

Gear Hobbing Unit

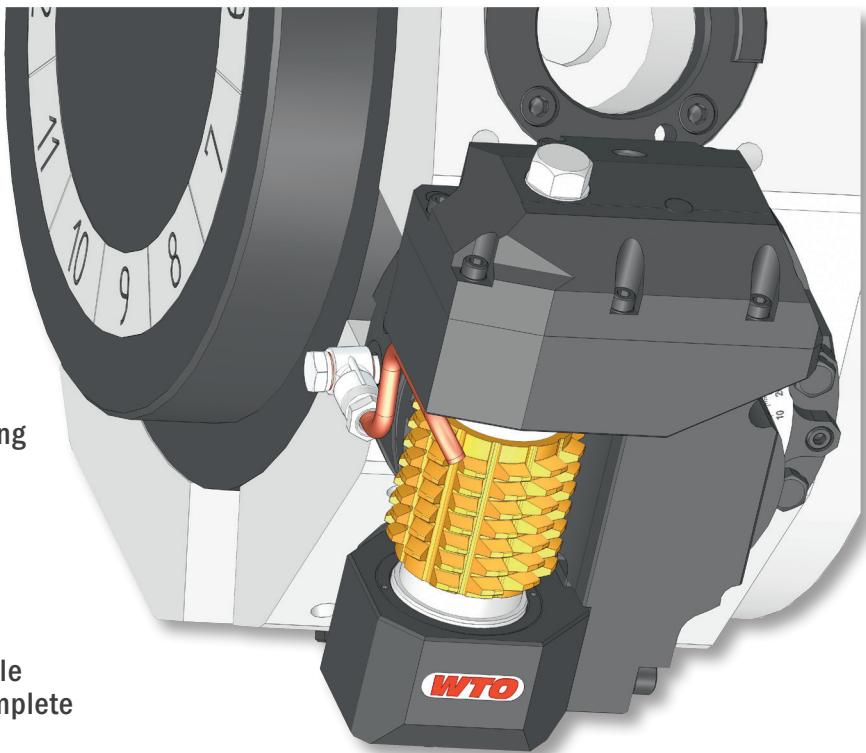
High Productive Manufacturing of Gears
with CNC Turning Centers.

Maximum flexibility, high surface quality, easy handling.

In operation:



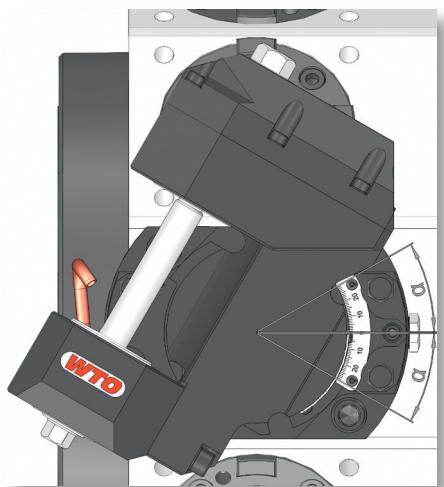
Gear Hobbing Unit for Turn/Mill Centers



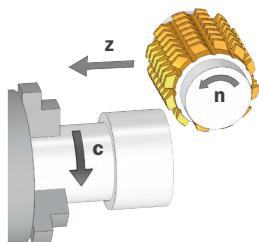
- | Usable for machining gear quality according to standard 8 ISO 1328, AGMA 8
- | Maximum scale swing of $\pm 30^\circ$
- | High stiffness and runout accuracy
- | Interchangeable milling arbor available in different sizes
- | Easy cutting tool change through removable counter support and withdrawal of the complete milling arbor
- | Cutting tools can be pre-set
- | Sine bar for high accurate angular adjustment



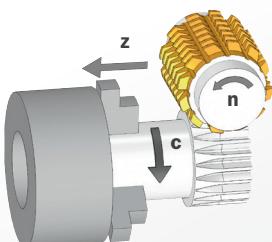
Maximum angular adjustment
 $\pm 30^\circ$ with scale and vernier



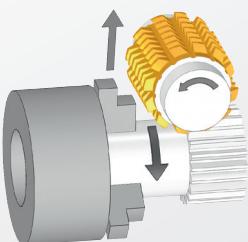
Operation principle: Gear hobbing



Synchronization of work piece and tool rotation.



