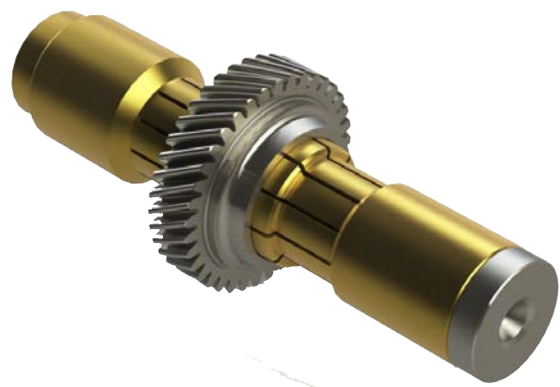




tobler



**HIGH PRECISION EXPANDING MANDRELS
FOR FINISHING OPERATIONS**

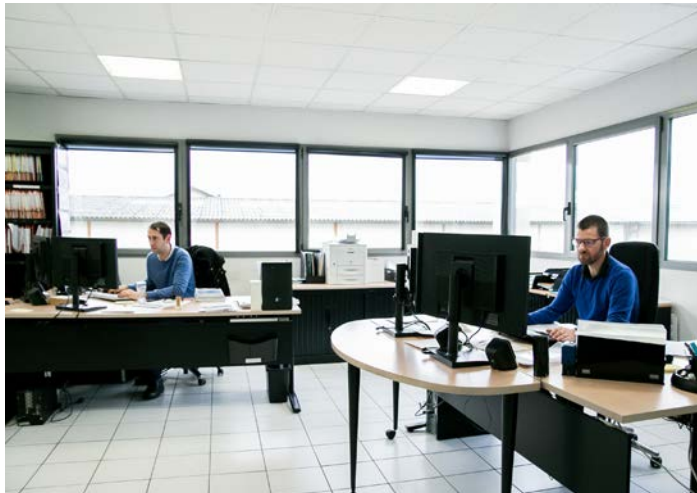
TOBLER, a french manufacturer founded in 1945 with its production plant near Paris Airport, has just joined SMW-Autoblok Group, the worldwide leader in industrial workholding solutions.



SMW-Autoblok France Headquarter, Lyon France
Development, Sales, Service, Support



TOBLER manufacturing plant, Paris France



Sales and Export department

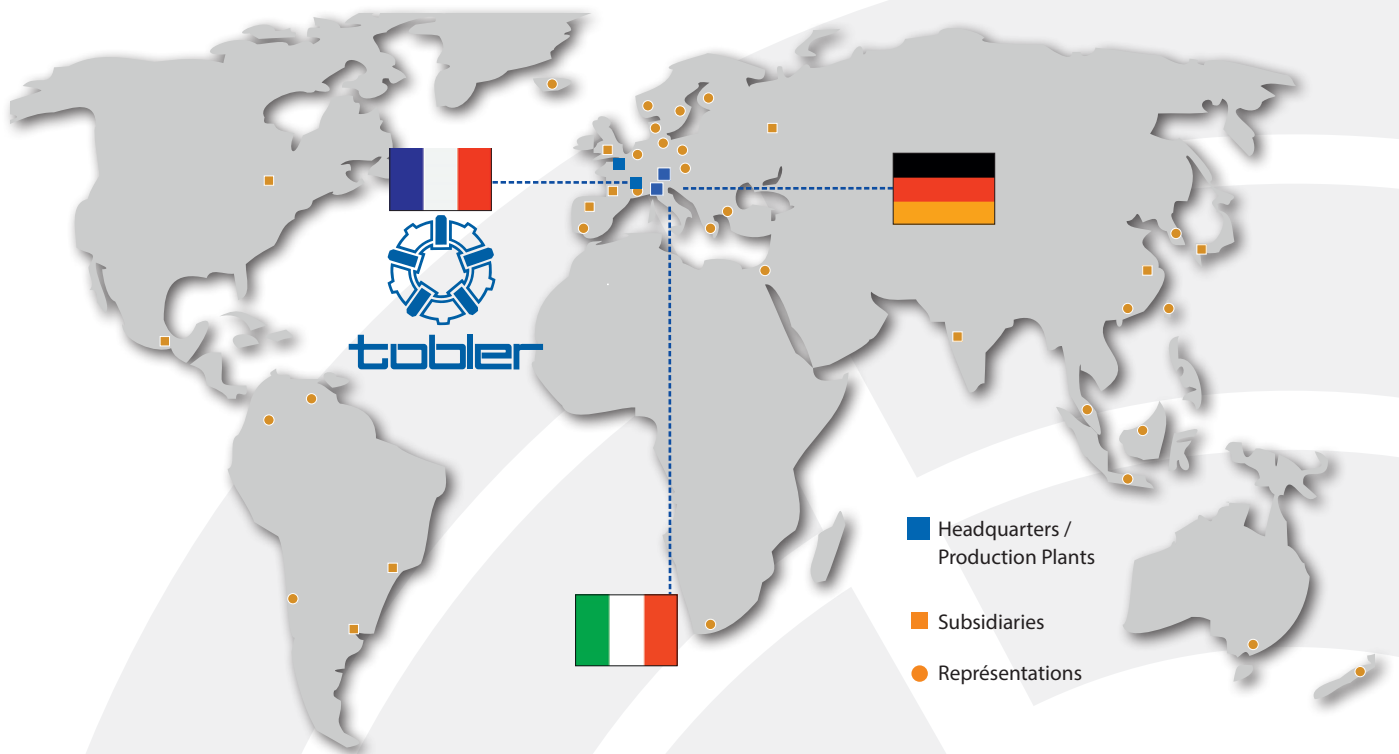


Technical office for development and applications



Tobler Manufacturing plant

Feel free to join us on our website: www.tobler-workholding.com



SMW-AUTOBLOK TOBLER

PRIORITY TO SERVICE

Please feel free to contact our Team if you have any questions regarding our clamping technology. We would also be pleased to provide our various services to accompany you in all your projects.



Support

Ability to drive projects.



Installation

Provide technician on site.



Maintenance

Change parts on request.



Repair

In customer's permisses or on site TOBLER.



Information

Hotline.



Intervention

Need for expertise on customer site.

Standard Expanding Mandrels TOBLER ■ Special Applications



TEP, TEPN, TMEP

Expanding Mandrels for mounting between centers

- turning, grinding, balancing, inspection operations
- mounting between centers
- manual actuation
- large clamping range dia. 8 to 235 mm
- expansibility until 5 mm

Page 6



TMCMN, TMCM, TMCMT

Expanding Mandrels with spindle Morse taper mounting type

- turning, milling, grinding, hobbing
- spindle Morse taper mounting
- automatic or manual actuation
- clamping range dia. 5,5 to 82,7 mm
- expansibility until 2 mm

Page 14

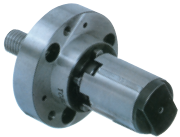


TMTPN

Expanding Mandrels for flange mounting with pull-down sleeves

- turning, milling, grinding
- flange mounting
- automatic or manual actuation
- clamping range dia. 5,5 to 15 mm
- expansibility 0.5 mm

Page 20



TMASIT

Expanding Mandrels for flange mounting with pull-down segment sleeves

- turning, milling, grinding
- flange mounting
- automatic or manual actuation
- clamping range dia. 18 to 131 mm
- expansibility until 1 mm

Page 22



TBAS

Self clamping Mandrels

- run-out inspection, centering
- mounting between centers or flange
- manual actuation
- inside clamping smooth or spline
- high accuracy concentricity $\leq 3\mu\text{m}$

Page 26



TMAM

Hydraulic membrane chucks or mandrels

- hard turning, grinding, shaving, centering.
- spindle nose attachment or in between centers
- automatic or manual actuation
- internal or external clamping smooth with one or further membranes
- high accuracy with concentricity $\leq 5\mu\text{m}$
- Proofline: total sealing mandrels

Page 28



TMS, TWS

Quick Workholding Change System

- turning, grinding applications
- spindle nose attachment
- automatic or manual actuation
- high accuracy with concentricity $\leq 5\mu\text{m}$

Page 30



SPECIAL APPLICATIONS

Expanding Mandrels and special chucks for finishing operation

- sliding jaws mandrels
- double taper sleeve
- segments mandrels

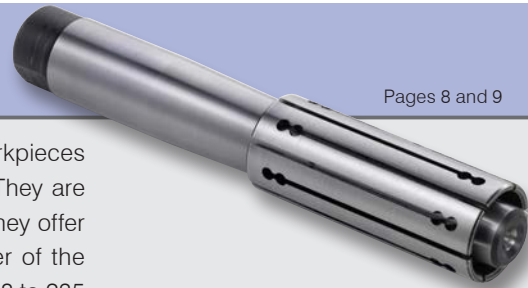
Page 32





TEP

Pages 8 and 9

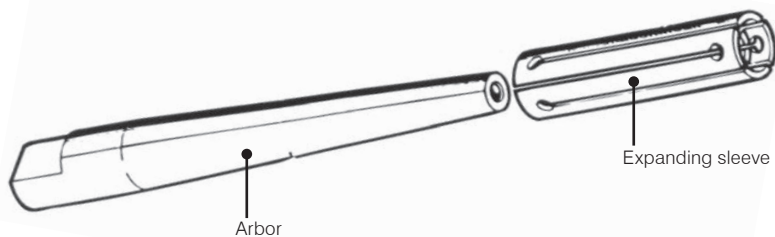


TEP mandrels, the most basic in the range of mandrels for mounting workpieces between centers, consist of a tapered arbor and an expanding sleeve. They are used mainly for turning, grinding, balancing and inspection operations. They offer a high degree of expansibility, 1.5 to 5 mm, depending on the diameter of the expanding sleeve, and can clamp workpieces with diameters ranging from 8 to 235 mm.

Clamping takes place as follows:

Place the workpiece in the center of the expanding sleeve, and slide the expanding sleeve until the workpiece is lightly clamped, then tap the rear end of the tapered arbor with a piece of wood to obtain tighter clamping.

To separate the workpiece from the expanding sleeve, hold the workpiece and expanding sleeve in one hand and tap the smaller end of the arbor.



When placing an order for arbors and expanding sleeves, please provide the order codes individually. They will be shipped without being assembled.

TEPN

Pages 10 and 11



TEPN mandrels are intended for turning, grinding, shaving and inspection operations.

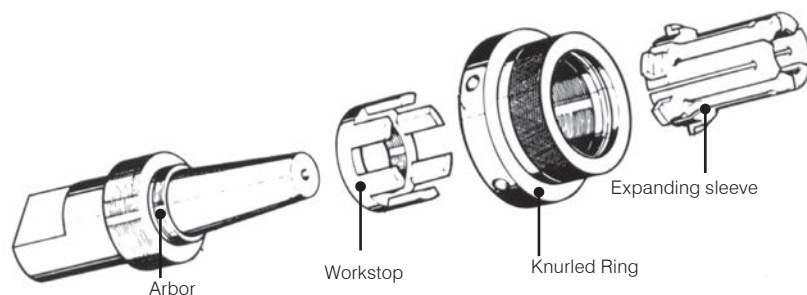
This type offers an expansibility of 0.5 to 1 mm depending on the diameter of the expanding sleeve, and can clamp workpieces with diameters ranging from an extremely small 5.5 mm to 79.7 mm. The knurled ring of the slotted expanding sleeve is fitted with a workstop used for positioning in the axial direction.

Clamping takes place as follows:

Tighten the expanding sleeve with the knurled ring to clamp the workpiece.

Expansion occurs as the expanding sleeve slides over the tapered arbor. The workpiece is firmly clamped as a result of this expansion of the expanding sleeve.

Due to the movement of the expanding sleeve over the tapered arbor, the workpiece is pressed against the workstop.



When placing an order for arbors and expanding sleeves, please provide the order codes individually. They will be shipped without being assembled.

