



TG4 - 32

12.6" (320 mm) x 12.6" (320 mm), 3-Axis CNC, Automatic Indexing Wheelhead Cylindrical Grinder

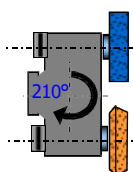
SECTION ONE: GRINDER SPECIFICATIONS TG4-32

MACHINE CAPACITY:

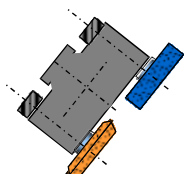
Swing	Ø 12.6" (320 mm)
Distance Between Centers	Ø 12.6" (320 mm)
Maximum OD Grinding Diameter	Ø 11.8" (300 mm)
Maximum Load Between Centers	330 lbs (150 Kg)
Centerline Height from Floor	42.5" (1,080 mm)
Floor Space Required (approximate)	120" x 98" (3,030 mm x 2,496 mm)
Net Weight	15,432 lbs. (7,000 Kg)

WHEELHEAD:

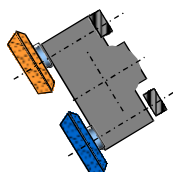
OD Wheel Size x 2 Wheels (OD x ID)	Ø 16" x 5" (405 mm x 127 mm)
Maximum Wheel Width	1.97" (50 mm), [2.9" (75mm) as option]
Wheel Surface Speed	8,850 SFPM (45 m/s)
Spindle	JTEKT STAT® Bearing
Minimum Move Increment X-Axis (on diameter)	0.000010" (0.0001 mm)
Wheelhead Rapid X-Axis Feed (on diameter)	590 IPM (15 m/min)
Wheel infeed	Linear Guide/Servo Motor
Wheelhead Swivel Range	210°
Swivel Method	Direct Drive Servo Motor
Swivel Increment	.00001°



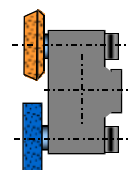
Standard wheel configuration



Standard wheel configuration in 30° angle wheel position



Standard wheel configuration in reverse angle wheel position



Standard wheel configuration in straight wheel position

TABLE:

Minimum Move Increment Z-Axis	0.000010" (0.0001 mm)
Wheelhead Rapid Z-Axis Feed	590 IPM (15 m/min)
Table feed	Linear Guide/Servo Motor

WORKHEAD:

Type	Dead Spindle
Workhead Center Taper	MT #4
Work Speed (Variable)	10 to 500 rpm

FOOTSTOCK:

Type	Hydraulic Retract with Manual Taper adjustment
Footstock Center	MT No. 4
Maximum Center Retraction	2.36" (60 mm)
Taper adjustment Amount	± .0018" (.045 mm)



SECTION ONE: GRINDER SPECIFICATIONS TG4-32 CONTINUED

TABLE:

Type One (1) Piece, Traversing

DRESSER:

Type Stationary Diamond Holder
Location Workhead Mount

MOTORS:

Wheel Drive Motor x 2 Motors	6.7 hp (5 Kw)
Work Drive Motor (Brushless AC Servomotor)	1.75 hp (1.3 Kw)
Wheelhead (X-Axis) Feed Drive Motor (Brushless AC Servomotor)	1.75 hp (1.3 Kw)
Table (Z-Axis) Feed Drive Motor (Brushless AC Servomotor)	1.75 hp (1.3 Kw)
Wheelhead Swivel Motor (Direct Drive Servomotor)	1.2 hp (.9 Kw)
Hydraulic Pump Motor	1 hp (.75 Kw)
Wheel Spindle Lubrication Motor	2 hp (1.5 Kw)
Lubrication Oil Pump	.12 hp (.09 Kw)
Spindle Oil Fan Cooler	.047 hp (.035 Kw)
Coolant Pump	1 hp (.75 Kw)
Bed Wash Pump	.25 hp (.18 Kw)

POWER REQUIREMENT:

200Volt, 3-Phase, 60 Hz

FLUID CAPACITIES:

