T3.18 EVO

The evolution continues

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Tangential rolling system EVOline

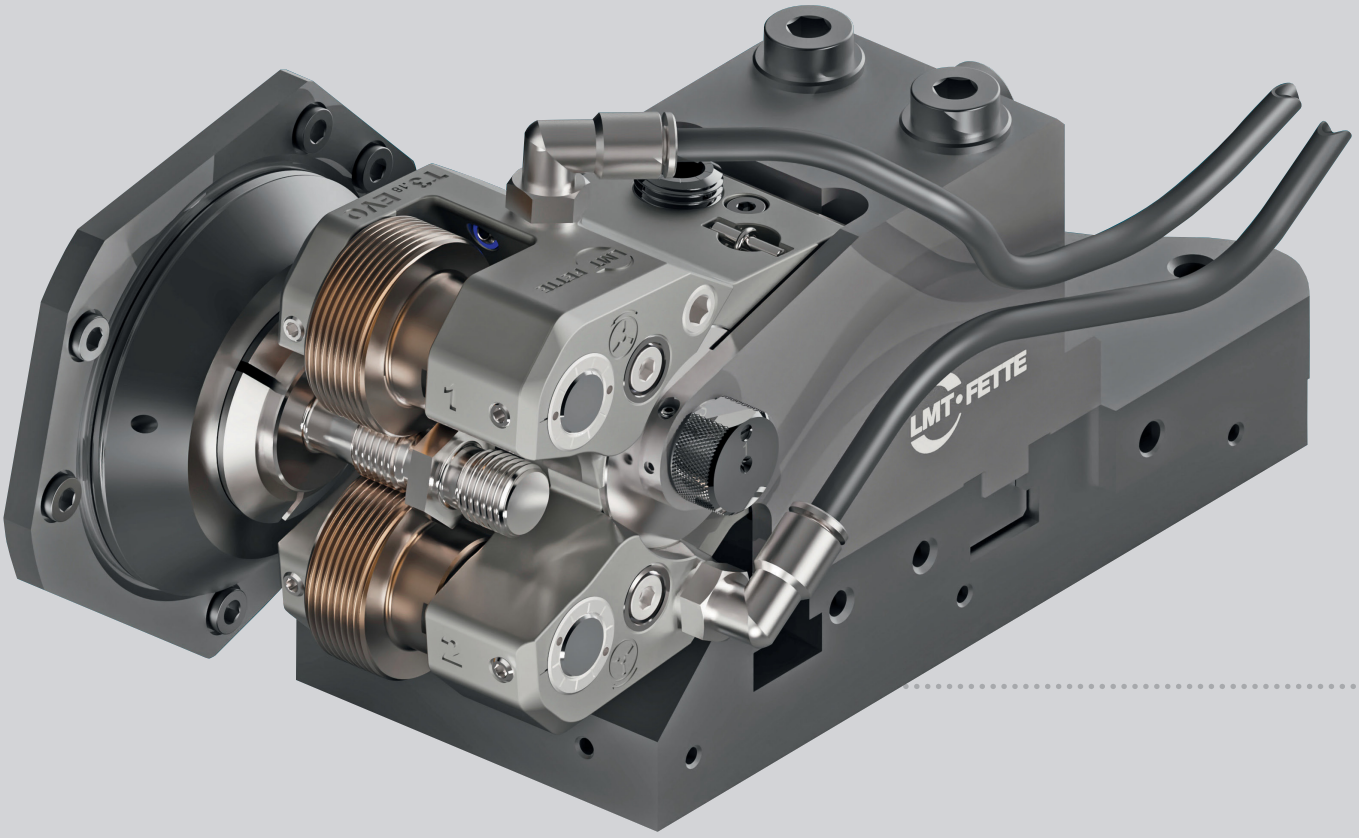
A tangential rolling head has two thread rolls that are moved laterally against the workpiece. During the progressive movement in tangential direction to the workpiece, the thread is formed. The forming process is basically complete when the axes of the workpiece and thread rolls are perpendicular to each other. This is usually the case after 10–35 engagement revolutions (workpiece revolutions).