TMEP

Pages 12 and 13

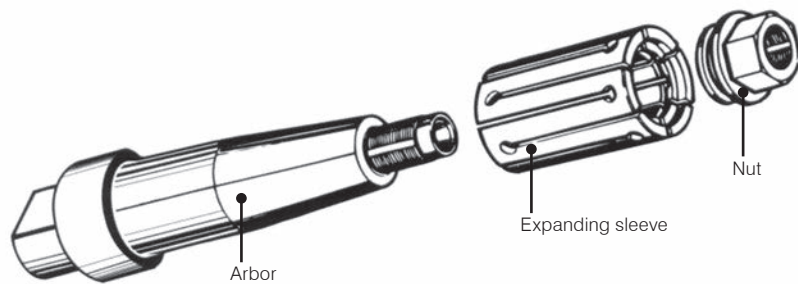
TMEP mandrels are intended for turning, milling, grinding, shaving, gear cutting and inspection operations.

You can use a variety of types of workstop that are matched to the shape of the workpiece. They offer an expansibility of 1 to 2 mm depending on the diameter of the expanding sleeve, and can clamp workpieces with diameters ranging from 14.7 to 101.7 mm.



Clamping takes place as follows:

On tightening the nut that is coupled with the expanding sleeve, the expanding sleeve moves over the tapered arbor, clamping the workpiece.

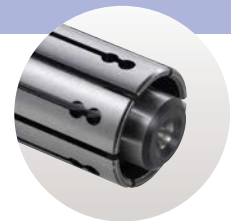


When placing an order for arbors and expanding sleeves, please provide the order codes individually. They will be shipped without being assembled.

Standard line-up

- EP: Expanding sleeve type TEP mandrels
Feature substantial expansibility and are used for inspections and grinding.
- M: Expanding sleeve type M mandrels (TMEP, TMCM, TMCMT)
Feature high clamping torque and are used for general machining.
- N: Expanding sleeve type N mandrels (TEPN, TMCMN, TMLPN)
This is a series that can hold workpieces with the smallest diameter upward.
- MIT: Expanding sleeve type TMASIT mandrels
Suitable for medium to large lot production.

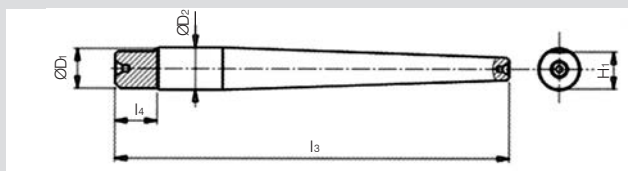
Internal clamping
Total permissible error for internal clamping:
0.01 mm (T.I.R.)



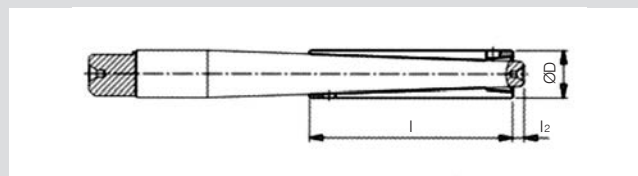
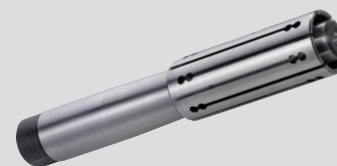
Options:
- Vulcanization
- Nickel Coating

On request: special length and diameter

■ ARBOR



■ EXPANDING SLEEVE



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece diameter range	D ₁	D ₂	H ₁	l ₃	l ₄	kg
TEP-1	8,0 - 10,5		8	6,5	75	9	0,02
TEP-2	10,0 - 12,5		10	8,5	110	9	0,051
TEP-3	12,0 - 15,0		12	10,0	125	9	0,085
TEP-4	14,0 - 17,0		14	12,0	140	16	0,13
TEP-5	16,0 - 20,0		16	14,0	150	16	0,18
TEP-6	19,0 - 23,0		19	17,0	170	16	0,275
TEP-7	22,0 - 26,0		21	18,5	175	20	0,35
TEP-8	25,0 - 37,0		25	22,5	225	20	0,65
TEP-9	35,0 - 47,0		33	30,5	225	20	1,3
TEP-10	45,0 - 59,0	44	45	42,0	300	29,9	2,97
TEP-11	55,0 - 70,0	52	53	50,0	300	29,9	4,685
TEP-12	68,0 - 85,0	63	64	61,0	350	29,9	7,45
TEP-13	80,0 - 105,0	66	76	62,0	350	36	10,5
TEP-14	105,0 - 140,0	75	99	72,0	400	40	20,2

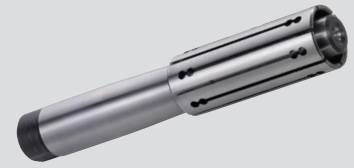
When placing an order, please specify the order code and quantity..

Dimensions (mm)

Order Code	D	l	l ₂	Expansibility
TEP80-1 TEP90-1	8 9	40	3	1,5
TEP100-2 TEP110-2	10 11	45	3	1,5
TEP120-3 TEP130-3	12 13	60	4	2,0
TEP140-4 TEP150-4	14 15	70	4	2,0
TEP160-5 TEP170-5 TEP180-5	16 17 18	70	4	2,0
TEP190-6 TEP200-6 TEP210-6	19 20 21	80	4	2,0
TEP220-7 TEP230-7 TEP240-7	22 23 24	80	4	2,0
TEP250-8 TEP260-8 TEP280-8 TEP300-8 TEP320-8 TEP340-8	25 26 28 30 32 34	100	4	3,0
TEP350-9 TEP360-9 TEP380-9 TEP400-9 TEP420-9 TEP440-9	35 36 38 40 42 44	100	5	3,0
TEP450-10 TEP480-10 TEP500-10 TEP520-10 TEP540-10	45 48 50 52 54	125	5	5,0
TEP550-11 TEP580-11 TEP600-11 TEP620-11 TEP650-11	55 58 60 62 65	135	5	5,0
TEP680-12 TEP700-12 TEP720-12 TEP750-12 TEP780-12 TEP800-12	68 70 72 75 78 80	150	5	5,0
TEP800-13 TEP850-13 TEP900-13 TEP950-13 TEP1000-13	80 85 90 95 100	150	5	5,0
TEP1050-14 TEP1100-14 TEP1150-14 TEP1200-14 TEP1250-14 TEP1300-14 TEP1350-14	105 110 115 120 125 130 135	170	5	5,0

When placing an order, please specify the order code and quantity.

Dimensions (mm)



Order Code	Workpiece diameter range	D ₁	D ₂	H ₁	l ₃	l ₄	kg
TEP-15	135,0 - 185,0	80	124	76	442	42	19,6
TEP-16	185,0 - 235,0	80	145,5	76	442	42	28,5

When placing an order, please specify the order code and quantity. Dimensions (mm)
 Ask for quotations for price and delivery of TEP-15 and TEP-16.

Order Code	D	l	l ₂	Expansibility
TEP1350-15	135	180	50	5
TEP1400-15	140			
TEP1450-15	145			
TEP1500-15	150			
TEP1550-15	155			
TEP1600-15	160			
TEP1650-15	165			
TEP1700-15	170			
TEP1750-15	175			
TEP1800-15	180			
TEP1850-16	185	200	40	5
TEP1900-16	190			
TEP1950-16	195			
TEP2000-16	200			
TEP2050-16	205			
TEP2100-16	210			
TEP2150-16	215			
TEP2200-16	220			
TEP2250-16	225			
TEP2300-16	230			

When placing an order, please specify the order code and quantity. Dimensions (mm)

TEP Mandrel Box Set

If you have a TEP mandrel you don't have to spend time and effort preparing individual gripping tools.

The most commonly used sizes of TEP mandrel have been brought together in a set of two types, which are offered in a robust toolbox to protect them.

TEP mandrels are suited to inspection and grinding operations where the workpiece is mounted between centers.

Guaranteed accuracy within stipulated expansion range: 0.01 mm (T.I.R.)

The two types of TEP arbor / expanding sleeve set can accommodate workpiece diameters from 12 to 55 mm.

TEP-A: Diameters from 12 to 26 mm

TEP-B: Diameters from 25 to 55 mm ⁽¹⁾

(1) In order to cover all of the workpiece diameters that can be handled with TEP mandrels, both of the sets TEP 280-8 and TEP 380-9 are required. Even exceptional applications can be covered by using either the TEP 250-8 or TEP 350-9 expanding sleeve at the maximum expansion.



It is taken for granted that every workstation where inspection and grinding are performed has a set of angle gauges and other measuring instruments, and the workstations should be equipped with sets of TEP mandrels too.

Because of their versatility, reliability and high accuracy, TEP mandrels are indispensable for inspection and grinding operations in which the workpiece is held between centres.

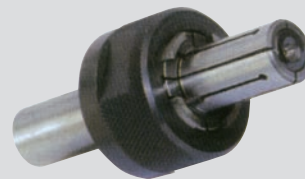
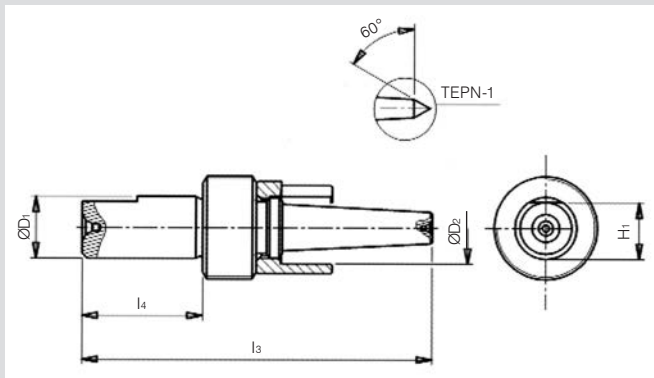
Order Code	Contents of the set			kg
	Workpiece diameter range	Arbor	Expanding sleeve	
TEP-A	12 - 26	TEP-3	TEP120-3	2,2
		TEP-4	TEP140-4	
		TEP-5	TEP160-5 TEP180-5	
		TEP-6	TEP200-6	
		TEP-7	TEP220-7 TEP240-7	

Order Code	Contents of the set			kg
	Workpiece diameter range	Arbor	Expanding sleeve	
TEP-B	25 - 28 30 - 33	TEP-8	TEP250-8 TEP300-8	8,2
	35 - 38 40 - 43	TEP-9	TEP350-9 TEP400-9	
	45 - 50 50 - 55	TEP-10	TEP450-10 TEP500-10	

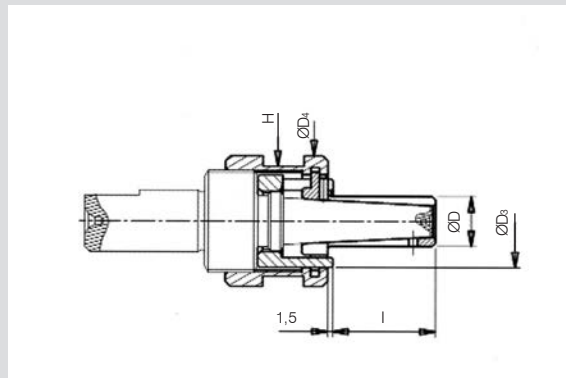
When placing an order, please specify the order code and quantity.



■ ARBOR (2)



■ EXPANDING SLEEVE (1)



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Diameter Range	D ₁	D ₂	H ₁	l ₃	l ₄	kg
TEPN-1	5,5 - 7,5	10	8,5	9,0	74,41	30	0,036
TEPN-2	7,5 - 9,5	12	10,5	11,0	78,5	30	0,057
TEPN-3	9,5 - 12,0	12	13,2	11,0	88,5	35	0,08
TEPN-4	12,0 - 15,0	14	16,0	12,5	96,5	35	0,13
TEPN-5	14,5 - 19,5	18	21,0	16,5	101,5	35	0,22
TEPN-6	19,5 - 25,0	20	26,0	18,0	112,5	40	0,394

2) Arbor always provided with its workstop
When placing an order, please specify the order code and quantity.