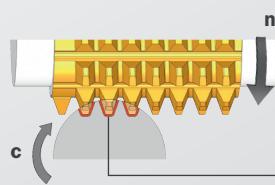
Feed movement in Z axis.



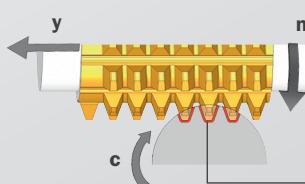
When hobbing is finished the hob has to move towards X.

Please consider:
At the end of the gear/spline there has to be sufficient clearance for the hob.

Shifting



Initial hob position after tool change with new cutting tool.



Hob position at end of cutting tool life.

To optimize the cutting tool life you can move the hob step by step in Y axis direction. This movement enables the usage of all cutting edges of the hob. This procedure is called shifting.

Sample workpieces



| **Splines**
e.g. DIN 5480, DIN 5482, TORX

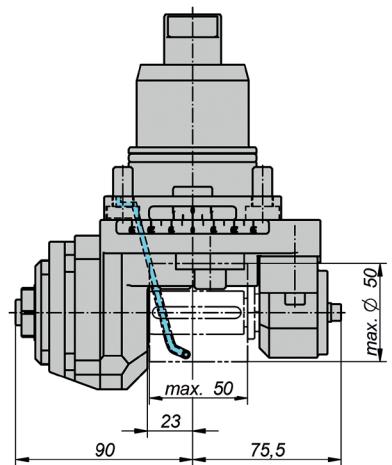
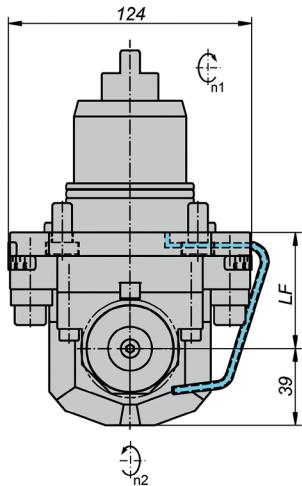
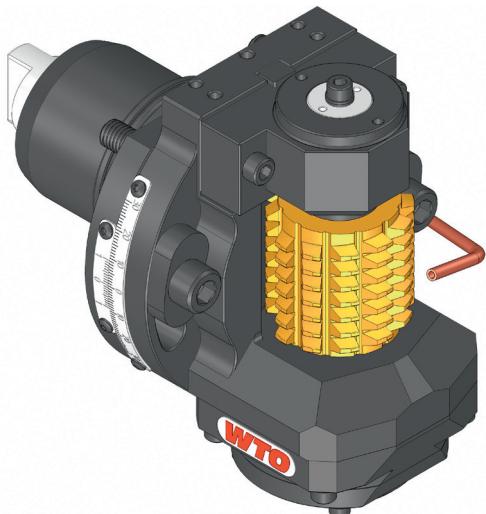


| **Spur gear**



| **Helical gear**

Gear Hobbing Unit type 1 (up to module 2)

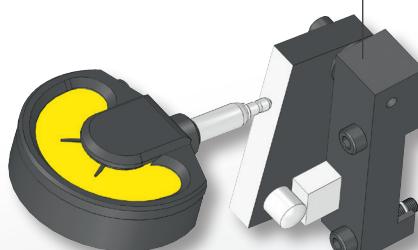


Max. cutting tool size	Ø50x50 mm
Ratio i (n1:n2)	1:1
Max. RPM (n2)	4,000
Max. torque M	32 Nm
Max. scale swing	±30°