Tangential rolling heads are used for applications behind a collar, for short threads and threads with short thread runouts.

Tangential rolling heads can be mounted on the cross slide or on the turret of manual and automatic lathes, as well as on multi-spindle automatic lathes. When used on multi-spindle machines, the new T3.18 EVO benefits from its low center height, so that efficient thread production with an LMT Fette rolling system is possible even in small installation spaces.

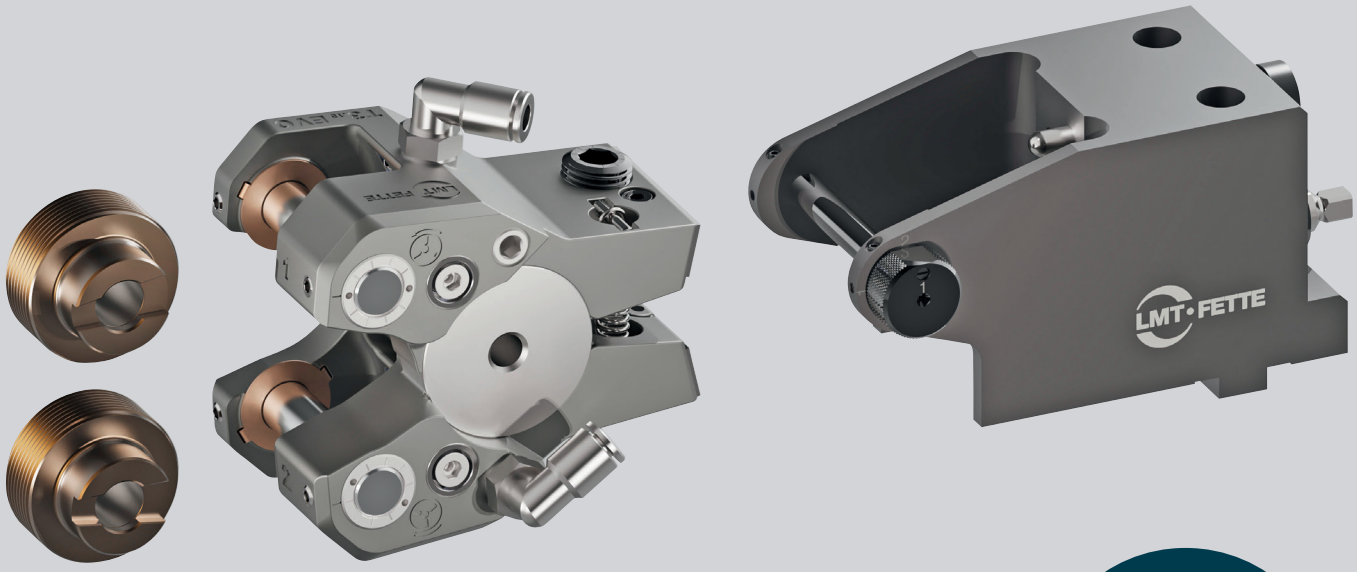
The higher tensile and bending fatigue strength of rolled threads is due to the undestroyed fiber course. The press-polished thread surfaces improve corrosion resistance and cause less friction in the thread. The work-hardened flank permits increased surface pressure. In the base of the thread, the compression deformation creates a residual compressive stress system which also contributes to the alternating strength.

Compared to cut threads, rolled threads have a significant increase in load capacity.



