

THREAD CUTTING MACHINE

TYPE GM 07

Manual, hydraulic or semi-automatic operation.

Manual model GM 07-50 M

Hydraulic models GM 07-100 H (Hydraulic) GM 07-50 H (Hydraulic)

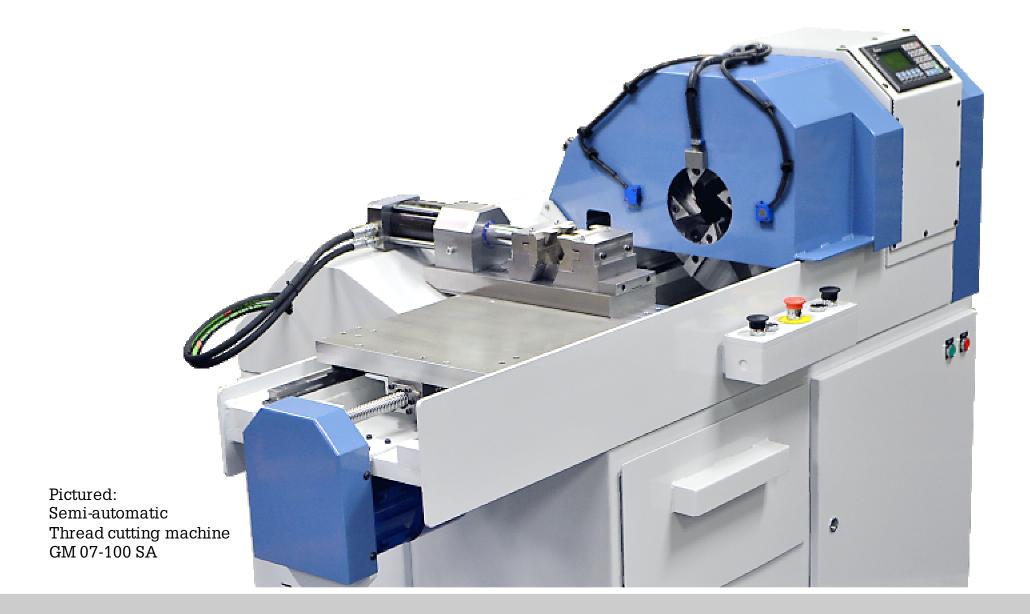
Semi-automatic models GM 07-100 SA GM 07-50 SA

Replaces our discontinued models OK-3 and OK-5



THREAD CUTTING MACHINE

TYPE GM 07



The GM 07 machines are specifically designed for thread cutting.

The operating time per thread length is considerably shorter than what can be achieved, for example, on a lathe. The finished thread is produced in a single cutting operation, irrespective of thread pitch or the intial diameter of the material. The work piece is fixed in the clamp and fed towards the rotating die head that guides the thread. The machines feature simple and robust design and are easy to operate, even by low-skilled staff.

The GM 07 machine series offers a manual (M), hydraulic (H) and semiautomatic (SA) version.

All versions are available with a standard die head for medium thread cutting (07-50). The hydraulic and semi-automatic versions are available with a large die head for larger and coarser work pieces (07-100).



High operating efficiency
High precision operation
Heavy duty capacity
High build quality
High safety
Easy to operate