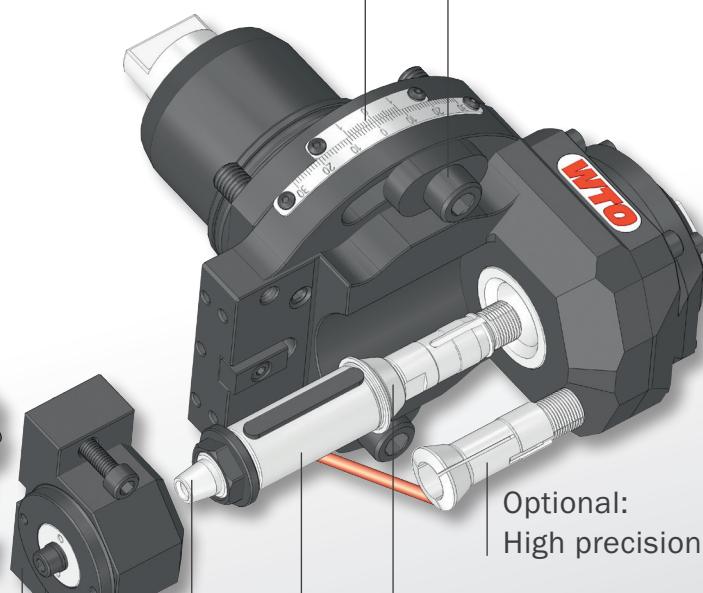
Maximum angular adjustment
±30° with scale and vernier

Clamping of
angular position

Sine bar for high accurate
angular adjustment



Removable
counter support



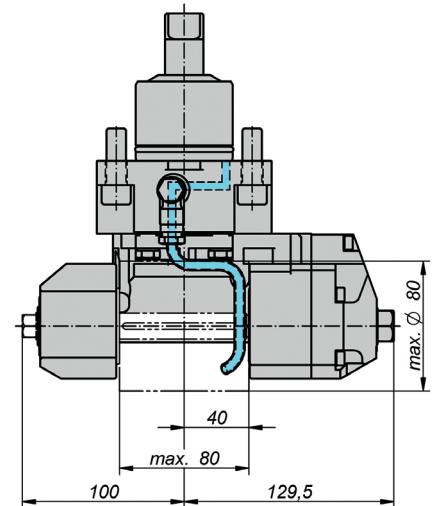
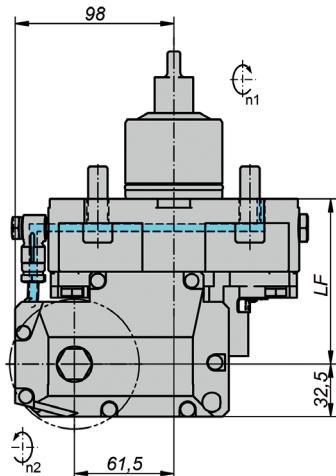
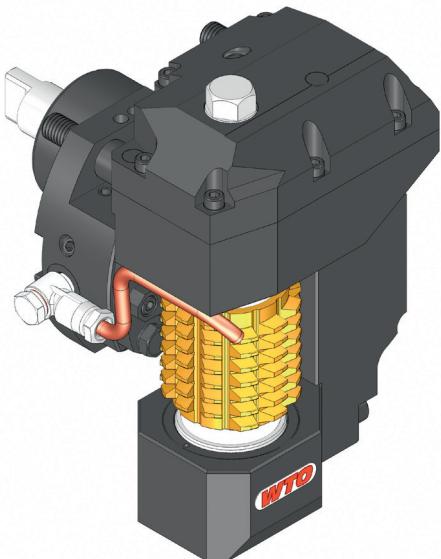
Optional:
High precision collet