Dimensions (mm)

Order Code	D	D ₃	D ₄	H	l	Expansibility	Maximum Torque Nm
TN55-1 TN60-1 TN65-1 TN70-1	5,5 6,0 6,5 7,0	10,8	19,5	17	12	0,5	1,5
TN75-2 TN80-2 TN85-2 TN90-2	7,5 8,0 8,5 9,0	13,8	23,0	19	16	0,5	5
TN95-3 TN100-3 TN105-3 TN110-3 TN115-3	9,5 10,0 10,5 11,0 11,5	16,8	28,0	22	20	0,5	9
TN120-4 TN125-4 TN130-4 TN135-4 TN140-4 TN145-4	12,0 12,5 13,0 13,5 14,0 14,5	20,8	31,0	27	26	0,5	14
TN145-5 TN150-5 TN155-5 TN160-5 TN165-5 TN170-5 TN175-5 TN180-5 TN185-5 TN190-5	14,5 15,0 15,5 16,0 16,5 17,0 17,5 18,0 18,5 19,0	26,8	38,0	32	30	0,5	23
TN195-6 TN200-6 TN205-6 TN210-6 TN215-6 TN220-6 TN225-6 TN230-6 TN235-6 TN240-6 TN245-6	19,5 20,0 20,5 21,0 21,5 22,0 22,5 23,0 23,5 24,0 24,5	31,8	47,0	41	36	0,5	55

1) The expanding sleeve is shipped with the knurled ring fitted.

When placing an order, please specify the order code and quantity.

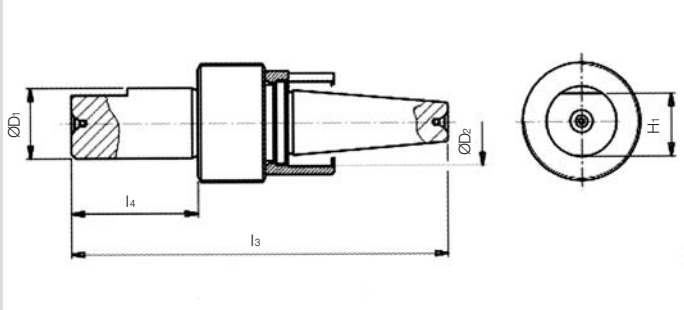
Dimensions (mm)



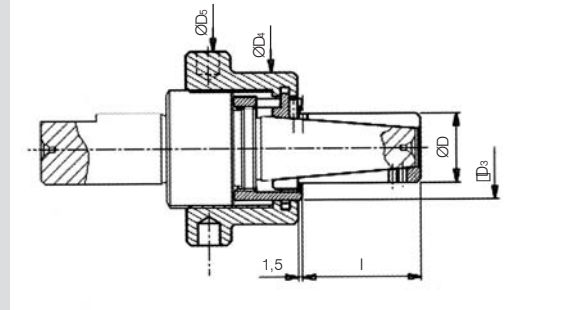
■ Clamping range Ø24.7 to 79,7 mm



■ ARBOR (2)



■ EXPANDING SLEEVE (1)



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Diameter Range	D ₁	D ₂	H ₁	l ₃	l ₄	kg
TEPN-7	24,7 - 29,7	25	31,0	22,5	134,0	45	0,613
TEPN-8	29,7 - 34,7	30	36,0	28,5	142,5	50	0,828
TEPN-9	34,7 - 39,7	40	41,0	37,0	154,0	55	1,283
TEPN-10	39,7 - 44,7	40	46,0	37,0	164,5	60	1,533
TEPN-11	44,7 - 54,7	45	55,5	42,0	195,0	67	2,298
TEPN-12	54,7 - 64,7	50	65,5	47,0	206,5	67	3,454
TEPN-13	64,7 - 79,7	50	83,0	47,0	219,5	67	4,857

2) Arbor always provided with its workstop
When placing an order, please specify the order code and quantity.
Dimensions (mm)

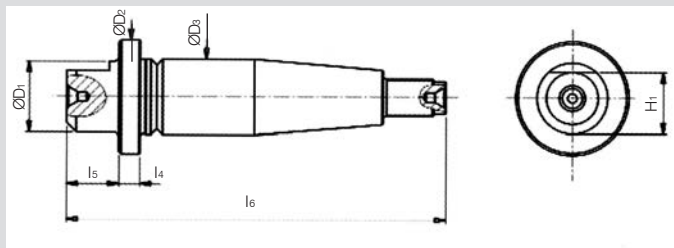
Ask for quotations for price and delivery of TEPN-12 and TEPN-13.

Order Code	D	D ₃	D ₄	D ₅	l	Expansibility	Maximum Torque Nm
TN247-7 TN257-7 TN267-7 TN277-7 TN287-7	24,7 25,7 26,7 27,7 28,7	36,8	54,0	69	42,5	1	80
TN297-8 TN307-8 TN317-8 TN327-8 TN337-8	29,7 30,7 31,7 32,7 33,7	41,8	57,5	72	46,0	1	100
TN347-9 TN357-9 TN367-9 TN377-9 TN387-9	34,7 35,7 36,7 37,7 38,7	47,8	66,0	79	52,5	1	120
TN397-10 TN407-10 TN417-10 TN427-10 TN437-10	39,7 40,7 41,7 42,7 43,7	52,8	74,0	87	58,0	1	150
TN447-11 TN457-11 TN467-11 TN477-11 TN487-11 TN497-11 TN507-11 TN517-11 TN527-11 TN537-11	44,7 45,7 46,7 47,7 48,7 49,7 50,7 51,7 52,7 53,7	61,8	83,0	96	76,0	1	200
TN547-12 TN557-12 TN567-12 TN577-12 TN587-12 TN597-12 TN607-12 TN617-12 TN627-12 TN637-12	54,7 55,7 56,7 57,7 58,7 59,7 60,7 61,7 62,7 63,7	71,8	93,0	107	85,0	1	250
TN647-13 TN657-13 TN667-13 TN677-13 TN687-13 TN697-13 TN707-13 TN717-13 TN727-13 TN737-13 TN747-13 TN757-13 TN767-13 TN777-13 TN787-13	64,7 65,7 66,7 67,7 68,7 69,7 70,7 71,7 72,7 73,7 74,7 75,7 76,7 77,7 78,7	90,8	108,0	130	96,0	1	270

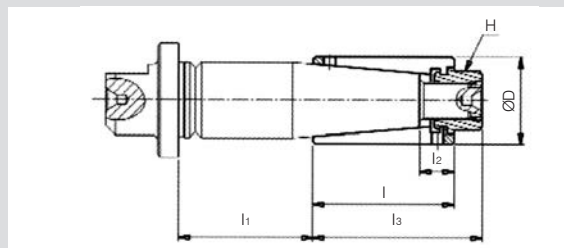
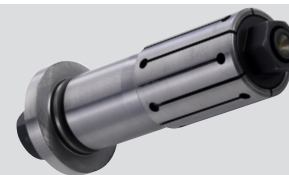
1) The expanding sleeve is shipped with the knurled ring fitted.
When placing an order, please specify the order code and quantity.
Dimensions (mm)



■ ARBOR



■ EXPANDING SLEEVE (1)



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Diameter Range	D ₁	D ₂	D ₃	H ₁	l ₄	l ₅	l ₆	kg
TMEP-1	14,7 - 19,7	13	23	15	11	6	8	95	0,094
TMEP-2	19,7 - 24,7	18	30	20	16	6	8	95	0,165
TMEP-3	24,7 - 29,7	20	36	24	18	6	18	125	0,350
TMEP-4	29,7 - 34,7	20	42	28	18	6	18	125	0,450
TMEP-5	34,7 - 39,7	30	48	32	26	9	22	160	0,850
TMEP-6	39,7 - 44,7	30	55	37	26	9	22	160	0,962
TMEP-7	44,7 - 54,7	35	62	42	31	9	24	200	1,650
TMEP-8	54,7 - 64,7	35	72	52	31	9	24	200	2,150
TMEP-9	64,7 - 82,7	55	82	62	50	9	24	270	4,805

When placing an order, please specify the order code and quantity. Dimensions (mm)

Order Code	D	H	l	l ₁	l ₂ ²⁾	l ₃	Expansibility	Maximum Torque Nm
TMEP147-1 TMEP157-1 TMEP167-1 TMEP177-1 TMEP187-1	14,7 15,7 16,7 17,7 18,7	11	35	38	12,0	43	1	15
TMEP197-2 TMEP207-2 TMEP217-2 TMEP227-2 TMEP237-2	19,7 20,7 21,7 22,7 23,7	11	40	33	14,0	48	1	35
TMEP247-3 TMEP257-3 TMEP267-3 TMEP277-3 TMEP287-3	24,7 25,7 26,7 27,7 28,7	17	46	46	14,5	55	1	75
TMEP297-4 TMEP307-4 TMEP317-4 TMEP327-4 TMEP337-4	29,7 30,7 31,7 32,7 33,7	17	50	42	14,5	59	1	100
TMEP347-5 TMEP357-5 TMEP367-5 TMEP377-5 TMEP387-5	34,7 35,7 36,7 37,7 38,7	22	60	57	14,5	72	1	120
TMEP397-6 TMEP407-6 TMEP417-6 TMEP427-6 TMEP437-6	39,7 40,7 41,7 42,7 43,7	22	60	57	15,5	72	1	150
TMEP447-7 TMEP467-7 TMEP487-7 TMEP497-7 TMEP507-7 TMEP527-7	44,7 46,7 48,7 49,7 50,7 52,7	27	80	72	22,5	95	2	200
TMEP547-8 TMEP567-8 TMEP587-8 TMEP597-8 TMEP607-8 TMEP627-8	54,7 56,7 58,7 59,7 60,7 62,7	27	90	62	24,5	105	2	250
TMEP647-9 TMEP667-9 TMEP687-9 TMEP697-9 TMEP707-9 TMEP727-9 TMEP747-9 TMEP767-9 TMEP787-9 TMEP807-9	64,7 66,7 68,7 69,7 70,7 72,7 74,7 76,7 78,7 80,7	36	100	119	24,5	118	2	275

1) The expanding sleeve is shipped with the nut fitted. Dimensions (mm)
2) Do not clamp in the range l₂.
When placing an order, please specify the order code and quantity.

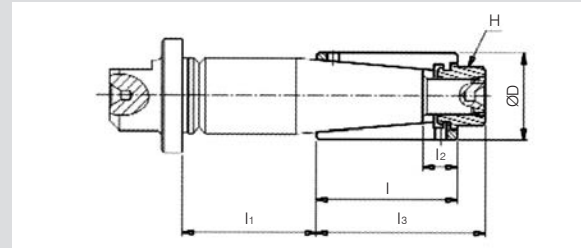
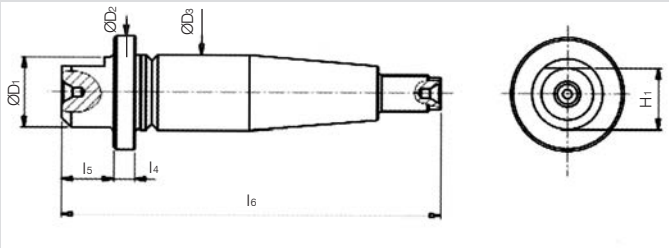
■ Clamping range Ø81,7 to 101,7 mm



■ ARBOR



■ EXPANDING SLEEVE (1)



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Range Diameter	D ₁	D ₂	D ₃	H ₁	l ₄	l ₅	l ₆	kg
TMEP-10	81,7-101,7	55	95	75	50	9	24	270	6,600

When placing an order, please specify the order code and quantity. Dimensions (mm)

Ask for quotations for price and delivery of TMEP-10.