Short processing times, high thread strength and thread quality

Reduced center height for versatile use on multi-spindle automatic lathes



Increased breaking strength due to force-flow-optimized component structure

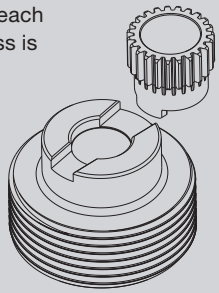
Optimized cooling and flushing system with variable connection options

Fast and error-free roll change

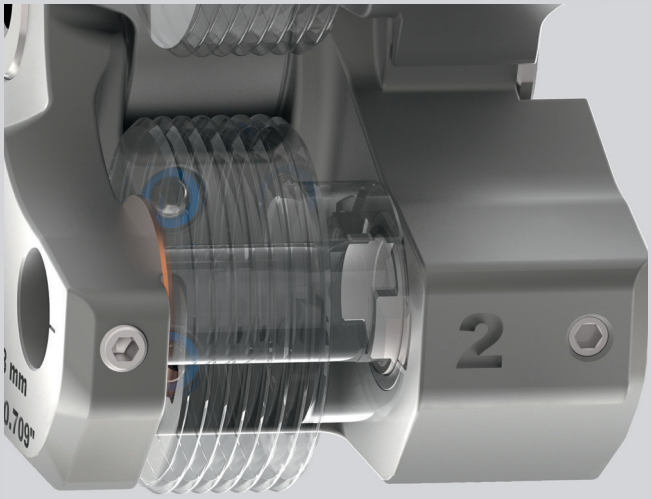
Process reliability and safe tool handling

The installation of the rolling head is quick and error-free due to defined installation positions, thanks to a labelling system with clear markings.

The integrated cooling and flushing nozzles can be manually adjustable and therefore reach the working zone, so that a safe process is guaranteed.



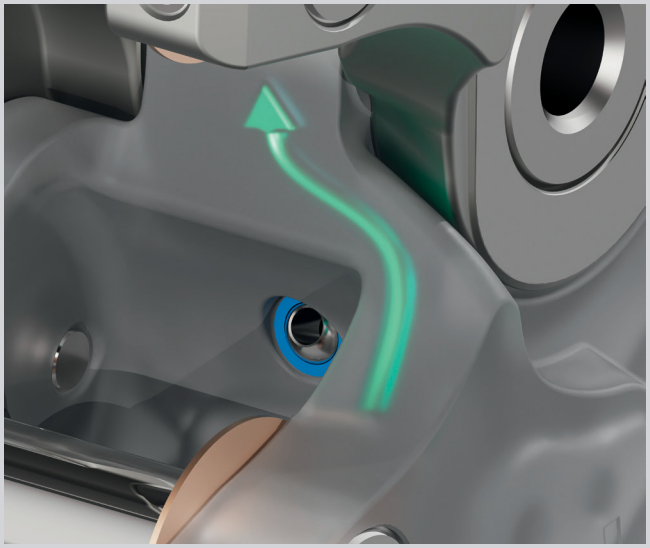
Two additional connection allow a reliable supply with the cooling medium even in tight installation situations.



Compact design and force flow-oriented component structures

The minimization of the center height allows installation even on multi-spindle automatic lathes with tight installation space. As a result, the optimum rolling head size can now always be used for the application.

The stability of the rolling head has been significantly increased by reducing stress peaks. This leads to greater process reliability, particularly for applications in higher-strength materials. This is made possible by force flow-oriented component structures. This bionic optimization can only be produced using 3D printing (additive manufacturing).



Capacity ranges for cylindrical threads

Rolling head	Preferred working range min.	Preferred working range max.	Major-Ø min.	Major-Ø max.	max. pitch min. TPI	Roll width
T1 EVO	M3 I 1/16	M14 I 9/16	1,6 I 0.063	14 I 0.551	1,5 I 16	15,5 I 0.610
T2 EVO	M6 I 1/4	M16 I 5/8	2 I 0.079	16 I 0.630	1,75 I 16	18,5 I 0.728
T3 EVO	M6 I 1/4	M18 I 3/4	3 I 0.118	18 I 0.709	2 I 12	22 I 0.866
T3.18 EVO	M6 I 1/4	M18 I 3/4	3 I 0.118	18 I 0.709	2 I 12	22 I 0.866
T4 EVO	M14 I 9/16	M24 I 1	3 I 0.118	24 I 0.945	2,5 I 10	26 I 1.024
T5 EVO	M24 I 7/8	M34 I 1 5/16	3 I 0.118	34 I 1.339	2,5 I 10	31 I 1.220