Spindle Oil Lube Tank	13.2 gal (50 lit)
Hydraulic Oil Tank	2.6 gal (10 lit)
Lubrication Oil Tank	1.5 gal (6 lit)
Coolant Tank	60 gal (230 lit)

Please Note:

- KVA subject to change, depending on options and machine specifications
 - Machine specifications are subject to change without notice
- Machine is built to standard JTEKT SPD specifications for the North American market

***SECTION TWO: EQUIPMENT AND FEATURES INCLUDED IN BASE MACHINE***

- 2.01** Box-type well-ribbed heavy-duty machine bed of high-strength metal castings with coolant isolation cover (Reduces heat displacement)
- 2.02** Hydraulic and lubrication power units
- 2.03** X and Z Axis linear guide systems offers high speed with high accuracy
- 2.04** Wheel feed system featuring:
- High-performance brushless AC servomotor with absolute encoder feedback
 - Backlash-free precision ball screw using a direct coupling
 - Speeds up to 590 IPM (15 m/min) and .000010" (.0001 mm) min. program increments
- 2.05** Wheelhead swivel system featuring:
- Backlash free, Direct drive motor performs high accuracy positioning at high rotational speeds
 - Motor location prevents coolant penetration
- 2.06** The JTEKT stat bearing wheelhead featuring no metal-to-metal contact, high rigidity and excellent damping capacity and minimized heat generation
- 6.7 hp (5 Kw) - motor with overload prevention
 - Automatic hydrostatic lubrication to wheel spindle with pressure confirmation
 - Fan Cooler for spindle oil
- 2.07** Rigid wheel guards with adjustable front hoods
- Designed in compliance with OSHA requirements.
 - Wheel speed up to 8,850 SFPM (45 m/s)
 - Standard wheel size of 16" (405mm) OD x 1.97" (50mm) wide x 5" (127mm) ID
 - Flexible coolant nozzles
- 2.08** Standard size wheel sleeve and flange assembly (2 sets included).
- 5" (127mm) ID, wheel width of .78" (20mm) to 2.5" (65mm)
 - Balance weight segment set - 3 piece/set
- 2.09** Standard wheel (2 pieces included).
- 16" (405mm) OD x 1.97" (50mm) wide x 5" (127mm) ID
- 2.10** Dead spindle workhead
- AC servomotor, infinitely variable speeds of 10 to 500 rpm
 - MT #4 work center
 - Work spindle jog button
- 2.11** Hydraulically operated type footstock with manual fine taper adjustment
- 2.36" (60 mm) retraction stroke
 - MT # 4 work center
 - $\pm .0018"$ (.045 mm) taper adjustment amount

***SECTION TWO: EQUIPMENT AND FEATURES INCLUDED IN BASE MACHINE***

- 2.12** Diamond holder mounted on Workhead.
 - Abundant dress patterns.
 - Includes (1) diamond tool
- 2.13** JTEKT programmable lateral locator unit for bi-directional shoulder locating mounted on Angle wheel side
- 2.14** Coolant supply unit
 - 60 gal (230 lit) reservoir
 - 2nd Pump for bed flushing
 - Low level detection
- 2.15** Standard carbide-tipped work centers, MT #4.
- 2.16** Set of leveling screws and pads.
- 2.17** Full Machine Enclosure for mist containment
 - Manual front sliding doors
 - Access panels (without interlocks) for machine maintenance
 - Duct for customer supplied mist collector
 - Please note: A mist collector is required on machines with a full enclosure (Will be quoted upon request)
- 2.18** Slideway covers, bed covers.
- 2.19** Standard tool kit
- 2.20** Wheel lifting hook
- 2.21** One (1) hard copy set of manuals and One (1) CD ROM
- 2.22** JTEKT 3-axis CNC unit, Model GC50X3, including movable pendant type operation panel with keyboard type manual data input, manual pulse generator, including these
 - 12" color LCD touch screen
 - 64-part program storage memory each up to 30 steps
 - Instructional Screens
 - Maintenance Screens:
 - Programmable dressing cycle with automatic compensation
 - Programmable jump on timing for the in-process gauge
 - Programmable flagging cycle
 - Jog feed axis selector.
 - Grinding feed override switch from 0 to 150% in 10% steps
 - Dressing feed override switch from 0 to 150% in 10% steps
 - Rapid feed override switch from 0, 10, 50 & 100% settings
 - Wheel spindle on/off
 - Emergency return
 - Emergency stop
 - Wheel Change Forecast
 - Program number display
 - USB Port and Memory Stick