Order Code	D	H	l	l ₁	l ₂ ²⁾	l ₃	Expansibility	Maximum Torque Nm
TMEP817-10	81,7							
TMEP837-10	83,7							
TMEP857-10	85,7							
TMEP877-10	87,7							
TMEP897-10	89,7	36	122	97	26,5	140	2	320
TMEP917-10	91,7							
TMEP937-10	93,7							
TMEP957-10	95,7							
TMEP977-10	97,7							
TMEP997-10	99,7							

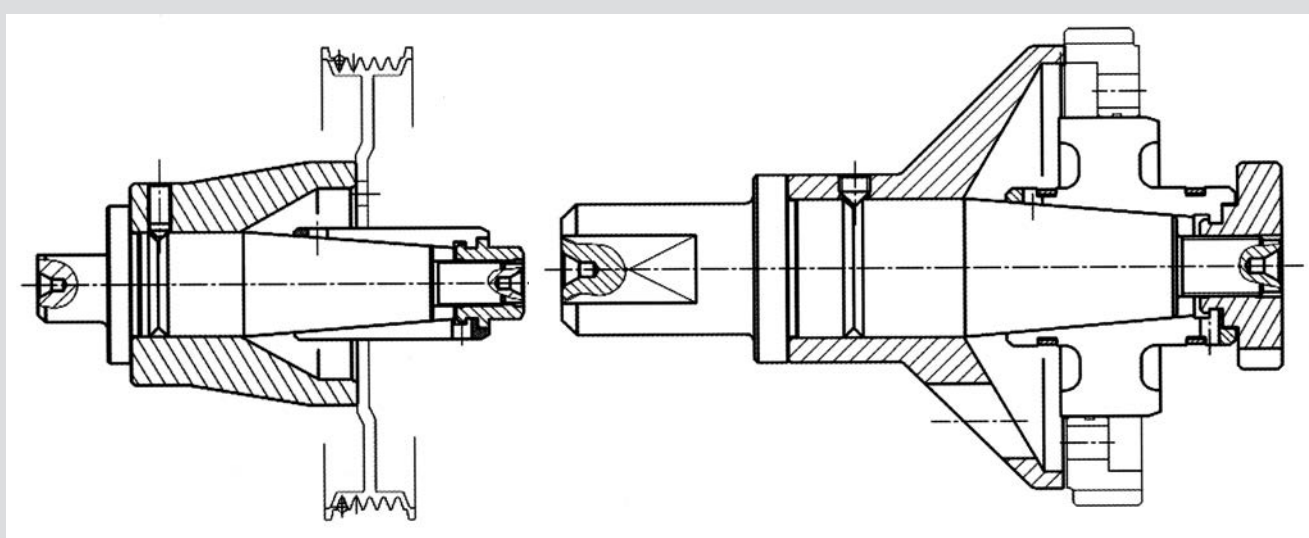
1) The expanding sleeve is shipped with the nut fitted. Dimensions (mm)

2) Do not clamp in the range l₂.

When placing an order, please specify the order code and quantity.

Example application

Inspection / grinding

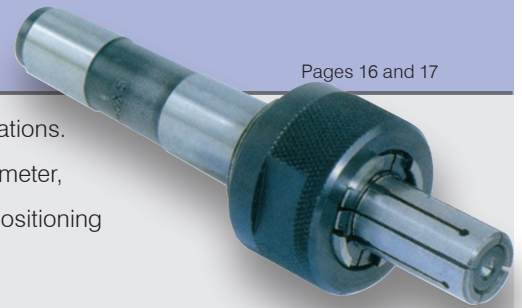


When using the standard expanding sleeve and a special workstop

When using a special expanding sleeve and a special workstop

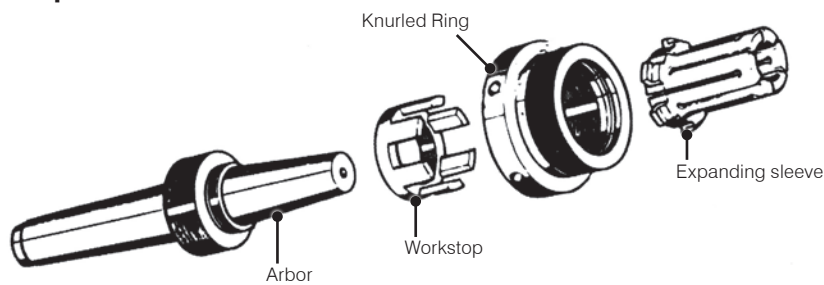
TMCMN

Pages 16 and 17



TMCMN mandrels are designed for turning, milling, grinding and inspection operations. They offer expansibility from 0.5 to 1 mm depending on the expanding sleeve diameter, and can clamp workpieces with diameters from 5.5 to 79.7 mm. A workstop for positioning the workpiece in the axial direction is included. They can be used for clamping workpieces with a blind hole or short workpieces.

Clamping take place as follows:

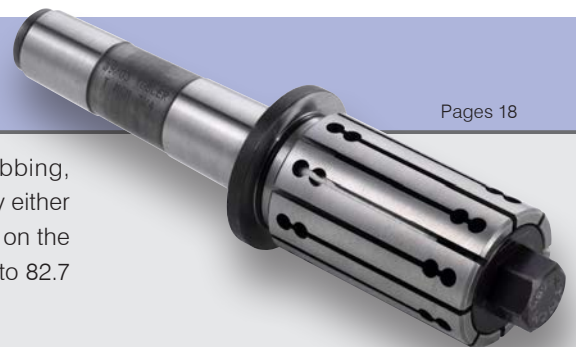


The expanding sleeve can be used in common with TEPN

When placing an order for arbors and expanding sleeves, please provide the order codes individually. They will be shipped without being assembled.

TMCM

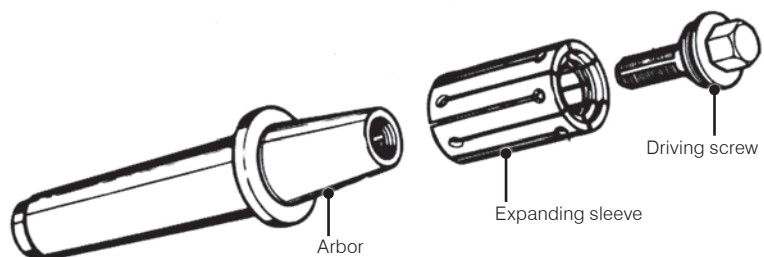
Pages 18



TMCM mandrels are intended for turning, milling, grinding, gear hobbing, balancing, and inspection operations. The workpiece is positioned axially either by the workstop or a spacer. Expansibility is from 1 to 2 mm, depending on the diameter of the expanding sleeve. Workpieces with diameters from 14.7 to 82.7 mm can be clamped.

Clamping takes place as follows:

The workpiece is inserted into the expanding sleeve from the front and the driving screw is tightened using a wrench. The workpiece is clamped when the expanding sleeve is pushed up onto the tapered arbor by tightening the driving screw.



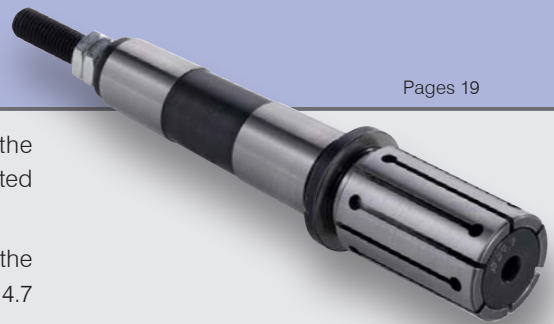
When placing an order for arbors and expanding sleeves, please provide the order codes individually. They will be shipped without being assembled.

- Automatic or manual actuation
- Morse taper mounting



TMCMT

Pages 19

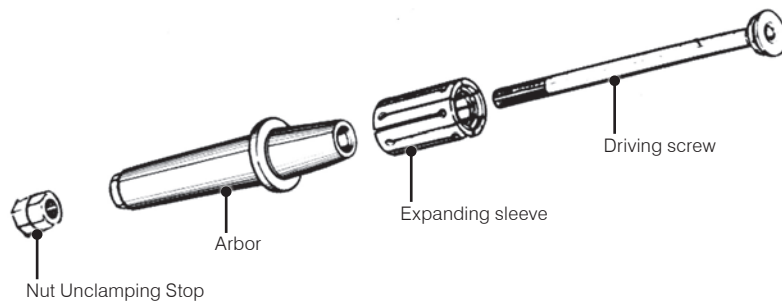


TMCMT mandrels are similar to TMCM but they clamp the workpiece by the operation of a driving screw on the back face of the mandrel, which is connected to the machine's drawbar.

This type offers an expansibility of 1 to 2 mm depending on the diameter of the expanding sleeve, and can clamp workpieces with diameters ranging from 14.7 to 82.7 mm.

Clamping takes place as follows:

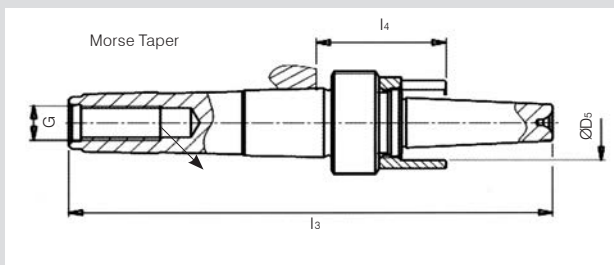
Since the workpiece can be clamped and unclamped automatically by operating this driving screw, workpiece changing time is reduced and operating convenience is greatly improved.



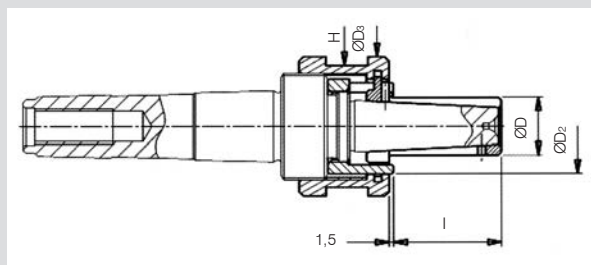
When placing an order for arbors and expanding sleeves, please provide the order codes individually. They will be shipped without being assembled.



■ ARBOR (2)



■ EXPANDING SLEEVE (1)



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Diameter Range	Morse Taper N°	l ₃	l ₄	D ₅	G
TMCMN-1×3	5,5 - 7,5	3	126,0	34,0	8,5	M12
TMCMN-1×4		4	149,0	35,5		M16
TMCMN-2×3	7,5 - 9,5	3	134,5	38,5	10,5	M12
TMCMN-2×4		4	157,5	40,0		M16
TMCMN-3×3	9,5 - 12,0	3	139,5	39,5	13,2	M12
TMCMN-3×4		4	162,5	41,0		M16
TMCMN-4×3	12,0 - 15,0	3	147,5	41,5	16,0	M12
TMCMN-4×4		4	170,5	43,0		M16
TMCMN-5×3	14,5 - 19,5	3	152,5	42,5	21,0	M12
TMCMN-5×4		4	175,5	44,0		M16
TMCMN-6×3	19,5 - 25,0	3	158,5	42,5	26,0	M12
TMCMN-6×4		4	181,5	44,0		M16

2) Arbor always provided with its workstop
When placing an order, please specify the order code and quantity. Dimensions (mm)

Order Code	D	D ₂	D ₃	H	l	Expansibility	Maximum Torque Nm
TN55-1 TN60-1 TN65-1 TN70-1	5,5 6,0 6,5 7,0	10,8	19,5	17	12	0,5	1,5
TN75-2 TN80-2 TN85-2 TN90-2	7,5 8,0 8,5 9,0						
TN95-3 TN100-3 TN105-3 TN110-3 TN115-3	9,5 10,0 10,5 11,0 11,5						
TN120-4 TN125-4 TN130-4 TN135-4 TN140-4 TN145-4	12,0 12,5 13,0 13,5 14,0 14,5						
TN145-5 TN150-5 TN155-5 TN160-5 TN165-5 TN170-5 TN175-5 TN180-5 TN185-5 TN190-5	14,5 15,0 15,5 16,0 16,5 17,0 17,5 18,0 18,5 19,0	26,8	38,0	32	30	0,5	23
TN195-6 TN200-6 TN205-6 TN210-6 TN215-6 TN220-6 TN225-6 TN230-6 TN235-6 TN240-6 TN245-6	19,5 20,0 20,5 21,0 21,5 22,0 22,5 23,0 23,5 24,0 24,5						