Capacity ranges for taper threads

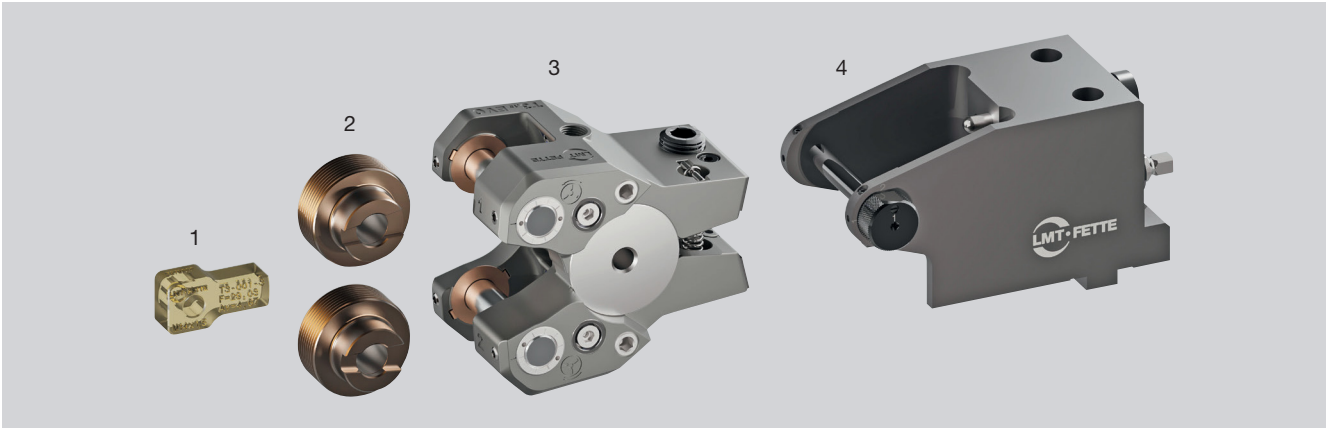
Rolling head	Standard DIN 158 min.	Standard DIN 158 max.	Standard DIN 2999 min.	Standard DIN 2999 max.	Standard DIN 3858 min.	Standard DIN 3858 max.	Standard ANSI B 1.20.1 min.	Standard ANSI B 1.20.1 max.
T1 EVO	M 6 x 1 keg.	M 14 x 1,5 keg.	R 1/16 – 28	R 1/4 – 19	R 1/8 – 28	R 1/4 – 19	1/16-27 NPT (NPTF)	1/4–18 NPT (NPTF)
T2 EVO		M 16 x 1,5 keg.		R 3/8 – 19		R 3/8 – 19		3/8–18 NPT (NPTF)
T3 EVO		M 18 x 1,5 keg.		R 3/8 – 19		R 3/8 – 19		3/8–18 NPT (NPTF)
T3.18 EVO		M 18 x 1,5 keg.		R 3/8 – 19		R 3/8 – 19		3/8–18 NPT (NPTF)
T4 EVO		M 24 x 1,5 keg.		R 1/2 – 14		R 1/2 – 14		1/2–14 NPT (NPTF)
T5 EVO		M 34 x 1,5 keg.		R 1 – 11		R 1 – 11		1 – 11 1/2 NPT (NPTF)

Tolerance for shoulder-Ø and cam rise: With metric (DIN 158) and Whitworth (DIN 2999; DIN 3858) profiles the shoulder-Ø and cam rise with cylindrical threads are dimensionally identical. NPT- and NPTF threads (ANSI B 1.20.1) see internet