*** Control specifications subject to change without notice**



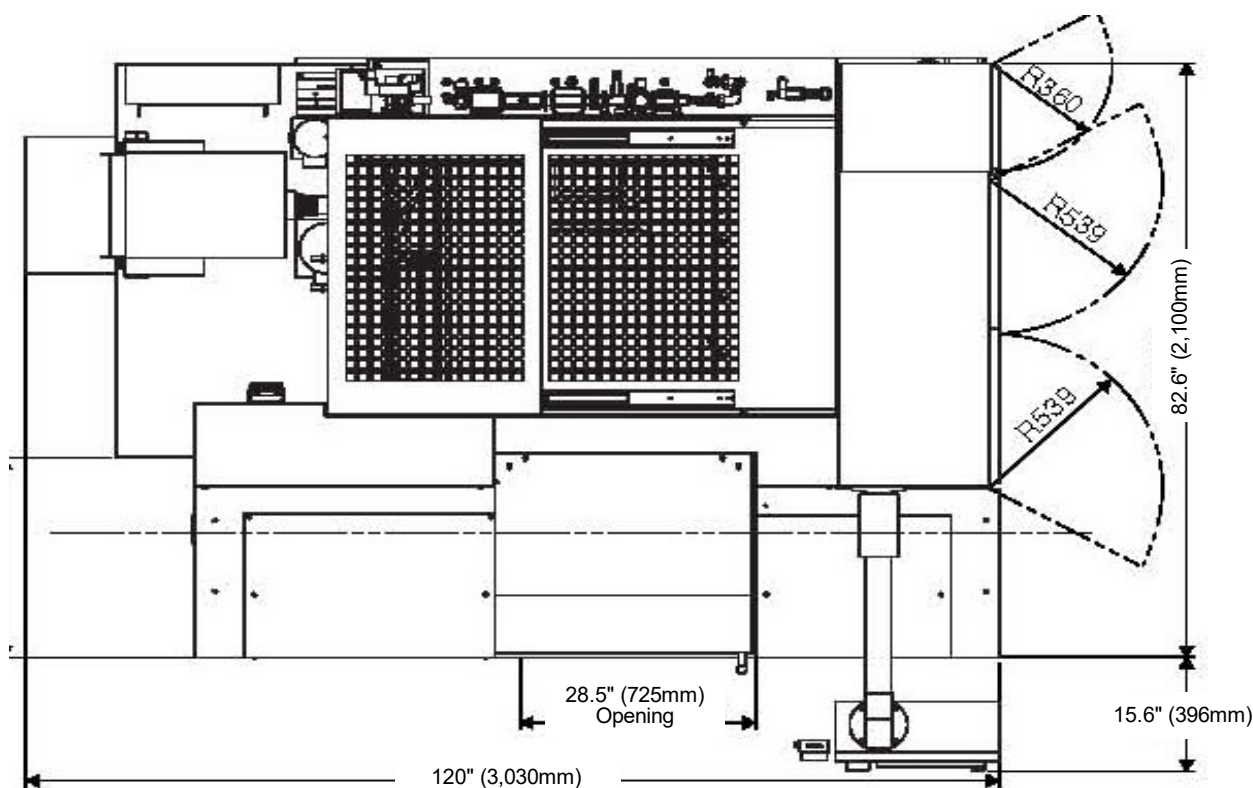
SECTION TWO: EQUIPMENT AND FEATURES INCLUDED IN BASE MACHINE

2.23 Machine start-up and training

- NOTE: Prior to requesting a service representative, the Pre-Installation Checklist must be completed, signed and returned to JTEKT's service department.
- Machine purchase includes one JTEKT Service Representative for five (5) working days, eight (8) hours per day (including travel to and from customer's facility).
- Visit includes the following:
 1. Installation inspection
 2. Machine start-up
 3. Explanation of machine operation
 4. Machine set-up instruction
 5. Basic part program training including plunge, traverse and combination plunge/traverse grinding, using a JTEKT standard training work piece.

Please Note:

Layout for reference only. Actual specific machine layouts may vary depending on machine configuration and supplied optional equipment.





SECTION TWO: EQUIPMENT AND FEATURES INCLUDED IN BASE MACHINE

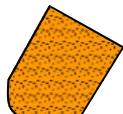
OD GRIND CYCLES

ANGLE WHEEL	REVERSE ANGLE WHEEL	STRAIGHT WHEEL
 Plunge with or without gauge	 Plunge with or without gauge	 Plunge with or without gauge
 Plunge/Traverse with or without gauge	 Plunge/Traverse with or without gauge	 Plunge/Traverse with or without gauge
 Plunge w/shoulder with or without gauge	 Plunge w/shoulder with or without gauge	 Right-side face grind
 Plunge/Traverse w/shoulder with or without gauge	 Plunge/Traverse w/shoulder with or without gauge	 Taper Plunge right side
 Plunge w/radius with or without gauge	 Plunge w/radius with or without gauge	 Taper Plunge/Traverse right side