Rods

Pipes

Rebar

Metric threads

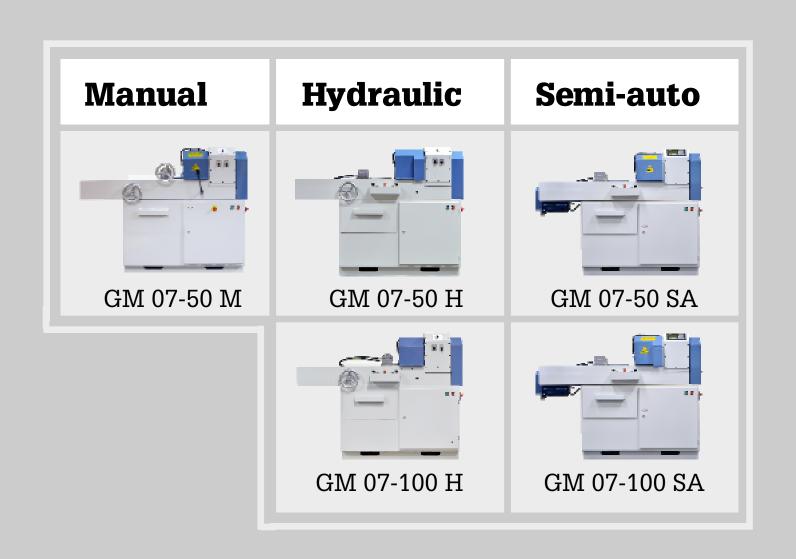
Straight pipe threads

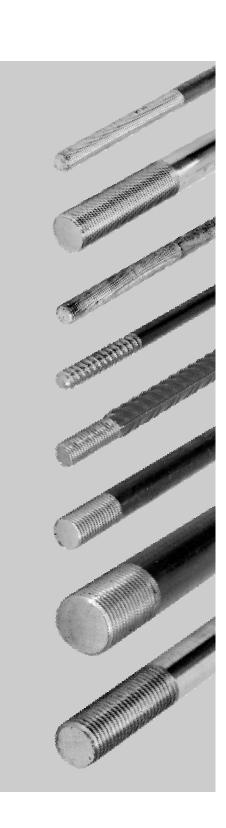
Tapered pipe threads

Quality product
Made in Sweden

For piece and series production.

For industry, metalworking, installation.





HW

HMV GM 07

Features

Applies to all models

Design

Robust construction for continuous operation. Die head with regrindable tangential HSS threading dies. Strong welded machine stand with integrated coolant pump, 40 liter coolant tank and 50 liter removable chip drawer on telescopic rails with ball bearings designed for traverse crane attachment. Die head protection cover with built-in cooling spray nozzle. Relocating the machine is easy thanks to the fork lift channels in the bottom of the machine stand.

Drive

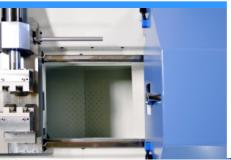
Cog belt drive eliminates the need for a gearbox and gives way for a low noise level. The cog belt is made out of extra durable polyurethane that is pre-stressed with a stretch stable steel cord. Seamless adjustment of die head speed from 3 to 350 rpm. Max. cutting speed standard dies up to 15 m/min. Max. cutting speed coated dies up to 20 m/min. The carriage runs on ball screw and linear guides to ensure a reliable and smooth movement.

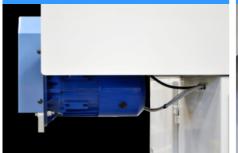
Die head

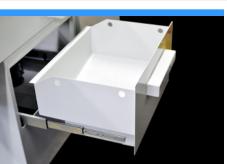
The die head comes equipped with die holders for right-hand threads but can also be equipped for left-hand threads if needed. The same die holder is used for all threading dies within respective diameter interval. The entire working range can be covered with a single set of die holders. The tangential cutting system makes for good chip clearance, coupled with high cutting and production capacity. Graduated spindle for precision adjustment of thread diameter.