Taper connection for high
accuracy runout

Interchangeable milling arbor

Taper support for high
accuracy runout

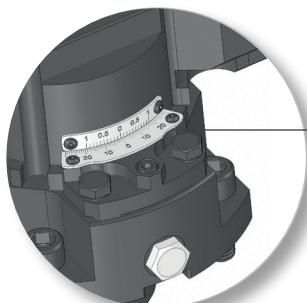
Gear Hobbing Unit type 2 (up to module 3)



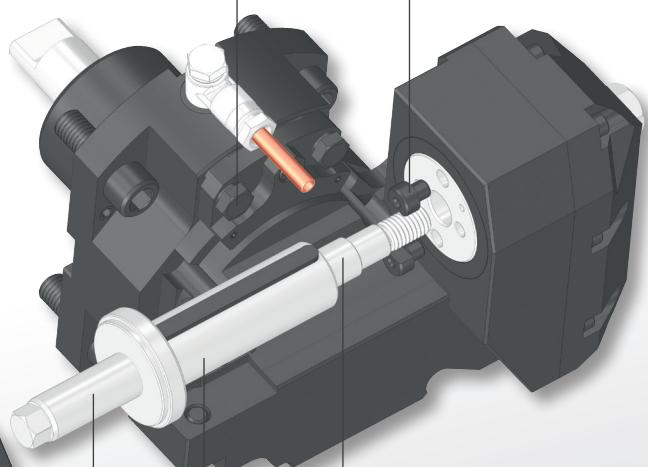
Max. cutting tool size	Ø80x80 mm	Ø80x80 mm
Ratio i (n1:n2)	1:1	2:1
Max. RPM (n2)	6,000	3,000
Max. torque M	60 Nm	80 Nm
Max. scale swing	±30°	±30°

Clamping of angular position

Removable face
drive dogs



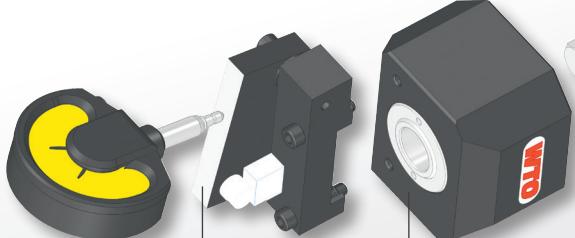
Maximum angular
adjustment ±30°
with scale and vernier



Precision interface for
high accuracy runout

Interchangeable milling arbor

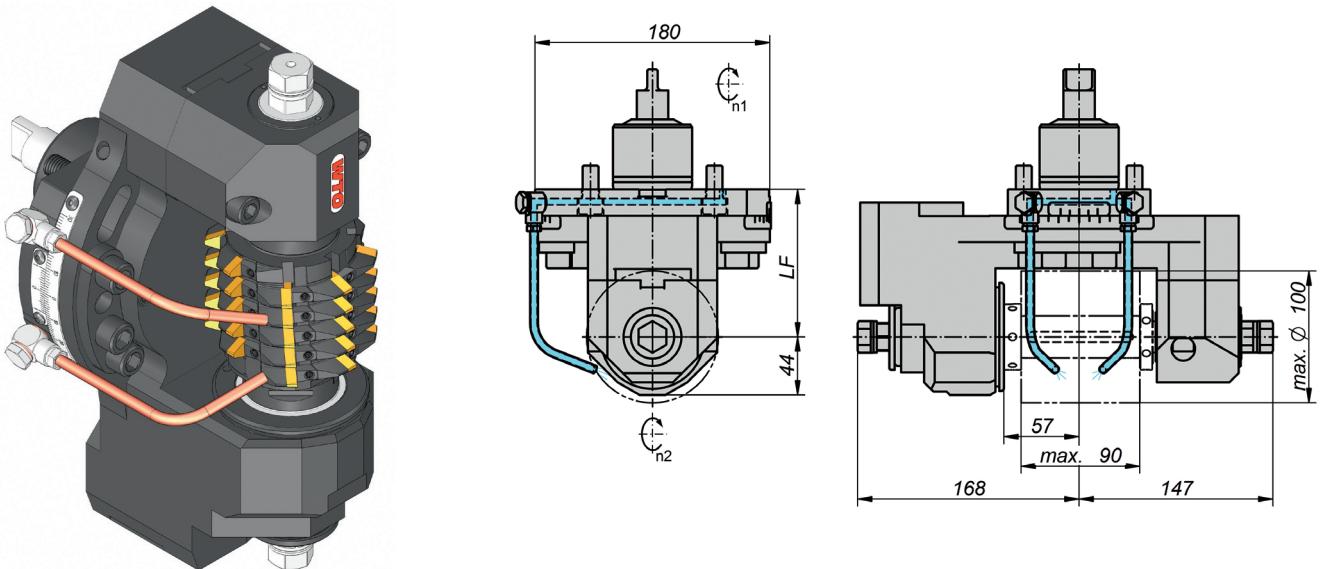
Precision interface for high
accuracy runout