1) The expanding sleeve is shipped with the knurled ring fitted.
When placing an order, please specify the order code and quantity. Dimensions (mm)

Morse taper expanding Mandrels



TMCMN

■ Clamping range Ø24.7 to 79,7 mm

tobler

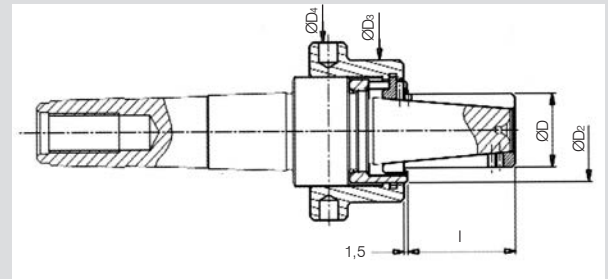
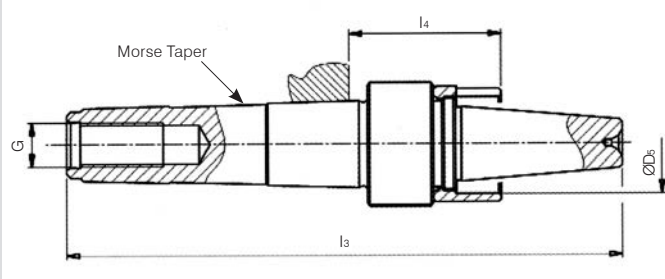
Expanding Mandrels TOBLER



■ ARBOR (2)



■ EXPANDING SLEEVE (1)



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Diameter Range	Morse Taper N°	l ₃	l ₄	D ₅	G
TMCMN-7×3	24,7 - 29,7	3	175,0	53,5	31,0	M12
TMCMN-7×4		4	198,0	55,0		M16
TMCMN-8×4	29,7 - 34,7	4	201,5	55,0	36,0	M16
TMCMN-9×4	34,7 - 39,7	4	208,0	55,0	41,0	M16
TMCMN-10×4	39,7 - 44,7	4	213,5	55,0	46,0	M16
TMCMN-11×4	44,7 - 54,7	4	237,0	60,0	55,5	M16
TMCMN-12×4	54,7 - 64,7	4	248,5	63,0	65,5	M16
TMCMN-13×4	64,7 - 79,7	4	261,5	65,0	83,0	M16

Order Code	D	D ₂	D ₃	D ₄	l	Expansibility	Maximum Torque Nm
TN247-7 TN257-7 TN267-7 TN277-7 TN287-7	24,7 25,7 26,7 27,7 28,7	36,8	54,0	69	42,5	1	80
TN297-8 TN307-8 TN317-8 TN327-8 TN337-8	29,7 30,7 31,7 32,7 33,7						
TN347-9 TN357-9 TN367-9 TN377-9 TN387-9	34,7 35,7 36,7 37,7 38,7						
TN397-10 TN407-10 TN417-10 TN427-10 TN437-10	39,7 40,7 41,7 42,7 43,7						
TN447-11 TN457-11 TN467-11 TN477-11 TN487-11 TN497-11 TN507-11 TN517-11 TN527-11 TN537-11	44,7 45,7 46,7 47,7 48,7 49,7 50,7 51,7 52,7 53,7						
TN547-12 TN557-12 TN567-12 TN577-12 TN587-12 TN597-12 TN607-12 TN617-12 TN627-12 TN637-12	54,7 55,7 56,7 57,7 58,7 59,7 60,7 61,7 62,7 63,7	71,8	93,0	107	85,0	1	250
TN647-13 TN657-13 TN667-13 TN677-13 TN687-13 TN697-13 TN707-13 TN717-13 TN727-13 TN737-13 TN747-13 TN757-13 TN767-13 TN777-13 TN787-13	64,7 65,7 66,7 67,7 68,7 69,7 70,7 71,7 72,7 73,7 74,7 75,7 76,7 77,7 78,7						

2) Arbor always provided with its workstop
When placing an order, please specify the order code and quantity.
 Ask for quotations for price and delivery of TMCMN-11 to TMCMN-13.

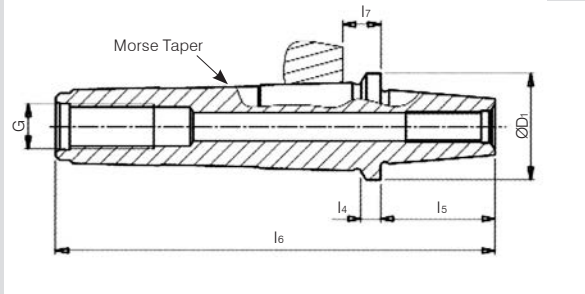
Dimensions (mm)

1) The expanding sleeve is shipped with the ring fitted.
When placing an order, please specify the order code and quantity.

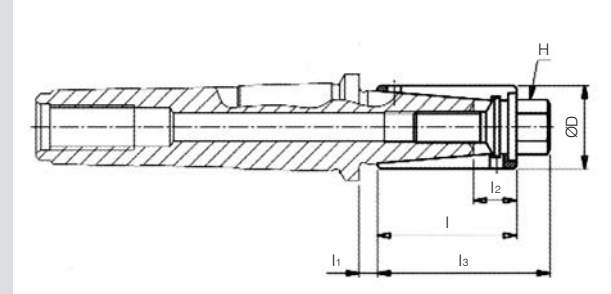
Dimensions (mm)



■ ARBOR



■ EXPANDING SLEEVE (1)



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Diameter Range	Morse Taper N°	D ₁	l ₄	l ₅	l ₆	l ₇	G	kg
TMCM-1×3	14,7 - 19,7	3	24,5	-	29,0	115,0	5,0	M12	0,232
TMCM-1×4		4	32,0	-		138,0	6,5	M16	0,485
TMCM-2×3	19,7 - 24,7	3	28,0	5	32,0	123,0	10,0	M12	0,280
TMCM-2×4		4	32,0	-		141,0	6,5	M16	0,517
TMCM-3×3	24,7 - 29,7	3	33,0	8	38,0	132,0	13,0	M12	0,316
TMCM-3×4		4		7		154,0	13,5	M16	0,576
TMCM-4×4	29,7 - 34,7	4	38,0	7	41,0	157,0	13,5	M16	0,646
TMCM-5×4	34,7 - 39,7	4	43,0	8	50,0	167,0	14,5	M16	0,757
TMCM-6×4	39,7 - 44,7	4	48,0	9	50,0	168,0	15,5	M16	0,840
TMCM-7×4	44,7 - 54,7	4	58,0	9	67,0	185,0	15,5	M16	1,118
TMCM-8×4	54,7 - 64,7	4	68,0	12	75,0	196,0	18,5	M16	1,792
TMCM-9×4	64,7 - 82,7	4	86,0	14	85,5	208,5	20,5	M16	2,260

When placing an order, please specify the order code and quantity. Dimensions (mm)
 Ask for quotations for price and delivery of TMCM-8 and TMCM-9.

Order Code	D	H	l	l ₁	l ₂ ²⁾	l ₃	Expansibility	Maximum Torque Nm
TMCM147-1 TMCM157-1 TMCM167-1 TMCM177-1 TMCM187-1	14,7 15,7 16,7 17,7 18,7	8	35	6,5	12,5	44	1	15
TMCM197-2 TMCM207-2 TMCM217-2 TMCM227-2 TMCM237-2	19,7 20,7 21,7 22,7 23,7	11	40	6,5	14,5	49	1	35
TMCM247-3 TMCM257-3 TMCM267-3 TMCM277-3 TMCM287-3	24,7 25,7 26,7 27,7 28,7	13	46	6,5	14,5	56	1	75
TMCM297-4 TMCM307-4 TMCM317-4 TMCM327-4 TMCM337-4	29,7 30,7 31,7 32,7 33,7	17	50	6,5	15,5	62	1	100
TMCM347-5 TMCM357-5 TMCM367-5 TMCM377-5 TMCM387-5	34,7 35,7 36,7 37,7 38,7	17	60	6,5	16,5	72	1	120
TMCM397-6 TMCM407-6 TMCM417-6 TMCM427-6 TMCM437-6	39,7 40,7 41,7 42,7 43,7	19	60	6,5	16,5	74	1	150
TMCM447-7 TMCM467-7 TMCM487-7 TMCM497-7 TMCM507-7 TMCM527-7	44,7 46,7 48,7 49,7 50,7 52,7	22	80	12,0	25,0	95	2	200
TMCM547-8 TMCM567-8 TMCM587-8 TMCM597-8 TMCM607-8 TMCM627-8	54,7 56,7 58,7 59,7 60,7 62,7	27	90	12,0	27,0	98	2	275
TMCM647-9 TMCM667-9 TMCM687-9 TMCM697-9 TMCM707-9 TMCM727-9 TMCM747-9 TMCM767-9 TMCM787-9 TMCM807-9	64,7 66,7 68,7 69,7 70,7 72,7 74,7 76,7 78,7 80,7	32	100	12,0	26,5	120	2	320

1) The expanding sleeve is shipped with the driving screw fitted. Dimensions (mm)
 2) Do not clamp in the range l₂.
 When placing an order, please specify the order code and quantity..

Morse taper expanding Mandrels

■ Clamping range Ø14,7 to 82,7 mm



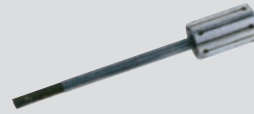
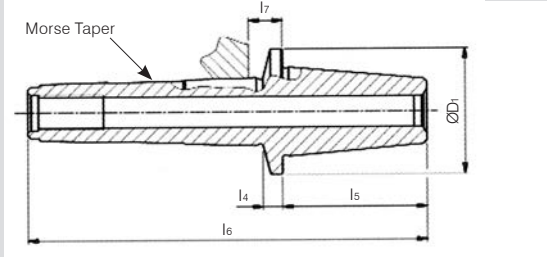
tobler

TMCMT

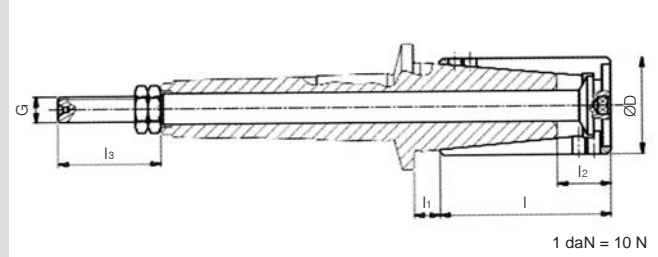
Expanding Mandrels TOBLER



■ ARBOR



■ EXPANDING SLEEVE (1)



1 daN = 10 N

Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Diameter Range	Morse Taper N°	D1	l4	l5	l6	l7	kg
TMCMT-1×4	14,7 - 19,7	4	32		29,0	138,0	6,5	0,530
TMCMT-2×4	19,7 - 24,7	4	32		32,0	141,0	6,5	0,530
TMCMT-3×4	24,7 - 29,7	4	33	7	38,0	154,0	13,5	0,537
TMCMT-4×4	29,7 - 34,7	4	38	7	41,0	157,0	13,5	0,636
TMCMT-5×4	34,7 - 39,7	4	43	8	50,0	167,0	14,5	0,710
TMCMT-6×4	39,7 - 44,7	4	48	9	50,0	168,0	15,5	0,755
TMCMT-7×4	44,7 - 54,7	4	58	9	67,0	185,0	15,5	1,015
TMCMT-8×4	54,7 - 64,7	4	68	12	75,0	196,0	18,5	1,488
TMCMT-9×4	64,7 - 82,7	4	86	14	85,5	208,5	20,5	2,210