The rolling system

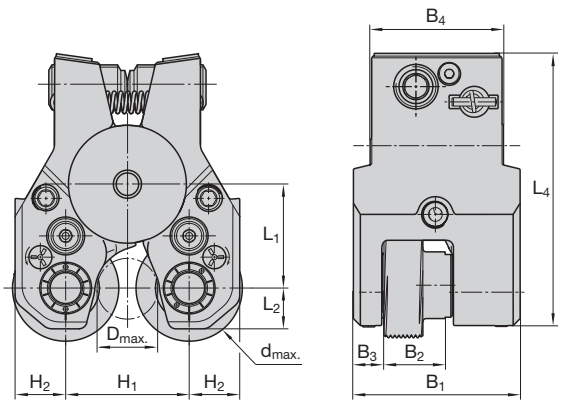
A tangential rolling system consists of 4 components:
- Setting gauge (1)
- Rolls (1 set = 2 pieces) (2)
- Rolling head (3)
- Rolling head holder[1] (4)

With the QR code you will find our inquiry sheet which is necessary as a basis for processing your inquiry.



[1] The rolling head holder is individually designed for each processing machine.
For information about suitable rolling head holders for your processing machine, please contact our technical service.

Type	Ident No.
T3.18 EVO	7417009



Rolling head holder, rolls and setting gauge please inquire separately

Dimensions in mm | inch

B_1	B_2 max	B_3	B_4	d max	H_1 min	H_1 max	H_2	L_1 min	L_1 max	L_2	L_4
60	22	11	48	45	40,5	59	18	31,3	38	14,5	98
2.362	0.866	0.433	1.890	1.772	1.594	2.323	0.709	1.233	1.496	0.572	3.858

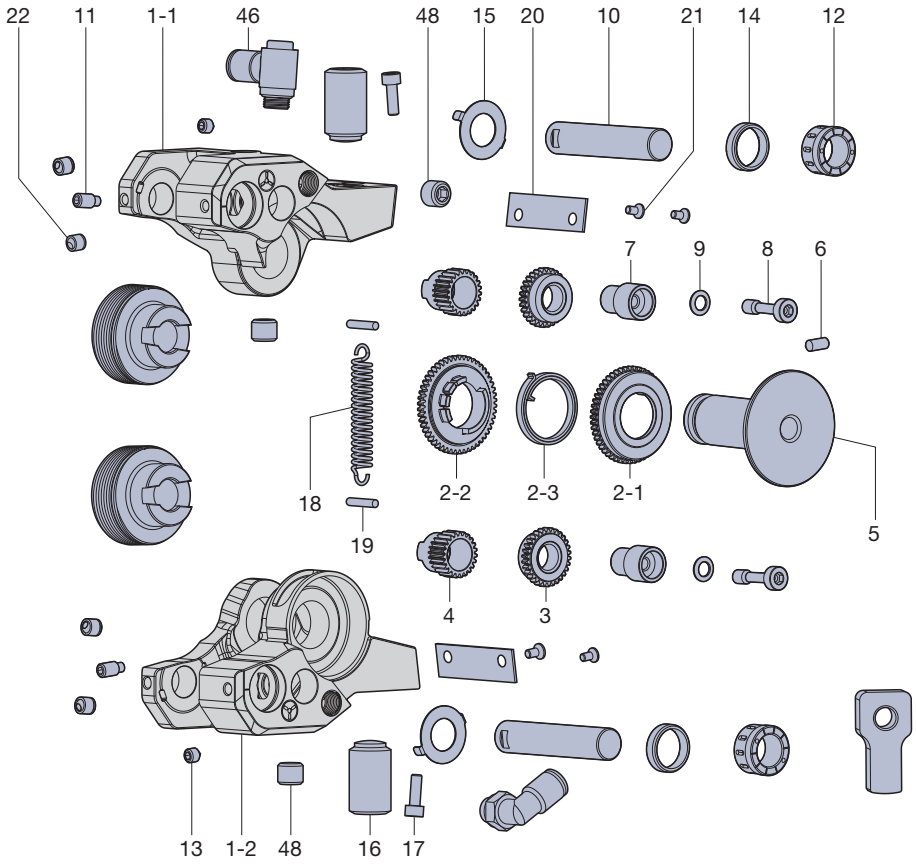
m-Rk[1)]	m-Rh[2)]	m-Ro[3)]	m-Total[4)]
ca. 2,2 kg	ca. 1,0–2,0 kg	ca. 0,6 kg	ca. 4,0–5,0 kg
4.9 lb	2.0–4.5 lb	1.3 lb	9.0–11.0 lb

For left and right hand threads the same rolling head will be used.
However the thread rolls are different.

