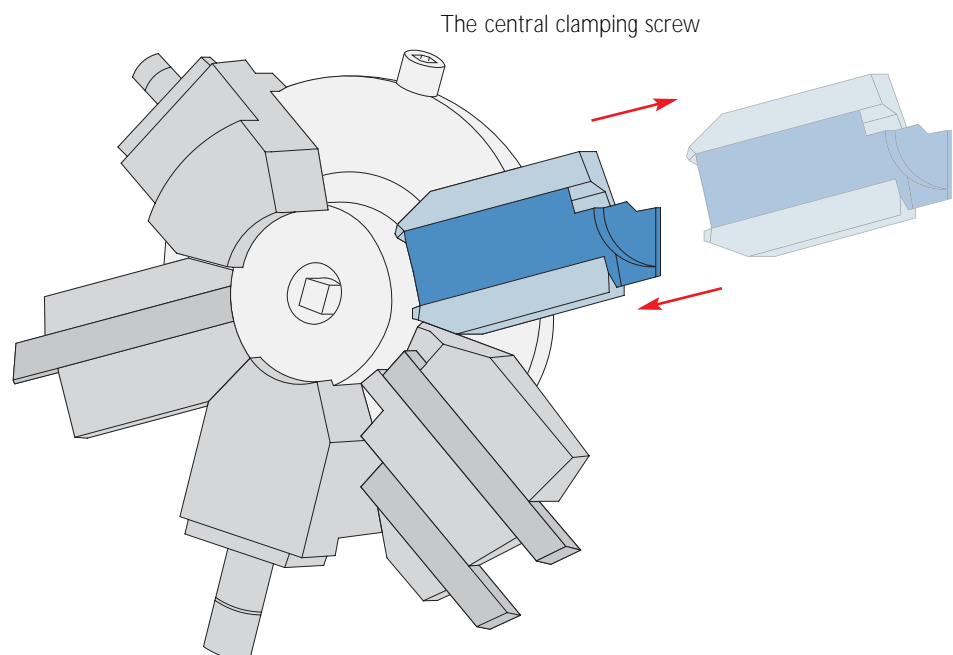
- with 4 stations
- Tool drive possible for all stations
- 3 stations can be fitted with 2 tools each
- separate X axis

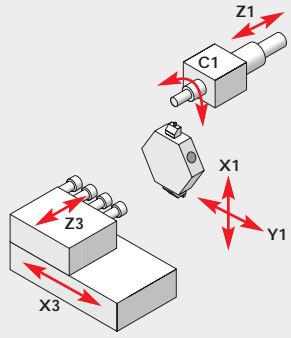
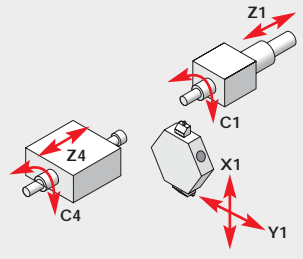
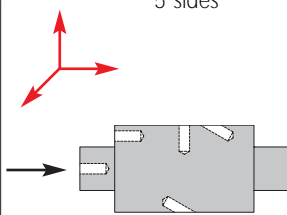
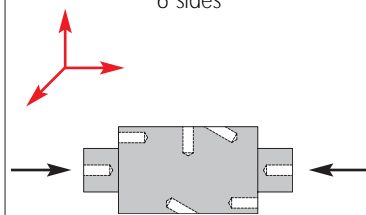
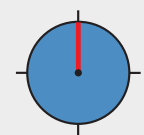
Tool holder change in just 30 seconds

- the central clamping screw allows you to set up each station in no time
- Repeating accuracy +/- 0.01 mm