When placing an order, please specify the order code and quantity. Dimensions (mm)
 Ask for quotations for price and delivery of TMCMT-8 and TMCMT-9

Order Code	D	l	l1	l2 ²⁾	l3	G	Expansibility	Maximum Force on Driving Screw (daN)	Maximum Torque Nm
TMCMT147-1×4	14,7								
TMCMT157-1×4	15,7	35	6,5	12,5	26	M6	1	700	15
TMCMT167-1×4	16,7								
TMCMT177-1×4	17,7								
TMCMT187-1×4	18,7								
TMCMT197-2×4	19,7								
TMCMT207-2×4	20,7	40	6,5	14,5	28	M8	1	900	35
TMCMT217-2×4	21,7								
TMCMT227-2×4	22,7								
TMCMT237-2×4	23,7								
TMCMT247-3×4	24,7								
TMCMT257-3×4	25,7	46	6,5	14,5	31	M10	1	1.200	75
TMCMT267-3×4	26,7								
TMCMT277-3×4	27,7								
TMCMT287-3×4	28,7								
TMCMT297-4×4	29,7								
TMCMT307-4×4	30,7	50	6,5	15,5	31	M10	1	1.200	100
TMCMT317-4×4	31,7								
TMCMT327-4×4	32,7								
TMCMT337-4×4	33,7								
TMCMT347-5×4	34,7								
TMCMT357-5×4	35,7	60	6,5	16,5	36	M12	1	1.500	120
TMCMT367-5×4	36,7								
TMCMT377-5×4	37,7								
TMCMT387-5×4	38,7								
TMCMT397-6×4	39,7								
TMCMT407-6×4	40,7	60	6,5	16,5	36	M12	1	1.500	150
TMCMT417-6×4	41,7								
TMCMT427-6×4	42,7								
TMCMT437-6×4	43,7								
TMCMT447-7×4	44,7								
TMCMT467-7×4	46,7	80	12,0	25,0	36	M12	2	2.000	200
TMCMT487-7×4	48,7								
TMCMT497-7×4	49,7								
TMCMT507-7×4	50,7								
TMCMT527-7×4	52,7								
TMCMT547-8×4	54,7								
TMCMT567-8×4	56,7	90	12,0	27,0	36	M14	2	2.000	250
TMCMT587-8×4	58,7								
TMCMT597-8×4	59,7								
TMCMT607-8×4	60,7								
TMCMT627-8×4	62,7								
TMCMT647-9×4	64,7								
TMCMT667-9×4	66,7	100	12,0	26,5	36	M14	2	2.500	275
TMCMT687-9×4	68,7								
TMCMT697-9×4	69,7								
TMCMT707-9×4	70,7								
TMCMT727-9×4	72,7								
TMCMT747-9×4	74,7								
TMCMT767-9×4	76,7								
TMCMT787-9×4	78,7								
TMCMT807-9×4	80,7								

1) The expanding sleeve is shipped with the driving screw fitted. Dimensions (mm)
 2) Do not clamp in the range l2.
 When placing an order, please specify the order code and quantity.

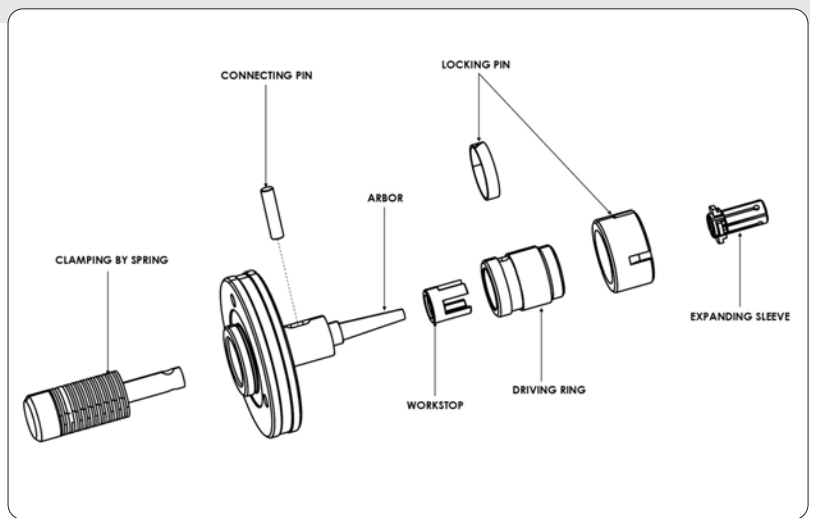
TMTPN

Pages 21

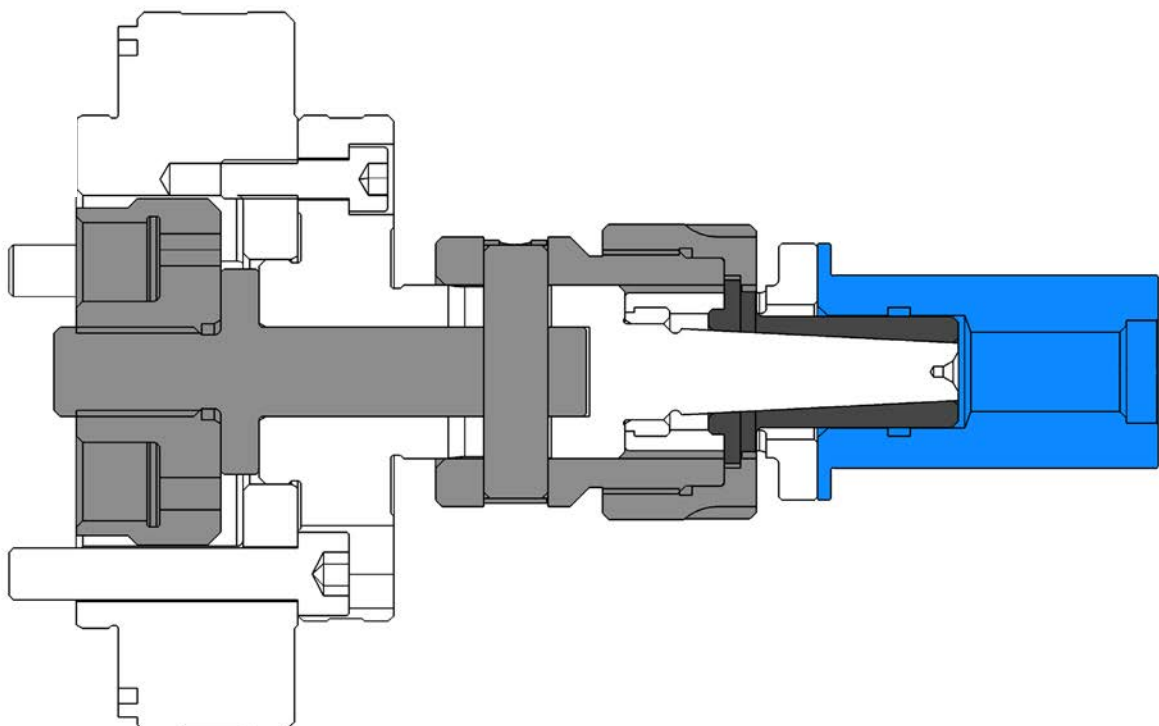
Expansibility is 0.5 and workpieces with diameters from 5.5 to 15 mm can be clamped.

TMTPN mandrels are intended for finish turning and inspection operations. They can also be used for workpieces with a blind hole or short workpieces. With TMTPN-1 to TMTPN-4 mandrels, the unclamping operation is performed manually or by using the drawbar while clamping is done by spring force.

Workpieces are positioned in the axial direction using the workstop set on the arbor.



TMTPN Example application



Expanding Mandrels with pull-down Sleeves



TMTPN

■ Clamping range Ø5,5 to 15 mm

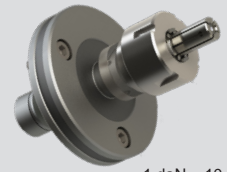
Expanding Mandrels TOBLER



■ ARBOR

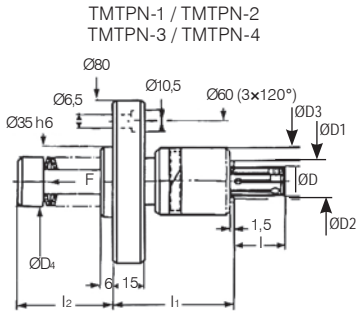


■ EXPANDING SLEEVE



1 daN = 10 N

Subject to technical changes.
For more detailed information,
please ask our customer service.



Order Code	D ₁	D ₂	D ₃	D ₄	l ₁	Minimum / Maximum, l ₂	Maximum Force on Driving Screw F (daN)	Order Code	Workpiece Diameter Range D	l	Expansibility
TMTPN-1	10,8	8,5	24	20	57	40,0 / 45,5	144 (Force maximale : 70 daN)	TNS55-1 TNS60-1 TNS65-1 TNS70-1	5,5 - 7,5	12,0	0,5
TMTPN-2	13,8	10,5	26	23	61	40,0 / 45,5	235 (Force maximale : 130 daN)	TNS75-2 TNS80-2 TNS85-2 TNS90-2	7,5 - 9,5	16,0	0,5
TMTPN-3	16,8	13,2	28	23	61	40,0 / 45,5	235 (Force maximale : 130 daN)	TNS95-3 TNS100-3 TNS105-3 TNS110-3 TNS115-3	9,5 - 12,0	20,0	0,5
TMTPN-4	20,8	16,0	32	25	63	47,0 / 52,5	298 (Force maximale : 150 daN)	TNS120-4 TNS125-4 TNS130-4 TNS135-4 TNS140-4 TNS145-4	12,0 - 15,0	26,0	0,5

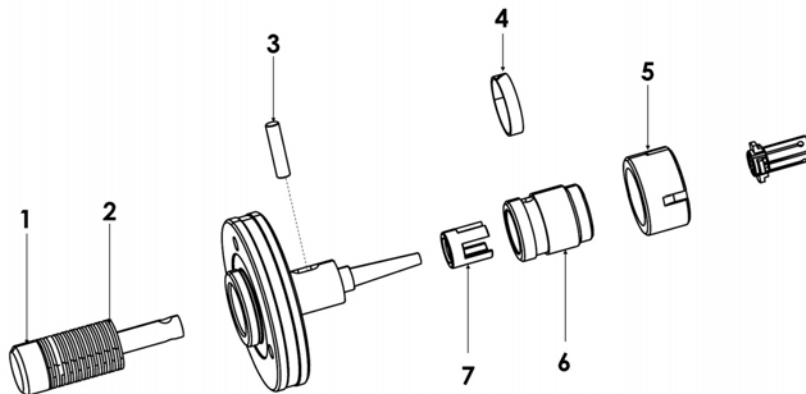
When placing an order, please specify the order code and quantity. Dimensions (mm)

TMTPN-1 to 4: Clamping by spring Dimensions (mm)

Note: For details on the flange adaptor for mounting to the spindle nose, see page 25.