Sine bar for high accurate
angular adjustment

Removable
counter
support

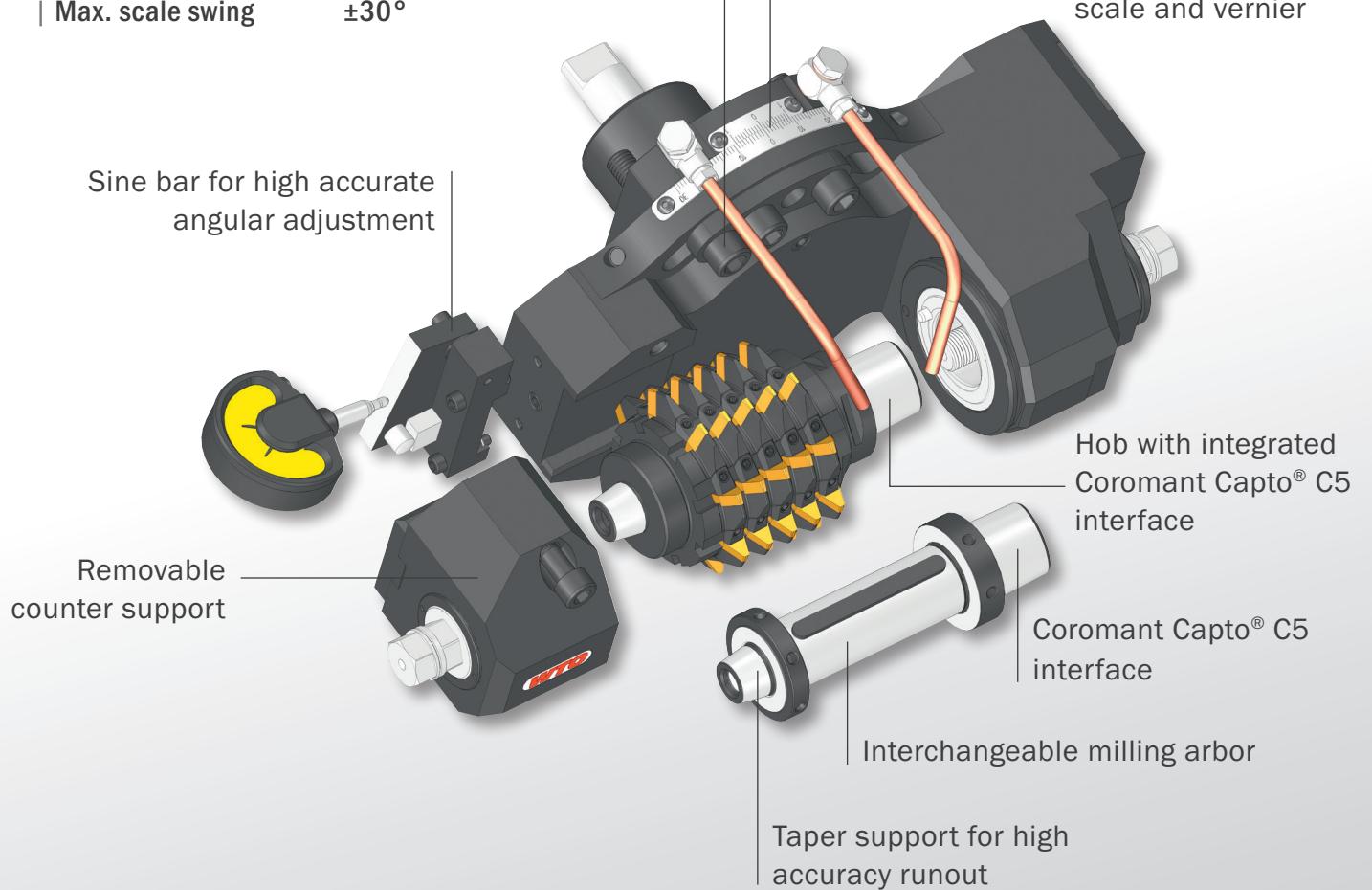
Gear Hobbing Unit type 3 (up to module 6)