Powerful tool drive

- max. 1.5 kW
- on all stations



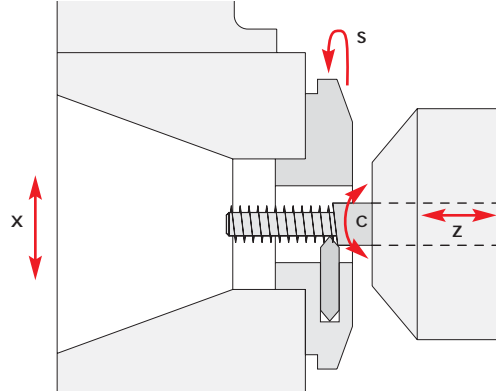
| | | | |
|--|--|---|--|
| | |  |  |
| Headstock max. bar capacity Z1 storke max. | 13/16 mm (0.5/0.6 inch) 130 mm (5.1 inch) | | • |
| Counter spindle max. bar capacity Z4 storke max. | 13/16 mm (0.5/0.6 inch) 140 mm (5.5 inch) | | • |
| Turret 1 Stations Drive | 6 (12) possible | • | • |
| Turret 2 Stations Drive | 6 (12) possible | | |
| Front working attachment Stations Drive | 4 (7) possible | • | |
| Backworking attachment Stations Drive | 4 (7) possible | | |
| Number of subsystems for simultaneous independent machining | | 2 | 1 |
| Number of CNC linear axes | | 5 | 4 |
| Tool stock | | 10 | 6 |
| Tool stock max. | | 19 | 12 |
| Machinable | | 5 sides  | 6 sides  |
| Relative machining time | | |  |

Thread whirling on turret 2:

- max. material \varnothing 5.5 mm (\varnothing 0.2 inch)
- max. thread length 38 mm (1.5 inch)

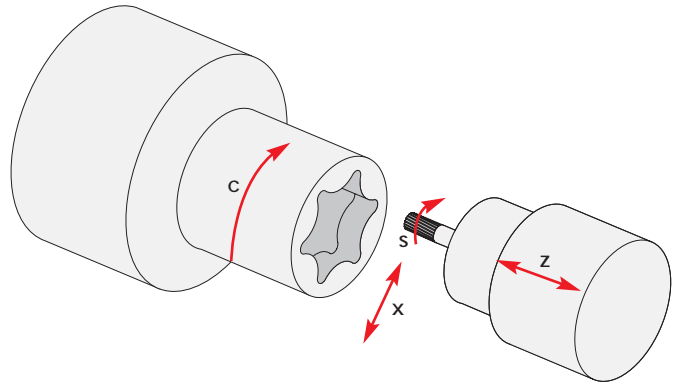
Thread whirling with front working attachment:

- max. material \varnothing 10 mm (\varnothing 0.4 inch)
- max. thread length 110 mm (4.3 inch)



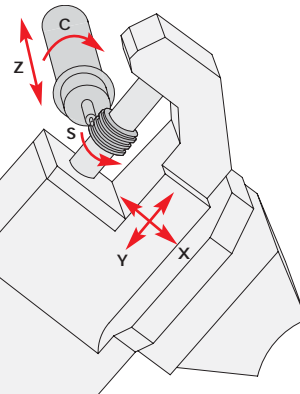
High-frequency machining (inside) on front working/backworking attachment:

- max. speed 35,000 rpm (80,000 rpm)



Gear cutting on turret 1:

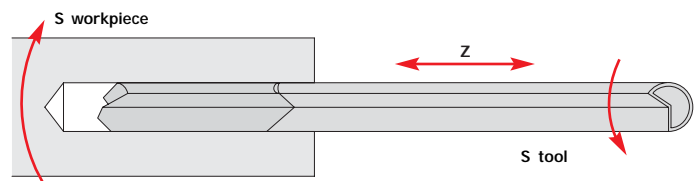
- straight toothing
- max. module 0.6



(only TNL12K)

Deep hole drilling on front working/backworking attachment:

- max. coolant injection pressure 120 (160) bar
- min. drill \varnothing 0.7 mm (\varnothing 0.03 inch)
- max. drilling depth approx. 100 mm (3.9 inch)



The best choice for a wide

range of parts



Complete solution

CNC control

Clearly arranged user interface with dialog technology for programming, editing, setup and operation

- graphics-supported dialog instructions also during setup
- comfortable process synchronization and optimization of the program sequence of parallel machining processes
- visual control of potential collision situations through graphic process simulation GPS