Spare parts

Standard	1	2	3	4	5	6	7
Arbor TMTPN							
Standard mandrel	Drawbar with Spring	Spring	Connecting Pin	Locking Ring	Locking Ring	Driving Ring	Workstop
TMTPN-13 TMTPN-23 TMTPN-33 TMTPN-43	TMTPN-01 TMTPN-21 TMTPN-31 TMTPN-41	TMTPN-12 TMTPN-22 TMTPN-32 TMTPN-42	TMTPN-14 TMTPN-24 TMTPN-34 TMTPN-44	TMTPN-16 TMTPN-26 TMTPN-36 TMTPN-46	TMTPN-1EC TMTPN-2EC TMTPN-3EC TMTPN-4EC	TMTPN-1BF TMTPN-2BF TMTPN-3BF TMTPN-4BF	TNW-1 TNW-2 TNW-3 TNW-4



TMTPN 1 - 4

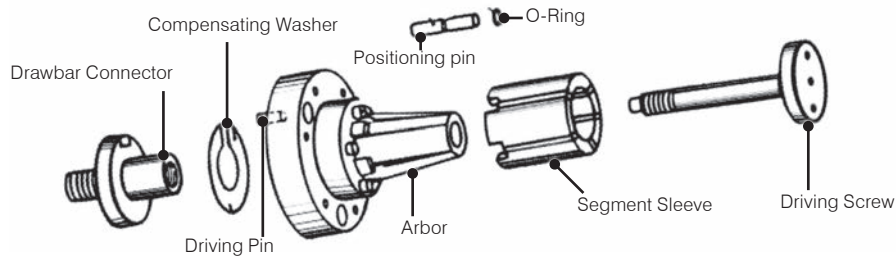
TMASIT

Pages 22 to 25

This is a suitable model for medium- and large-scale standardized lot production, for example automobile parts. This model can offer an expansibility of 0.8 or 1.0 mm depending on the diameter of the expanding sleeve and can clamp workpieces with diameters from 18 to 131 mm with only 5 varieties of arbor. Since the expanding sleeves can be attached and removed from the front easily, setup changes between workpieces with different diameters can be done smoothly if the same arbor type is used.

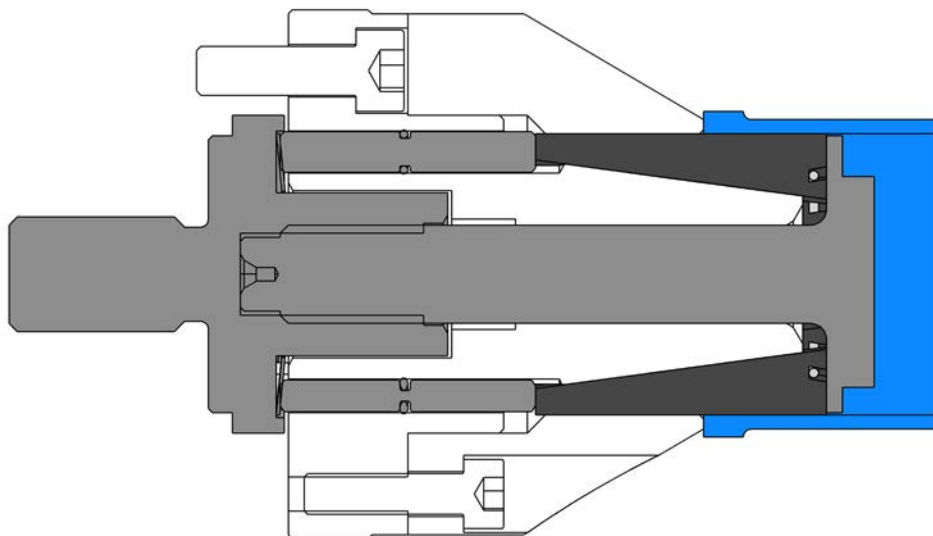
Also, if various machines such as turning, grinding, gear machining, finishing, and inspection machines use the same arbor type and share expanding sleeves, the number of components can be reduced.

That means making the most of this model can minimize equipment investment. This is a high-performance and high-profit model pursuing ease of use, reliability, durability and low cost.



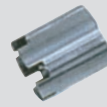
Maximum rotation speed when the workpiece is not clamped 50 min⁻¹
 PEL Version on request

TMASIT Example Application





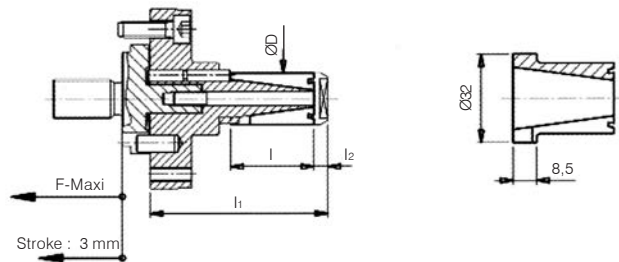
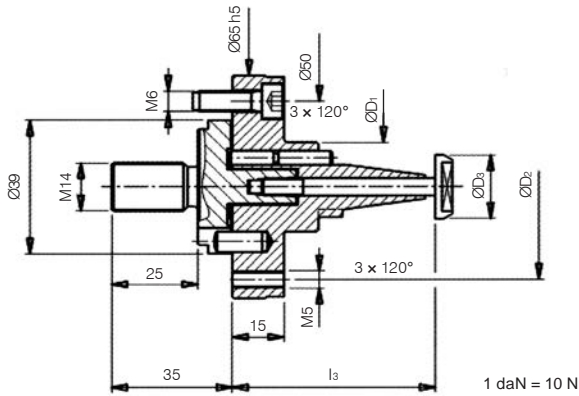
■ ARBOR



■ SEGMENT SLEEVE



Subject to technical changes.
For more detailed information,
please ask our customer service.



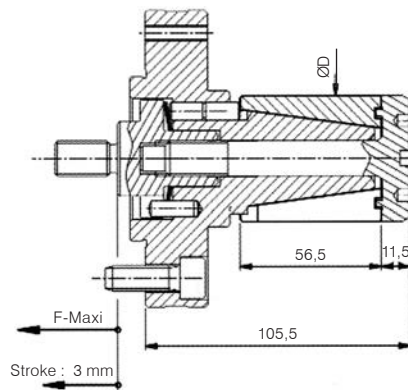
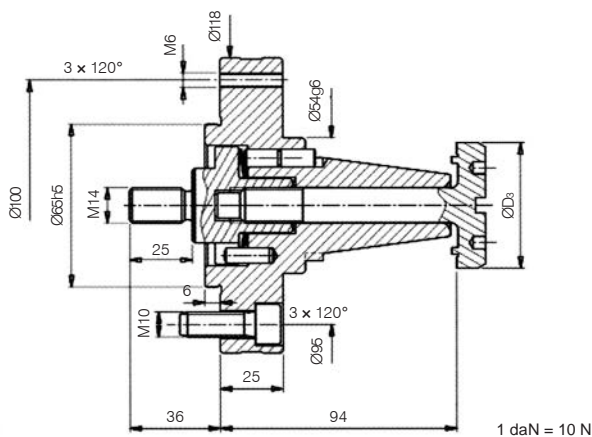
Arbor / Drawbar Connector				Driving Screw ⁽²⁾		
Order Code	D ₁	D ₂	l ₃	F-MAXI	Order Code	D ₃
TMIT-0	26g6	54	59,0	350 daN	TMITxxx-01	18 - 24
TMIT-1	39g6	54	67,5	1.200 daN	TMITxxx-11	24 - 32
TMIT-2	39g6	54	67,5	1.500 daN	TMITxxx-21	30 - 45

2) High-accuracy grinding of screw heads can be done if ordered. Dimensions (mm)
When placing an order, please specify the order code and quantity

Segment Sleeve ⁽¹⁾					
Order Code	Workpiece Diameter Range, D	l	l ₁	l ₂	Expansibility
TMITxxx-0	18 - 24	30,0	64,0	5	0,8
TMITxxx-1	24 - 32	36,5	73,5	6	0,8
TMITxxx-2	30 - 45	36,5	73,5	6	0,8

1) High-accuracy grinding of unit sets can be done if ordered. Dimensions (mm)
Note: Calculation of diameter D
xxx = (maximum permissible value D - 0.1 mm) × 10
Ex.: When the workpiece has a diameter of 25 ± 0.1 mm
xxx = (24.9 - 0.1) × 10 = 248 Order Code: TMIT248-1

When placing an order, please specify the order code and quantity.
Maximum rotation speed when the workpiece is not clamped: 50 min⁻¹



Arbor / Drawbar Connector			Driving Screw ⁽²⁾	
Order Code		F-MAXI	Order Code	D ₃
TMIT-3		2.500 daN	TMITxxx-31	45 - 80

2) High-accuracy grinding of screw heads can be done if ordered. Dimensions (mm)
When placing an order, please specify the order code and quantity.
Note: For details on the flange adaptor for mounting to the spindle nose, see page 25.
Maximum rotation speed when the workpiece is not clamped: 50 min⁻¹

Segment Sleeve ⁽¹⁾			
Order Code	Workpiece Diameter Range, D		Expansibility
TMITxxx-3	45 - 80		0,8

1) High-accuracy grinding of unit sets can be done if ordered. Dimensions (mm)
When placing an order, please specify the order code and quantity.

Expanding Mandrels with Segment Sleeves



■ Clamping range Ø80 to 131 mm



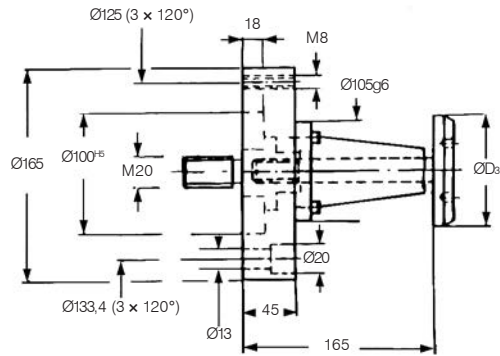
■ ARBOR



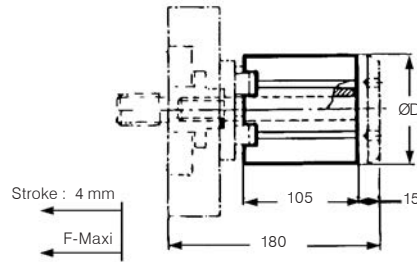
■ SEGMENT SLEEVE



Subject to technical changes.
For more detailed information,
please ask our customer service.



1 daN = 10 N



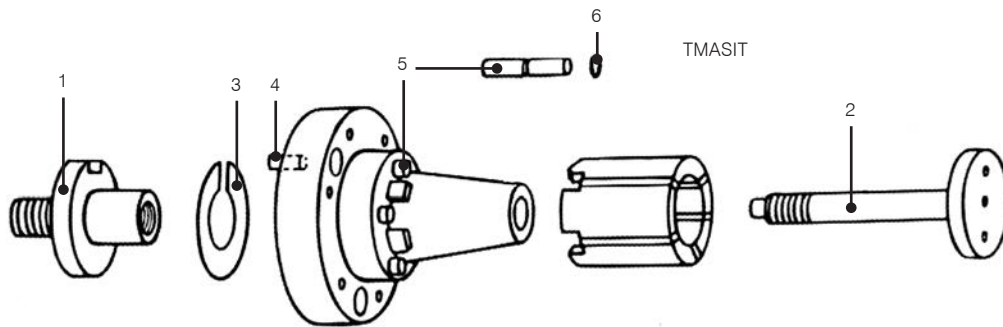
Arbor / Drawbar Connector		Driving Screw ⁽²⁾	
Order Code	F-MAXI	Order Code	D ₃
TMIT-4	3.500 daN	TMITxxx-41	80 - 131

2) High-accuracy grinding of screw heads can be done if ordered. Dimensions (mm)
■ Equipment that fits directly to A1-6" can be made to order.