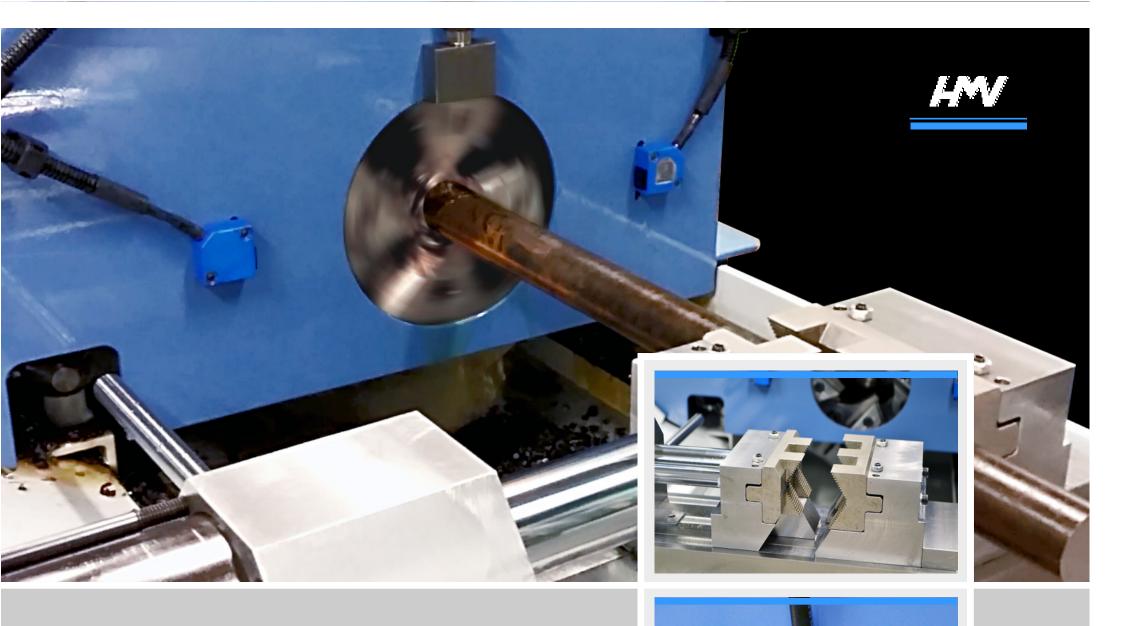








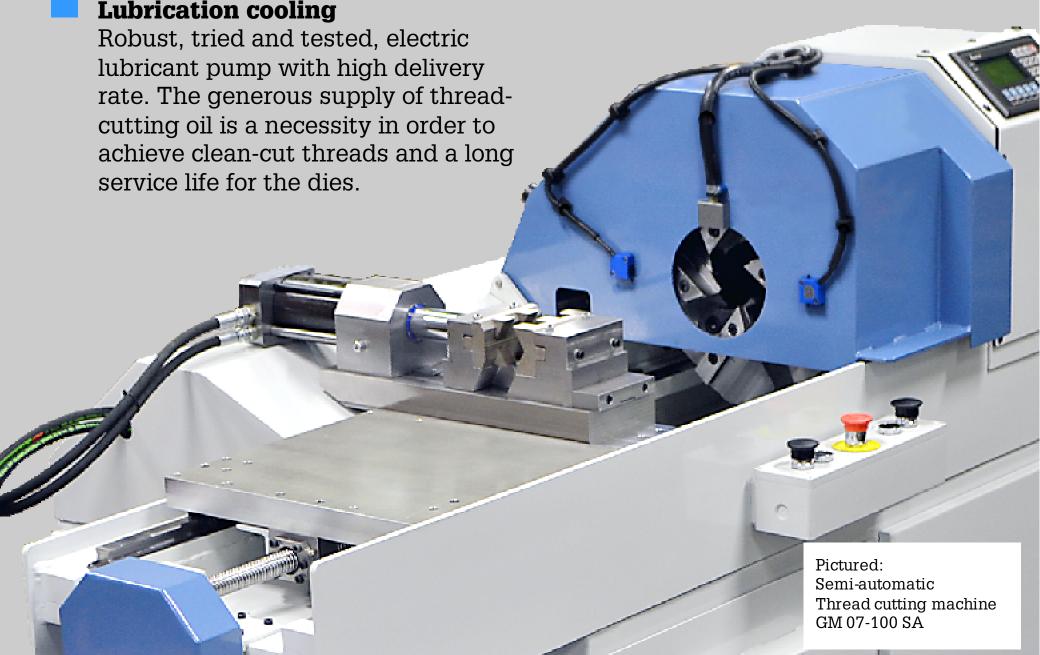




Clamping fixture

Strong, distortion-resistant vice with specially hardened jaws that are easily replaced. The jaw vice is symmetrical meaning the work piece self centers when clamping to ensure a correct grip.