Tool monitoring

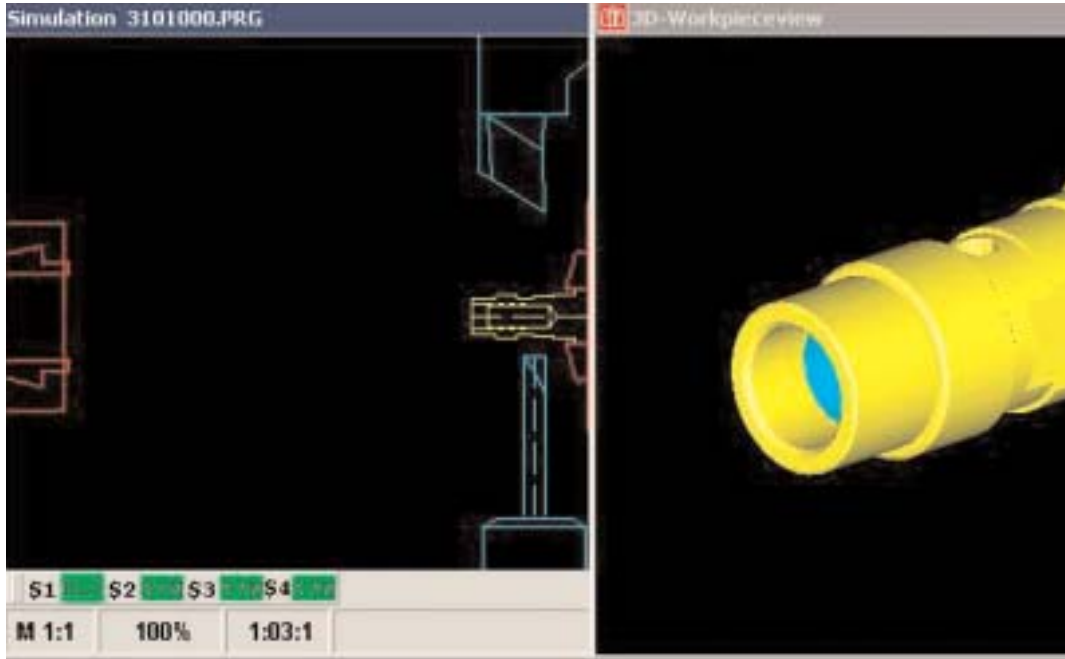
- highly sensitive tool breakage and tool wear control through permanent monitoring of the axis motors
- simultaneous monitoring on all tool carriers
- sensitivity up to 1 mm of drill diameter without additional sensors
- easy-to-use, for example through automatic generation of limiting curves
- all processes are displayed on the monitor



(option)

TRAUB TX8i

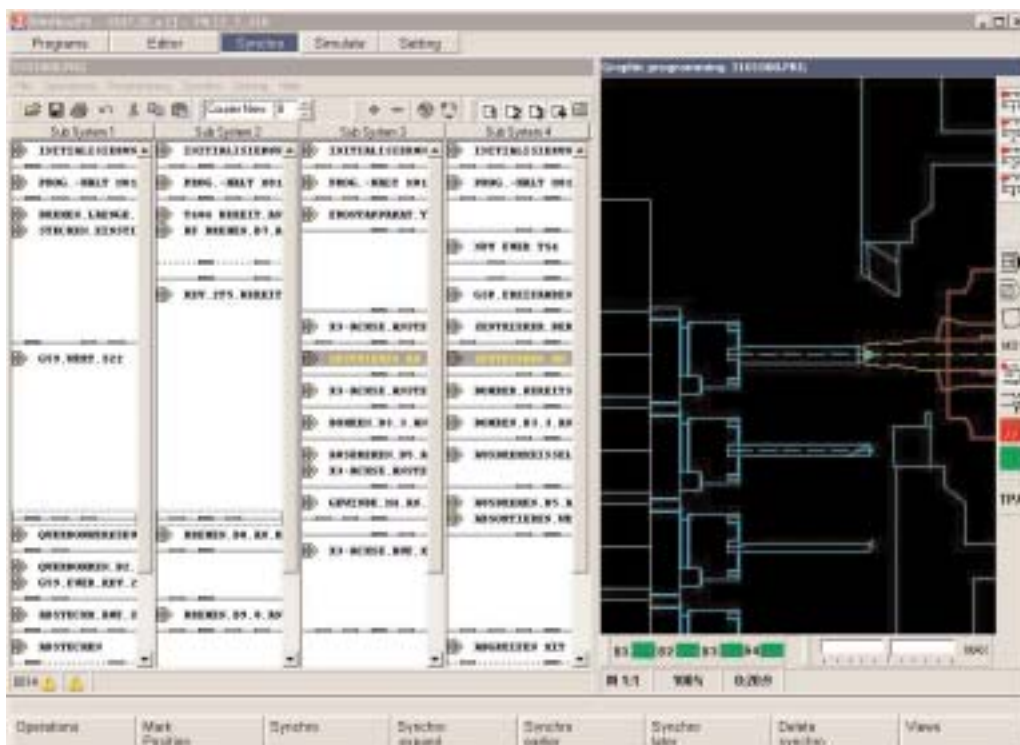
To ensure your production



Programming, Optimization, Simulation

- realistic real-time simulation for shorter setup times
- standard 3-D control of work-piece geometry
- control of the working sequences
- visual collision control before the machine is run in

