



Gleason

Gleason - HURTH

ZS 150
Gear Shaving
Machine

KEEPING THE WORLD IN MOTION™

ZS 150 Gear Shaving Machine

Gear shaving is a fine finishing process for machining soft (unhardened) spur and helical gears. It combines extremely productive high workpiece quality with minimal machining costs.

The plunge shaving version of the ZS(E) 150(T) Shaving Machine is used in high-volume production and, as a universal version, also in small and medium-volume production.

The machine is compact and easily accessible, the controls and the work area are easy to reach from the operator position. A large operator door ensures unhindered access to the work area, facilitating simple, rapid changeover and tool change.

This machine can be configured just as you wish:

- as a plunge shaving machine ZSE 150 T with deburring station mounted to the rear for maximum productivity with minimal footprint – the typical machine for automotive serial gearbox production,

- as a universal shaving machine ZSE 150 with deburring station mounted to the rear, this machine is also suitable for economical small-volume production,
- as a pure plunge shaving machine ZS 150 T for maximum shaving productivity,
- as a universal shaving machine ZS 150 for different applications, e.g. for pump gears or for planetary gears with larger modules.

To minimize space requirements the control system unit is attached directly to the machine and the control panel is integrated into the unit.

This allows short commissioning times and cost-effective installation.

The principle of all Gleason-Hurth shaving machines is implemented here too – the workpiece is mounted in a fixed location and is machined using a shaving cutter which is moved through the appropriate motions. Regardless of whether these movements are for plunge, diagonal or parallel feed or for modifications like taper or crowning, all infeeds and modifying movements occur in the shaving cutter head. The fixed location of the workpiece means that this machine concept results in simple automatic loading as well as construction of an extremely stable machine bed. This in turn is a fundamental prerequisite for achieving the highest workpiece quality.



ZSE 150T operating side.

ZS 150 machine NC axes.

The ZS(E) 150(T) Shaving Machine uses the latest-generation Siemens CNC control system or optionally a Fanuc CNC control system. The Gleason technology and operating software, as well as the network capabilities and remote diagnostics of the system, allow easy integration into any modern production environment. The machine is operated by graphically-supported user software which guarantees easy and accurate data input. Corrections will be transferred directly from the measuring diagram to the controller. Together with tool modifications, hardening distortion can be corrected in advance or modification specifications and changes implemented immediately.

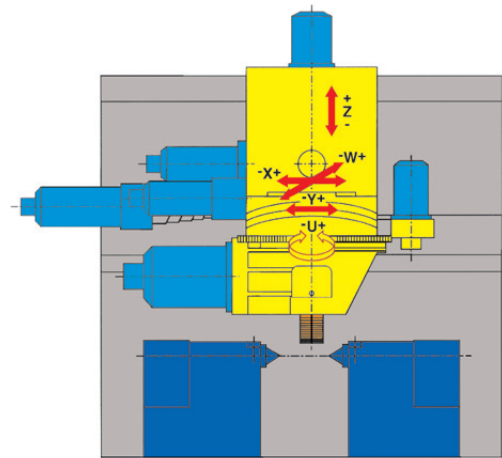
A chamfering and deburring station can be mounted to the rear of the machine as an option.

Working axes

W – Traverse motion
X – Longitudinal motion
Y – Taper/
crowning motion
Z – Vertical slide motion/infeed

Setting axes

U – Shaving head swivel



This allows workpieces to be chamfered and deburred in parallel to the primary processing time in a minimal space and without an additional controller.

A spinning device can be integrated inside the machine housing to remove coolant oil from the workpiece.

A broader range of parts and different batch sizes require flexible means of production – and the ZS(E) 150(T) is well prepared. The handling equipment ranges

from simple insertion aids for arbors used for manual loading to manual loading slides, automated loading slides and magazine loading systems.

Gleason-Hurth also manufactures and supplies a full range of shaving cutters. Gleason-Hurth's products include the SRS 410 Shaving Cutter Grinding Machine and the company offers technical training, seminars, tool information systems and service. Everything needed for gear shaving can be supplied from a single source.

Technical data

Workpiece

Minimum outside diameter	20 mm
Maximum outside diameter	200 mm
Maximum module (plunge shaving)	5 (3.5) mm
Maximum tooth width (plunge shaving)	140 (45) mm
Maximum total length	400 mm

Tool

Maximum outside diameter	270 mm
Maximum width	50.8 mm
Shaving cutter bore diameter	63.5 or 100 mm

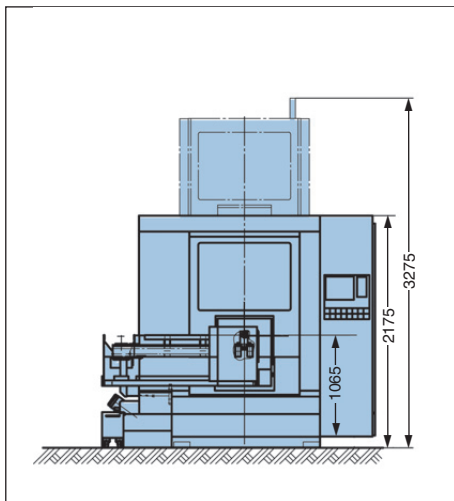
Work area and weight

Minimum/maximum center distance	120 / 230 mm
Cross axis angle displacement (U-axis)	+18° / -21°
Swiveling of shaving cutter head for tool change	-88°
Weight of ZS (plunge shaving machine)	5000 (4800) kg