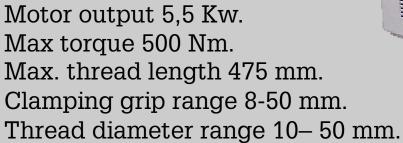


HMV GM 07-50 M

Manual medium duty Thread cutting machine









Operation

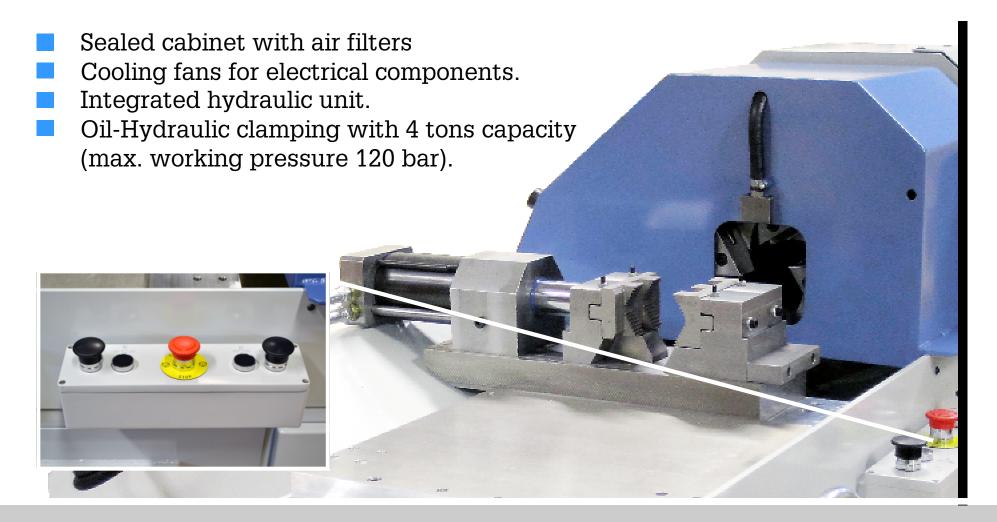
Lever opens/closes die head. Start/stop and emergency stop buttons are located on the front side of the machine. Lockable main switch on right-hand short side of machine. Handwheel operated carriage and jaw vice. Thread length is set manually with a stop on a metric scale. Switches for spindle on/off and cooling on/off is located on the spindle cover. Seamless adjustment of cutting speed by the means of a knob on the spindle cover.



HMV GM 07-50 H/100 H

Manual hydraulic powered Medium to heavy duty Thread cutting machines

Hydraulics save labour and enhance capacity



Motor output 5,5 kW.

Max torque 500 Nm.

Max. thread length 475 mm.

Clamping grip range 8-50 mm

Thread diameter range 10– 50 mm

Motor output 11 kW.

Max torque 1000 Nm.

Max. thread length 425 mm.

Clamping grip range 16-95 mm

Thread diameter range 16—95 mm

The hydraulic equipment provides operators with a pair of strong extra hands for heavier operations. The equipment ensures higher production capacity and less muscular effort, while also allowing one operator to mind two machines at the same time, thereby enhancing earnings capacity. The jaw vice is operated by a hydraulic piston that effectively holds the work piece in place during thread cutting.