(standard)

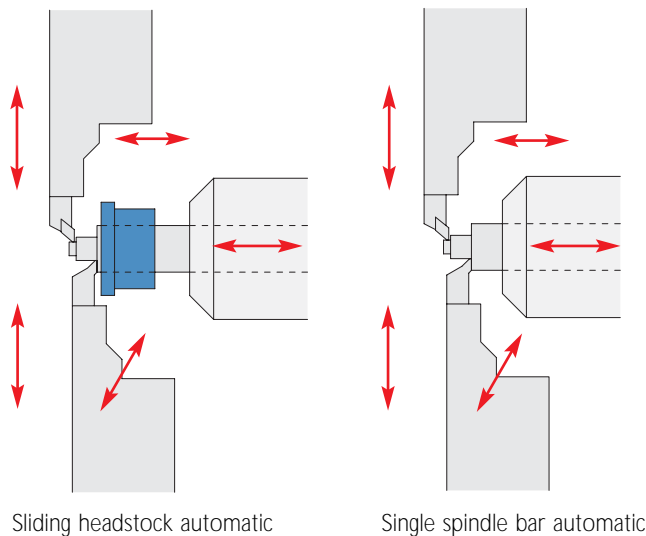


External programming TRAUB WIN FLEX IPS

- stepwise parallel programming and simulation possible
- extremely simple synchronization of machining sequences including up to 4 subsystems
- floor-to-floor time optimization already during programming

(option)

**Unique in its kind: using one machine concept for the
sliding headstock and single spindle bar automatics**



Sliding headstock automatic

Single spindle bar automatic

**One machine model -
twice the range of parts**

whether sliding headstock automatic or single spindle bar automatic, the machine concept is the same:

- TNL12 sliding headstock automatic
- TNL12K single spindle bar automatic

Your advantage:

- you use the same tool holders
- identical programming on both machines, thus no additional training required

Technical data

| | | TNL12 | TNL12K |
|--|-----------|-----------------|----------|
| Headstock | | | |
| Bar capacity max. | mm (inch) | 13/16 (0.5/0.6) | 16 (0.6) |
| Z1 travel with synchr. running guide bushing | mm (inch) | 130 (5.1) | |
| Z1 travel with programmed guide bushing | mm (inch) | 80 (3.2) | |
| Headstock stroke Z1 | mm (inch) | | 50 (2) |
| Quality of round material | mm (inch) | ø x IT9 | ø x IT11 |

| | | TNL12/TNL12K |
|-------------------------------|---------------|-----------------|
| Speed max. | rpm | 12000 |
| Drive power 100/25% | kW (hp) | 2.5/4 (3.4/5.4) |
| C axis resolution | degree | 0.001 |
| Positioning device resolution | degree | 0.1 |
| Rapid traverse Z1 | m (inch)/min. | 30 (1181) |

| | | TNL12/TNL12K |
|-------------------------------|---------------|-----------------|
| Counter spindle | | |
| Bar capacity max. | mm (inch) | 13/16 (0.5/0.6) |
| Longitudinal stroke Z4 max. | mm (inch) | 139 (5.5) |
| Speed max. | rpm | 12000 |
| Drive power 100/25% | kW (hp) | 2.5/4 (3.4/5.4) |
| C axis resolution | degree | 0.001 |
| Positioning device resolution | degree | 0.1 |
| Rapid traverse Z4 | m (inch)/min. | 30 (1181) |

| | | TNL12/TNL12K |
|----------------------------|----------------|-----------------------|
| Tool turret 1 | | |
| Tool holding fixtures | number | 6 |
| driven tools | number | 6 |
| Turning tool cross-section | mm (inch) | 12x12 (0.5x0.5) |
| Slide travel X1 | mm (inch) | 35 (1.4) |
| Slide travel Y1 | mm (inch) | 37.5 / -9.5 +28 (1.5) |
| Rapid traverse X1/Y1 | m (inch) /min. | 15/15 (590/590) |
| Chip-to-chip time | sec. | 0.3 |