Max. cutting tool size	$\varnothing 100 \times 90$ mm
Ratio i (n1:n2)	2:1
Max. RPM (n2)	3,000
Max. torque M	150 Nm
Max. scale swing	$\pm 30^\circ$

Clamping of angular position

Maximum angular adjustment $\pm 30^\circ$ with scale and vernier



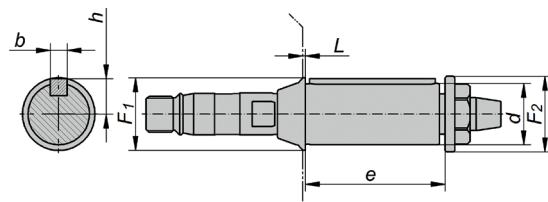
Milling arbor type 1



Collet for type 1 (324E-UP)



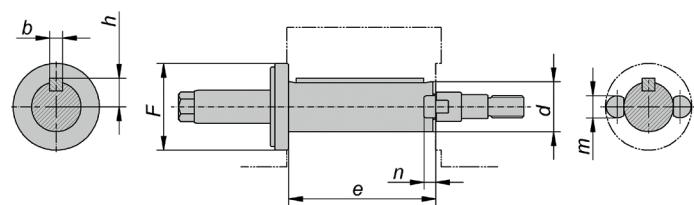
Item No.	\emptyset
199015130	13
199015050-in	$\frac{1}{2}$ "



Item No.	d	e	b	h	L	F ₁	F ₂		
160008152	8	35	2	4.7	14	14.0	15.0	104271	98852
160010152	10	40	3	6.20	7	16.0	21.5	20588	86055
160013152	13	50	3	7.70	1	26.0	20.0	87770	86054
160016152	16	50	4	9.20	1	26.0	27.0	20642	97265
160022152	22	50	6	12.60	1	26.0	27.0	20804	97265
160015152	$\frac{5}{8}$ "	50	$\frac{1}{8}$ "	9.52	1	26.0	27.0	44683	97265
160019152	$\frac{3}{4}$ "	50	$\frac{1}{8}$ "	11.11	1	26.0	27.0	44683	97265