Operation

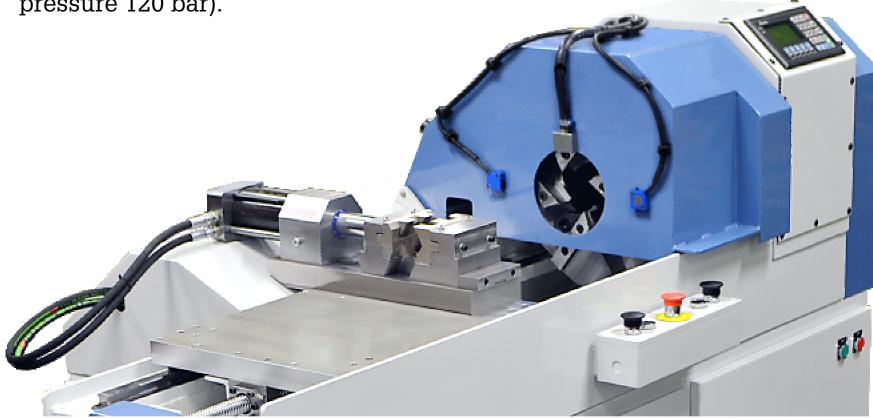
Push-button control box opens/closes vice and die head. Emergency stop is also located on the control box. Start/stop buttons on front side of machine. Lockable main switch on right-hand short side of machine. Handwheel operated carriage. Thread length is set manually with a stop on a metric scale. Switches for spindle on/off and cooling on/off is located on the spindle cover. Seamless adjustment of cutting speed by the means of a knob on the spindle cover.



HMV GM 07-50 SA/100 SA

Semi-automatic Medium to heavy duty Thread cutting machines

- Sealed cabinet with air filters
- Cooling fans for electrical components.
- Integrated hydraulic unit.
- Oil-Hydraulic clamping with 4 tons capacity (max. working pressure 120 bar).
- Frequency controlled motor
- PLC-controlled carriage feed synchronized to pitch and spindle speed.
- Manual loading automatic thread sequence.
- Standard threads pre-programmed.



 $Controll\, ed$

adjustment

from Jog

menu. (Manual

of dies)

Motor output 5,5 kW.

Max torque 500 Nm.

Max. thread length 470 mm.

Clamping grip range 8-50 mm

Thread diameter range 10– 50 mm

Motor output 11 kW.

Max torque 1000 Nm.

Max. thread length 420 mm.

Clamping grip range 16-95 mm

Thread diameter range 16—95 mm

Operation

Push-button control box opens/
closes vice and die head.
Emergency stop is also located on
the control panel. Start/stop
buttons on front side of machine.
Lockable main switch on righthand short side of machine. The
operator panel controls all other
functions such as:

Thread diameter
 Thread pitch
 Cutting speed
 Start position of carriage
 Manually work the die head
 Manually work the carriage
 Manually work the jaw
 Length from optosensors

to dies

 Switch to reverse direction of rotation for left-hand threads



How it works

The driving motor of the die head sends RPM data to the PLC computer to calculate the correct RPM for the motor powering the ball screw for the selected thread pitch. The PLC computer monitors and corrects the RPM of the ball screw during operation if necessary. The material thereby exhibit significantly more accurate thread pitch than material that has been threaded in a manual machine or with a threading chaser. The optosensors on the die head protection cover signals when the material reaches the dies in order to achieve the exact thread length. Cooling fluid is sprayed on cutting surfaces during threading. When the thread length is reached, the cooling spray ceases, the die head opens and the carriage is fed back to the loading position. If the carriage unintentionally moves to close to the die head, the die head opens automatically.



Specifications HMV GM 07

Dimensions and weight	GM 07-50	GM 07-100
Overall length	1810 mm	1810 mm
Overall width	1050 mm	1050 mm
Overall height	1325 mm	1325 mm
Net weight	740 kg	840 kg
Weight, packed	880 kg	980 kg
Size of packing crate	2 x 1,5 x 1,1 m	2 x 1,5 x 1,1 m
Crate volume	$3, 3 m^3$	$3, 3 m^3$