| | | TNL12/TNL12K |
|----------------------------|---------------|-------------------|
| Tool turret 2 | | |
| Tool holding fixtures | number | 6 |
| driven tools | number | 6 |
| Turning tool cross-section | mm (inch) | 12 x 12 (0.5x0.5) |
| Slide travel X2 | mm (inch) | 35 (1.4) |
| Slide travel Z2 | mm (inch) | 50 (2) |
| Rapid traverse X2/Y2 | m (inch)/min. | 15/15 (590/590) |
| Chip-to-chip time | sec. | 0.3 |

| | | TNL12/TNL12K |
|---------------------------------------|---------|--------------|
| Tool drive for turrets 1 and 2 | | |
| Speed max. | rpm | 8000 |
| Drive power 25% | kW (hp) | 1.5 |

| | | TNL12/TNL12K |
|---------------------------------|----------------|-------------------|
| Front working attachment | | |
| Tool holding fixtures | number | 4 |
| Driven tools | number | 4 |
| Adaptère-ø | mm (inch) | 28 (1.1) |
| Spindle clearance | mm (inch) | 32 (1.3) |
| Slide travel X3 | mm (inch) | 222 (8.8) |
| Slide travel Z3 | mm (inch) | 139 (5.5) |
| Rapid traverse X3/Z3 | m (inch) /min. | 30/30 (1181/1181) |

| | | TNL12/TNL12K |
|-------------------------------|----------------|--------------|
| Backworking attachment | | |
| Tool holding fixtures | number | 4 |
| Driven tools | number | 4 |
| Adapter-ø | mm (inch) | 28 (1.1) |
| Spindle clearance | mm (inch) | 32 (1.3) |
| Slide travel X4 | mm (inch) | 39 (1.5) |
| Rapid traverse Z4 | m (inch) /min. | 15 (590) |

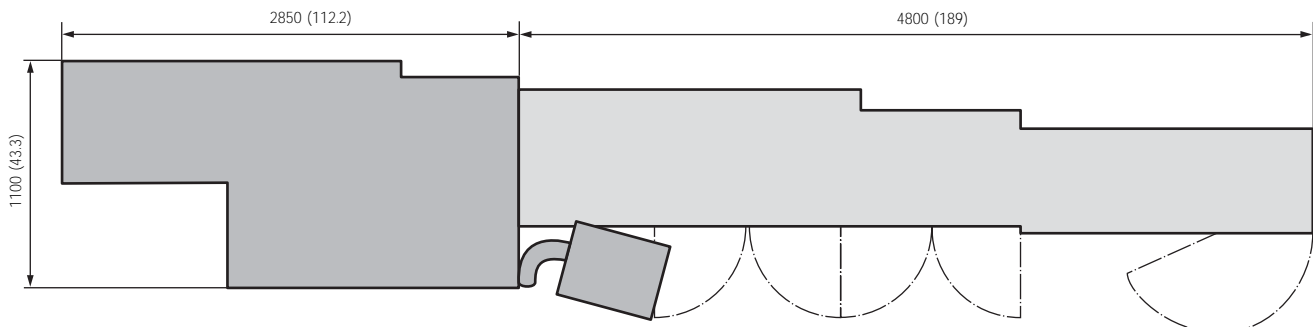
| | | TNL12/TNL12K |
|--|---------|--------------|
| Tool drive for front working attachment | | |
| Speed max. | rpm | 12000 |
| Drive power 25% | kW (hp) | 4 (5.4) |

| | | TNL12/TNL12K |
|--|---------|--------------|
| Tool drive for backworking attachment | | |
| Speed max. | rpm | 8000 |
| Drive power 25% | kW (hp) | 1.5 (2) |

| | | TNL12/TNL12K |
|-------------------------------|-------------------|----------------------|
| Cooling lubricant unit | | |
| Pump pressure, single-stage | bar (psi) | 3 (44) |
| Tank capacity | l (gal) | 200/400 (52.8/105.6) |
| Pump capacity | l/min. (gal/min.) | 40 (10.6) |

| | | TNL12/TNL12K |
|-------------------|---------|--------------|
| Hydraulics | | |
| Tank capacity | l (gal) | 22 (5.8) |

| | | TNL12/TNL12K |
|---------------------------|----------|--------------------------------------|
| Machine dimensions | | |
| Length x width x height | mm | 2850 x 1100 x 1480 (112.2x43.3x58.3) |
| Weight, approx. | kg (lbs) | 2000 (4400) |
| Connecting power | kW (hp) | 16 (22) |



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