D_{max} = Max. shoulder diameter – depends on rolls
A_v = Operating feed, please see https://www.lmt-tools.com/fileadmin/user_upload/Operating_InstructionTangential_rolling_system_T3.18_EVO_en.pdf

[1)] Rolling head weight
[2)] Rolling head holder weight
[3)] Roll weight
[4)] Weight for rolling head with rolling head holder and roll

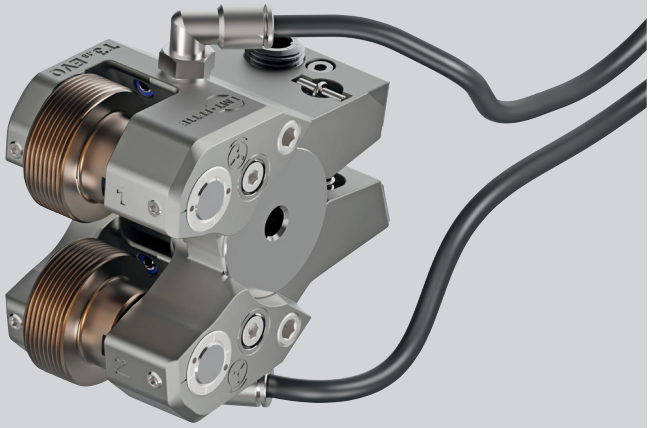
Part No.	Qty.	Part description	T3.18 EVO Ident No.	Part No.	Qty.	Part description	T3.18 EVO Ident No.
1-1 1-2	1	Pair of rolling head arms	7417008	14	2	Wear ring	7294314
2	1	Compensation gear	7390990	15	2	Wear plate	7294315
3	2	Spur gear	7294303	16	2	Adjustment screw	2173449
4	2	Pinion	7294304	17	2	Clamping screw	7408343
5	2	Axis rolling head arms	2173434	18	1	Tension spring	2173439
6	1	Clamping screw	7350146	19	2	Straight pin	2141245
7	2	Bearing pin	7294307	20	2	Plate	2173444
8	2	Bearing pin screw	7294308	21	4	Countersunk screw	2143237
9	2	Lock washer	2149271	22	4	Nozzle	7045437
10	2	Roll axis	7294310	46	2	L-Fitting G1/8	7167804
11	2	Clamping screw	2142159	47	2	PA Hose D6/4 0,7 m	7167807
12	2	Adjustment bushing	7294312	48	2	Closing screw	7417003
13	2	Clamping screw	2142119				

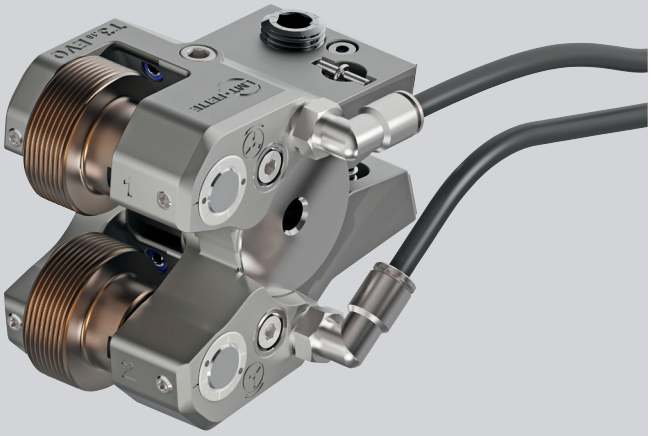


- Center height like tangential rolling head T18F
- Can be mounted in existing T18F rolling head holders
- Minimal adjustments to the application parameters necessary when changing tools