Technical data	GM 07-50	GM 07-100
Spindle motor	5, 5 kW	11 kW
Torque, spindle, max	500 Nm	1000 Nm
continous operation,	360 Nm	700 Nm
Thread cutting range, standard	10 – 50 mm	16 – 95 mm
,extended	-	- 115 mm (option) *
Spindle variable speed	3 – 350 RPM	3 – 350 RPM
Cutting speed Standard dies, steel REL350N/mm ²	up to 15 m/min	up to 15 m/min
Cutting speed Coated dies, steel REL350 N/mm²	up to 20 (25) m/min	up to 20 (25) m/min
Max thread cutting length, standard	470 mm	420 mm
, extended	option *	option *
Thread-cutting range, UNC	3/8" – 2"	5/8" - 4"
Thread-cutting range, R/G	1/4" – 2"	1/2" -4"
Thread-cutting range, metric	M8 – M50	M16 - M95
Spindle bore diameter, mm	60	106
Spindle bore diameter, inch	2 - 23/64"	4 - 11/64"

Cooling system

Pump	230/400VAC 3-phase 50Hz, IP55
Capacity	35 liters/min at 2 m pressure height
Tank volume	40 liters

^{*} See accessories

Accessories HMV GM 07



GM-MU Material dispenser

The material dispenser is mounted on the carriage of the thread cutting machine. The dispenser moves the threaded bar from the vice to a pallet or to a post machining process. The only manual labour required is to load the material and start the threading sequence.

FE-07 Chamfering unit

The chamfering unit chamfers the bar before thread cutting in order to obtain the correct thread entrance. The unit can also be used to sharpen bars with a diameter of up to 20 mm (e.g. wooden screw). It has a separate coolant tank, pump and chip container.

SL-07 Extra removable chip drawer

To minimize stoppage while emptying chips.

SV-07 Trolley for chip drawer

For transporting chip drawer to other location.

Relocation of jaw vice for threading of long bars (Semi-auto only)

With detachable pneumatic rod support on the carriage. Number of relocations and length is programmed in the PLC. Rod support before and after machine not included.

Laser guide

Helps the operator to place the material in the right position to achieve correct thread length. To be installed onto the die head protection cover.

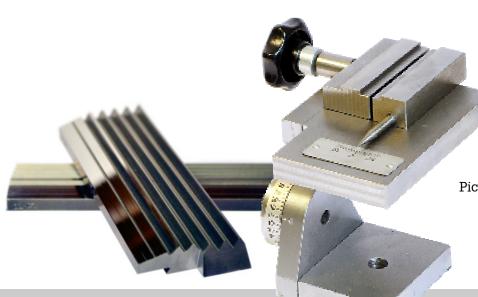
Die head with extended diameter

equipped with specially fitted die holders for pitch diameter 100 - 115 mm (GM 07- 100 SA).

Die holders for extreme pitch angles

Die holders for left-hand threads

Thread cutting oil



Pictured: Grinding fixture for dies, Standard thread dies

Standard thread dies

The tried and tested re-grindable HMV tangential thread-cutting dies are optimized for extremely easy starting action, easy thread cutting and clean-cut threads. The dies are made of high-speed steel, permitting high cutting speeds, high quality threads and long tool life. The dies can be used for thread-cutting at cutting speeds of up to 12m/min (appropriate coolant must be used).

Special thread dies

We will upon request manufacture dies for any threads, standard or per your specification, for diameter 16 - 100mm, $\frac{1}{4}$ " - 2".

Dies with two-step chamfering

Optimized for threading reinforcement bars.

Special anti-stick coating

Optional for all dies. Prolongs the life span and better performance. With the coating, the dies can be used for thread-cutting at cutting speeds of up to 20m/min (appropriate coolant must be used). Some materials have a tendency to stick to the cutting teeth. The coating minimizes this problem.

Grinding fixture for dies

For standard tool— and surface grinders but can also be applied on ordinary grinding machines. It is essential to use the grinding fixture in order to achieve a precise sharpening.

Sale through specialist dealers



JBL Mekan AB (SWE) Lillesjövägen 19 57083 Rosenfors Phone +46 495 20840 Fax +46 495 208 49

www.hmvmachines.com info@hmvmachines.com

All information is subject to change without prior notice.