 Plunge/Traverse w/radius with or without gauge	 Plunge/Traverse w/radius with or without gauge	 Left-side face grind
 Taper Plunge right side	 Taper Plunge left side	 Taper Plunge left side
 Taper Plunge/Traverse right side	 Taper Plunge/Traverse left side	 Taper Plunge/Traverse left side

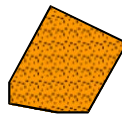


SECTION TWO: EQUIPMENT AND FEATURES INCLUDED IN BASE MACHINE

OD DRESS CYCLES ANGLE WHEEL DRESS CYCLES



Straight with left-side radius

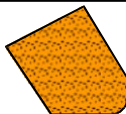


Straight with left-side taper

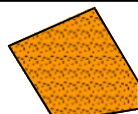


Point input (Less than 15 points)

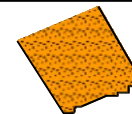
REVERSE ANGLE WHEEL DRESS CYCLES



Straight with right-side radius

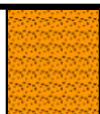


Straight with right-side taper



Point input (Less than 15 points)

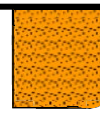
STRAIGHT WHEEL DRESS CYCLES



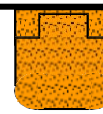
Straight



Straight with left-side radius



Straight with right-side radius



Straight with both-side radius



Straight with left-side radius and recess



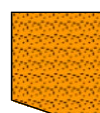
Straight with right-side radius and recess



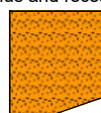
Straight with both-side radius and recess



Straight with both-side taper



Straight with left-side taper



Straight with right-side taper

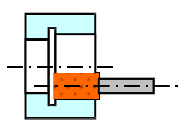


Point input (Less than 15 points)

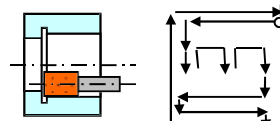


Point input (Less than 15 points)

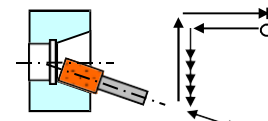
ID GRIND CYCLES



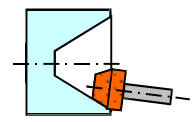
Plunge with or without post process gauge