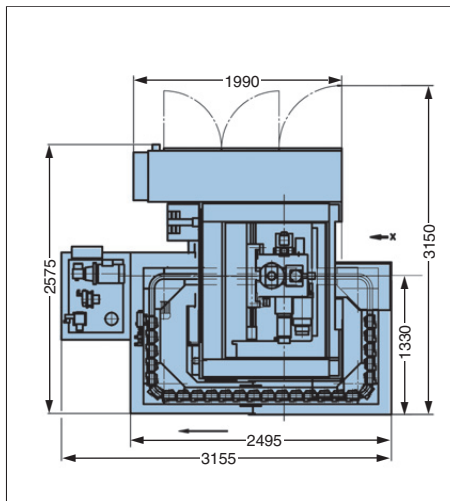
Speeds

Maximum shaving cutter speed	400 rpm
------------------------------	---------

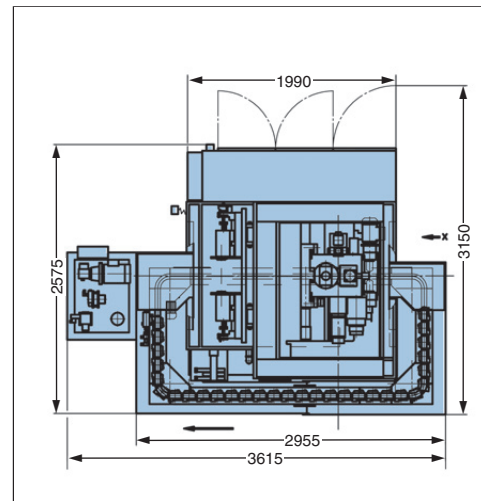
The information and specifications in this publication are subject to change without notice.



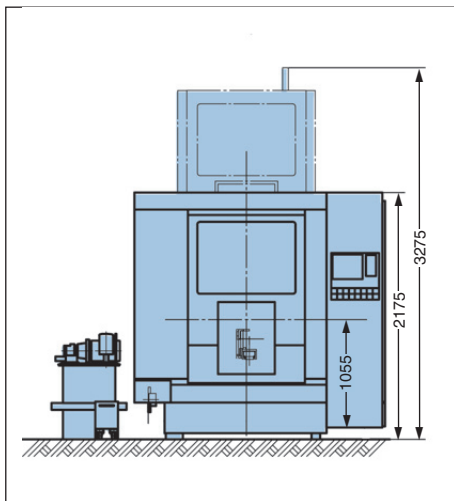
ZS 150 and ZSE 150 operator view with pallet ring magazine in mm.



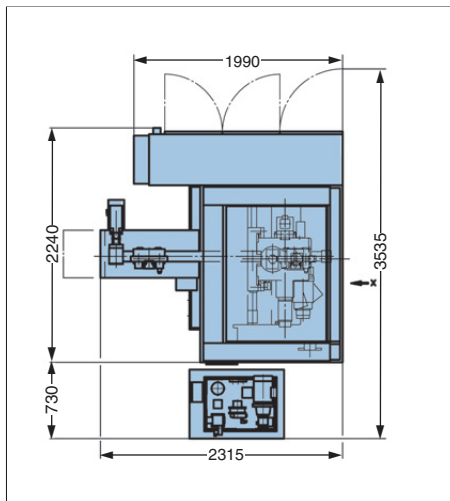
ZS 150(T) machine dimensions with pallet ring magazine in mm.



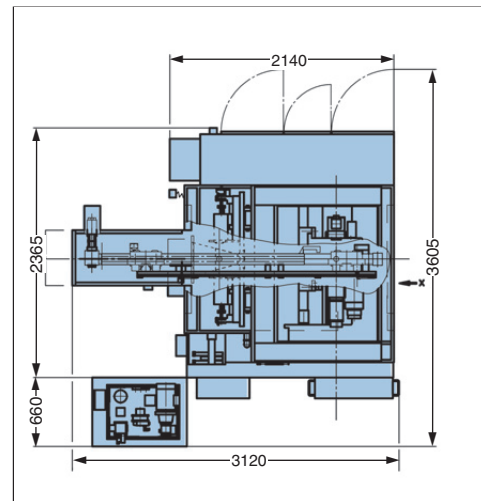
ZSE 150(T) machine dimensions with pallet ring magazine in mm.



ZS 150 und ZSE 150 operator view with loading slide in mm.



ZS 150 machine dimensions with loading slide in mm.



ZSE 150 machine dimensions with loading slide in mm.

Gleason

Gleason Corporation

1000 University Avenue
P.O. Box 22970
Rochester, NY 14692-2970, USA
Tel. +1-585-473-1000
Fax +1-585-461-4348
e-mail: sales@gleason.com

The Gleason Works

1000 University Avenue
P.O. Box 22970
Rochester, NY 14692-2970, USA
Tel. +1-585-473-1000
Fax +1-585-461-4348
e-mail: sales@gleason.com

Gleason-HURTH

Maschinen und Werkzeuge GmbH
Moosacher Strasse 42-46
D-80809 München, Germany
Tel. +49-(0)89-35401-0
Fax +49-(0)89-35401-463
e-mail: hurth@gleason.com

www.gleason.com • sales@gleason.com

For Worldwide Locations and Additional Information.