Dimensions in mm

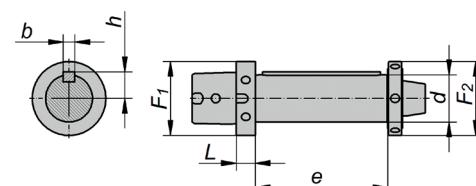
Milling arbor type 2



Item No.	d	e	b	h	m	n	F		
160016161	16	80	4	9.2	8	4.5	47	104358	45988
160022161	22	80	6	12.6	10	5.6	47	80120	45151
160027161	27	80	7	15.5	12	6.3	47	77856	77558
160015161	$\frac{5}{8}$ "	80	$\frac{1}{8}$ "	9.51	7.94	4.5	47	77705	77704
160019161	$\frac{3}{4}$ "	80	$\frac{1}{8}$ "	11.11	7.94	4.5	47	77706	77704
160023161	$\frac{7}{8}$ "	80	$\frac{1}{8}$ "	12.69	7.94	4.5	47	77705	91840
160025161	1"	80	$\frac{1}{4}$ "	15.07	9.53	5.0	47	77870	85352
160031161	$1\frac{1}{4}$ "	80	$\frac{1}{4}$ "	18.26	-	-	47	77870	-

Dimensions in mm

Milling arbor type 3

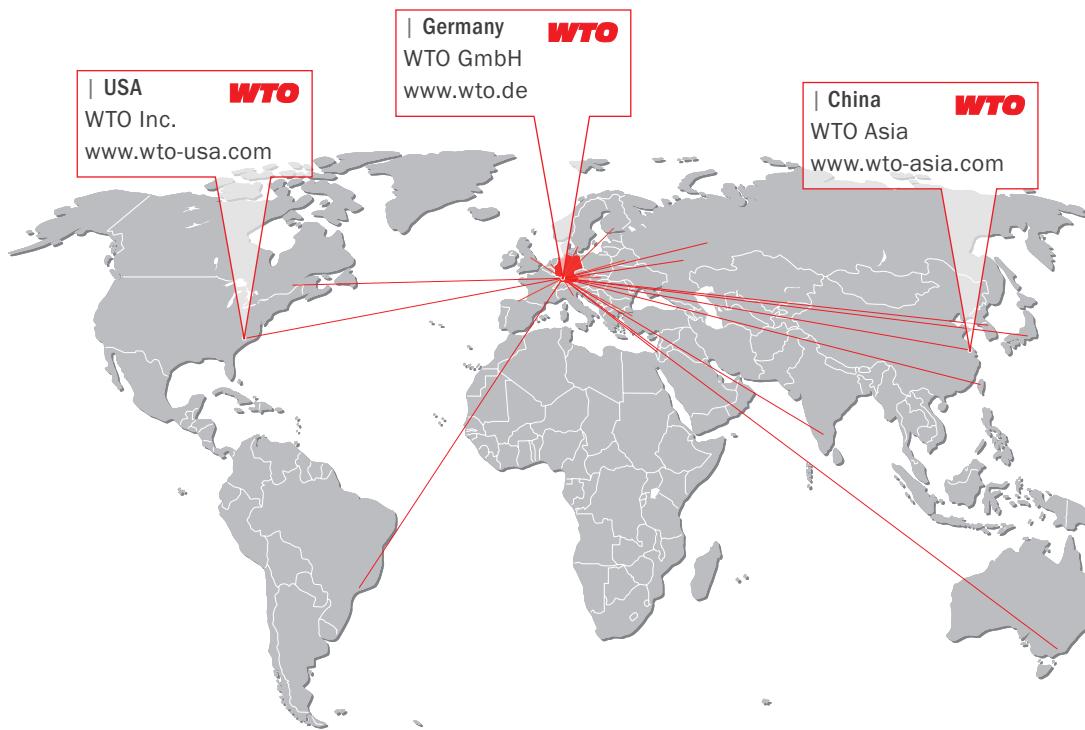


Item No.	d	e	b	h	L	F ₁	F ₂		
160027C51	27	90	7	15.50	13	50	50	100091	99760
160032C51	32	90	8	18.00	13	50	50	20870	99760
160025C51	1"	90	$\frac{1}{4}$ "	15.07	13	50	50	99761	99760
160031C51	$1\frac{1}{4}$ "	90	$\frac{5}{16}$ "	19.05	13	50	50	100090	99760

Dimensions in mm

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