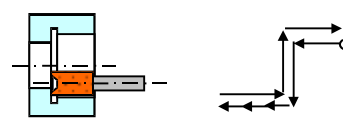
Plunge/Traverse with or without post process gauge



Taper Plunge right side



Taper Plunge/Traverse right side



Right-side face grind

ID DRESS CYCLES



Straight



Right-side face with recess



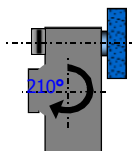
Straight with left-side taper

*** Control specifications subject to change without notice**

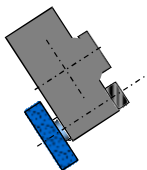


POSSIBLE WHEELHEAD CONFIGURATIONS AND POSITION EXAMPLES

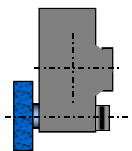
ONE STRAIGHT OD WHEEL



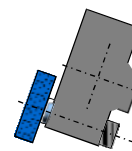
210° CW, Swivel Capability



150° CW, Swivel Position

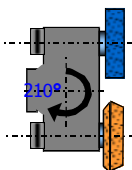


180° CW Swivel Position

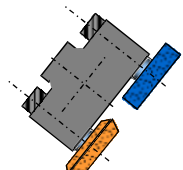


210° CW Swivel Position

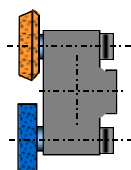
ONE STRAIGHT AND ONE ANGULAR OD WHEEL



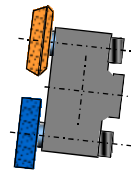
210° CW, Swivel Capability



30° CW, Swivel Position

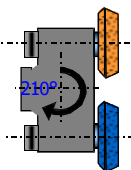


180° CW Swivel Position

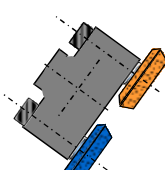


195° CW Swivel Position

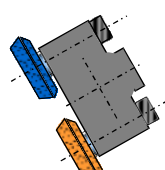
ONE ANGULAR AND ONE REVERSE ANGULAR OD WHEEL



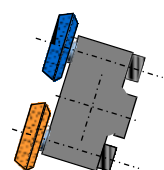
210° CW, Swivel Capability



30° CW, Swivel Position

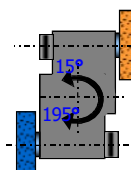


150° CW, Swivel Position

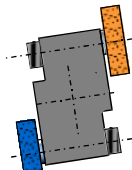


210° CW, Swivel Position

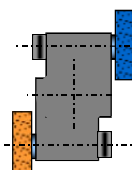
TWO STRAIGHT OD WHEELS



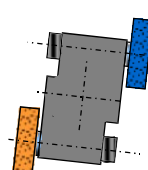
195° CW, 15° CCW Swivel



15° CCW Swivel Position

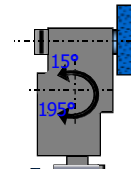


180° CW Swivel Position

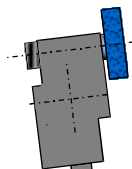


195° CW Swivel Position

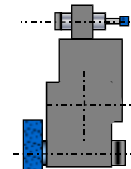
ONE STRAIGHT OD AND ONE ID WHEEL



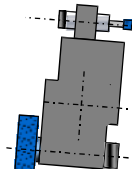
195° CW, 15° CCW Swivel



15° CCW Swivel Position

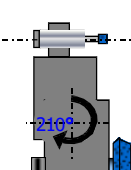


180° CW Swivel Position

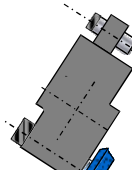


195° CW Swivel Position

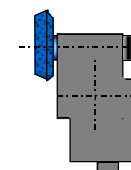
ONE ANGULAR OD AND ONE ID WHEEL



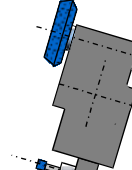
210° CW, Swivel Capability



30° CW, Swivel Position



180° CW Swivel Position



210° CW, Swivel Position