  ▸ see operating instructions

- Rolls from T3 EVO rolling head usable
- Setting gauges from T3 EVO can be used

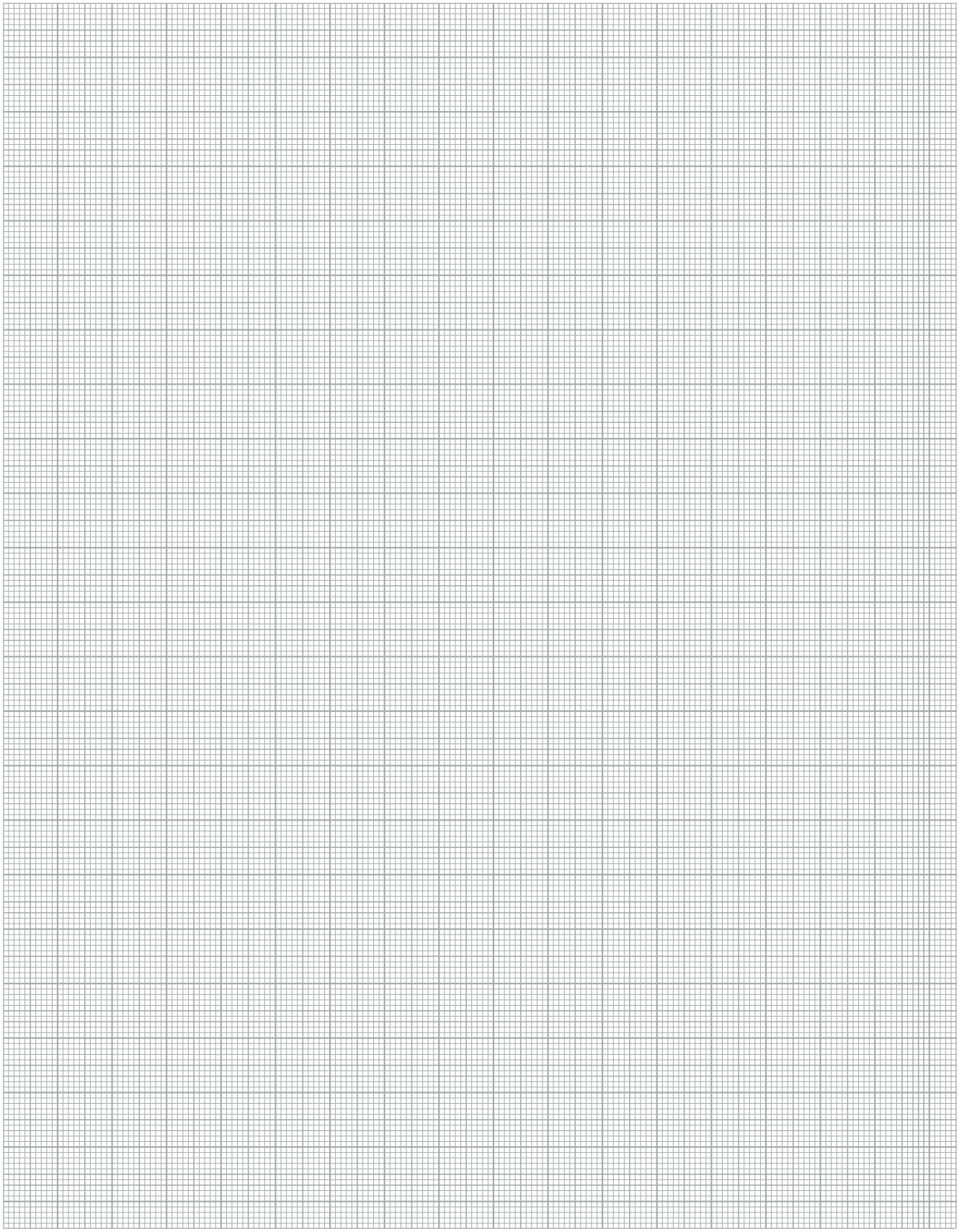




Further product catalogs and brochures about our complete tool program can be found under:

▶ **www.lmt-tools.com/en/downloads**

Examples



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