Segment unitaire ¹⁾			
Order Code	Workpiece Diameter Range, D		Expansibility
TMITxxx-4	80 - 131		1

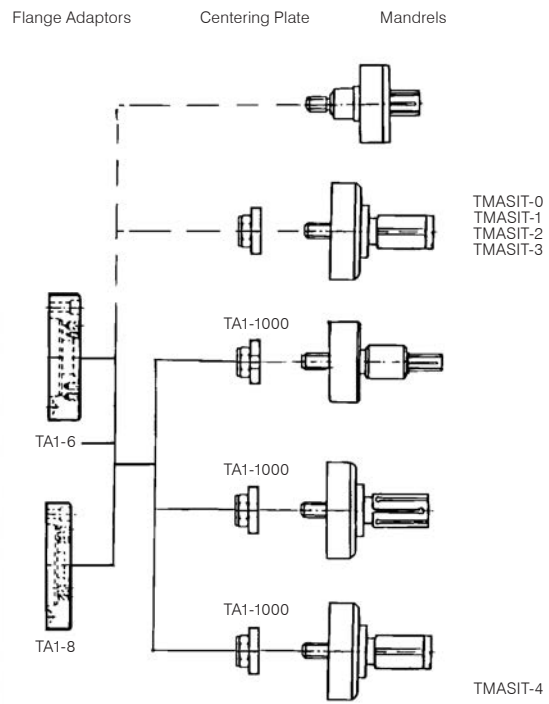
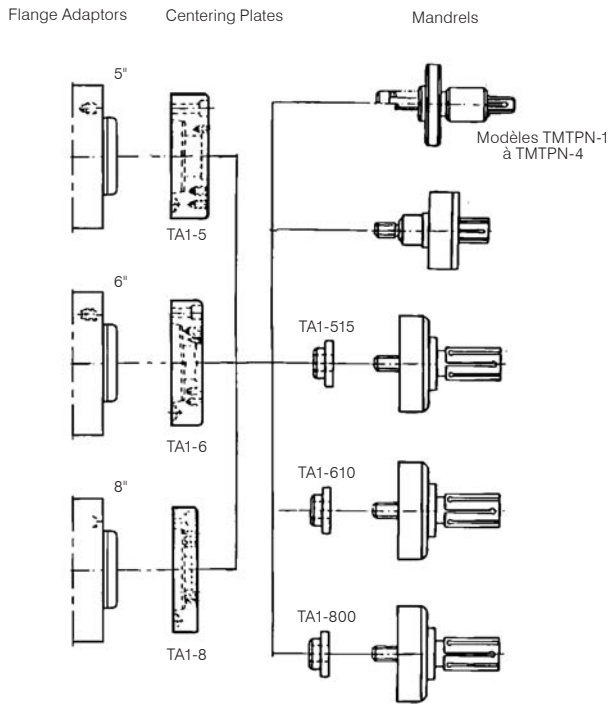
1) High-accuracy grinding of units can be done if ordered. Dimensions (mm)
When placing an order, please specify the order code and quantity.
Note: For details on the flange adaptor for mounting to the spindle nose, see page 33.
Maximum rotation speed when the workpiece is not clamped: 50 min⁻¹

Spare Parts



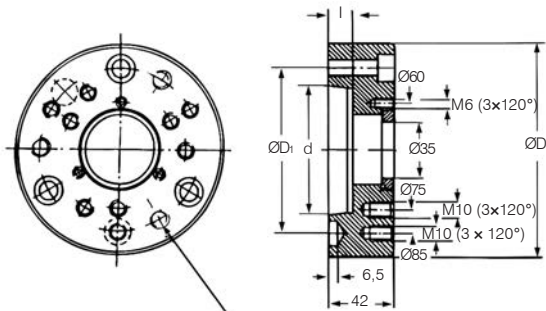
Standard	1	2	3	4	5	6	Notes
	Drawbar Connector	Driving Screw	Compensating Washer	Driving Pin	Positioning Pin	O-Ring	
TMIT-0 TMIT-1 TMIT-2 TMIT-3 TMIT-4	TMITD-0 TMITD-1 TMITD-2 TMITD-3 TMITD-4	TMITxxx-01 TMITxxx-11 TMITxxx-21 TMITxxx-31 TMITxxx-41	TMITR-0 TMITR-1 TMITR-2 TMITR-3 TMITR-4	TMITP-01 TMITP-11 TMITP-21 TMITP-31 TMITP-41	TMITT-0 TMITT-1 TMITT-2 TMITT-3 TMITT-4	TMITJT-01 TMITJT-11 TMITJT-21 TMITJT-31 TMITJT-41	Parts 1, 3, 4, 5 and 6 are accessories supplied with the arbor.

When placing an order, please specify the order code and quantity.



Subject to technical changes.
For more detailed information, please ask our customer service.

Flange adaptors for spindle nose mounting



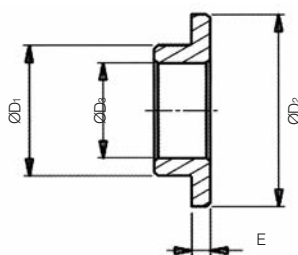
M12 x 3 (120° spacing)
on Ø133,4 for A1-6 et A1-8

Order Code	Spindle Noze Type	D	D ₁	d	l
TA1-5	5	135	104,8	82,58	16
TA1-6	6	165	133,4	106,39	18
TA1-8	8	220	171,4	139,735	20

When placing an order, please specify the order code and quantity.

Dimensions (mm)

Centering plates for mandrels



Order Code	D ₁	D ₂	D ₃	E
TA1-515	35	51,5	25,5	5
TA1-610	35	61,0	25,5	5
TA1-800	35	80,0	25,5	5
TA1-1000	35	100,0	25,5	17

Dimensions (mm)

T.BAS

Self clamping mandrels

T.BAS is a compressible mandrel by the body's elasticity distortion of the steel, coated with titanium nitride.

APPLICATION

- Run out inspection, centering

TECHNICAL FEATURES

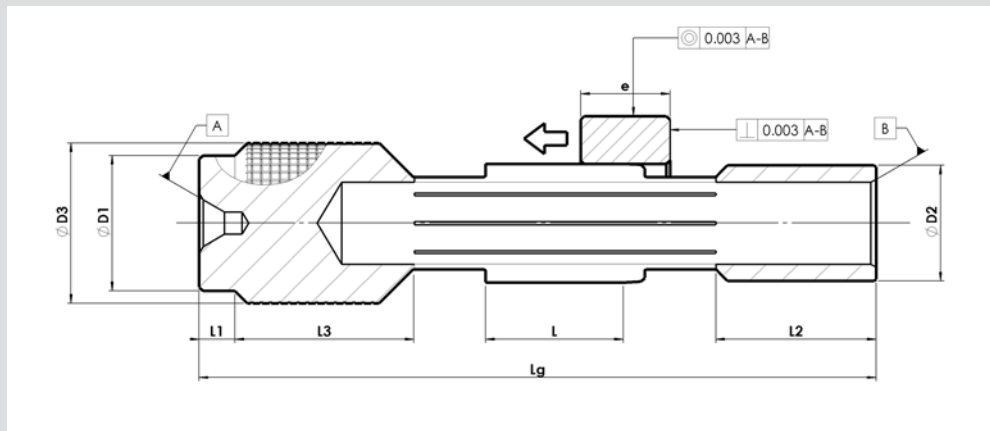
- Attachment: Spindle nose, between centers
- Actuation: Manual
- Internal clamping: smooth or on spline

ADVANTAGES

- High accuracy and repeatability, concentricity $\leq 3 \mu\text{m}$
- Easy to be used



- Compressive mandrel by elasticity distorsion
- Spindle nose or in between centers mounting



Subject to technical changes.
For more detailed information, please ask our customer service.

Order Code	Workpiece Diameter Range (mm)	*	L	L _g	L ₁ L ₂	L ₃	D ₁ D ₂	D ₃	D ₄	e. mm mini
T.BAS-2/S	10.0 - 13.0	0.05	25	102	17	19.5	9.3	13	30	5
T.BAS-3/S	13.0 - 20.0	0.06	30	125	20	26	12.8	18	35	7
T.BAS-4/S	20.0 - 29.0	0.07	37	154	25	32.5	19.5	26	40	7
T.BAS-5/S	29.0 - 39.0	0.08	47	188	30	36	28	34	55	8
T.BAS-6/S	39.0 - 51.0	0.09	58	230	38	45	38	45	70	9
T.BAS-7/S	51.0 - 65.0 ^l	0.09	70	292	50	60	49	60	85	12
T.BAS-8/S	65.0 - 80.0	0.10	85	328	55	65	62	70	95	15

* Maximal Tolerance of the Workpiece to clamp

Dimensions (mm)

When placing an order, please specify us the following informations:

- Code and quantity of the mandrel
- Diameter and exact tolerance of the Workpiece to clamp
- Use of the mandrel: between centers, onto V-blocks or both

Example of order:

T.BAS-3/S-0190 19 mm \varnothing +0.02/-0.02 (between centers)

T.MAM

Hydraulic membrane chucks or mandrels

T.MAM is a hydraulic membrane chuck or mandrel designed for perfectly cylindrical internal or external clamping over the entire surface.

APPLICATION

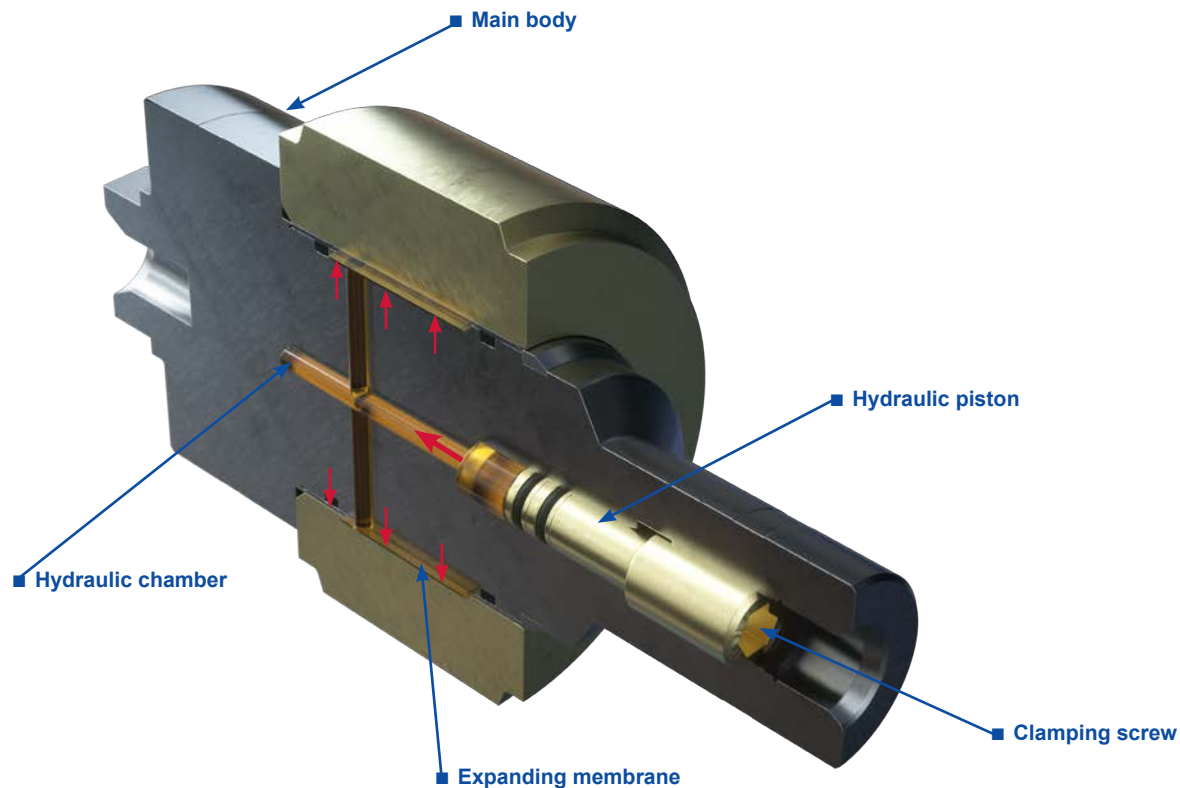
- Hard turning, grinding, run-out inspection

TECHNICAL FEATURES

- Attachment: Spindle nose or in between centers
- Actuation: Automatic or Manual
- Internal or external clamping: smooth with one or further membranes
- Air sensing control on the workstop: With or without

ADVANTAGES

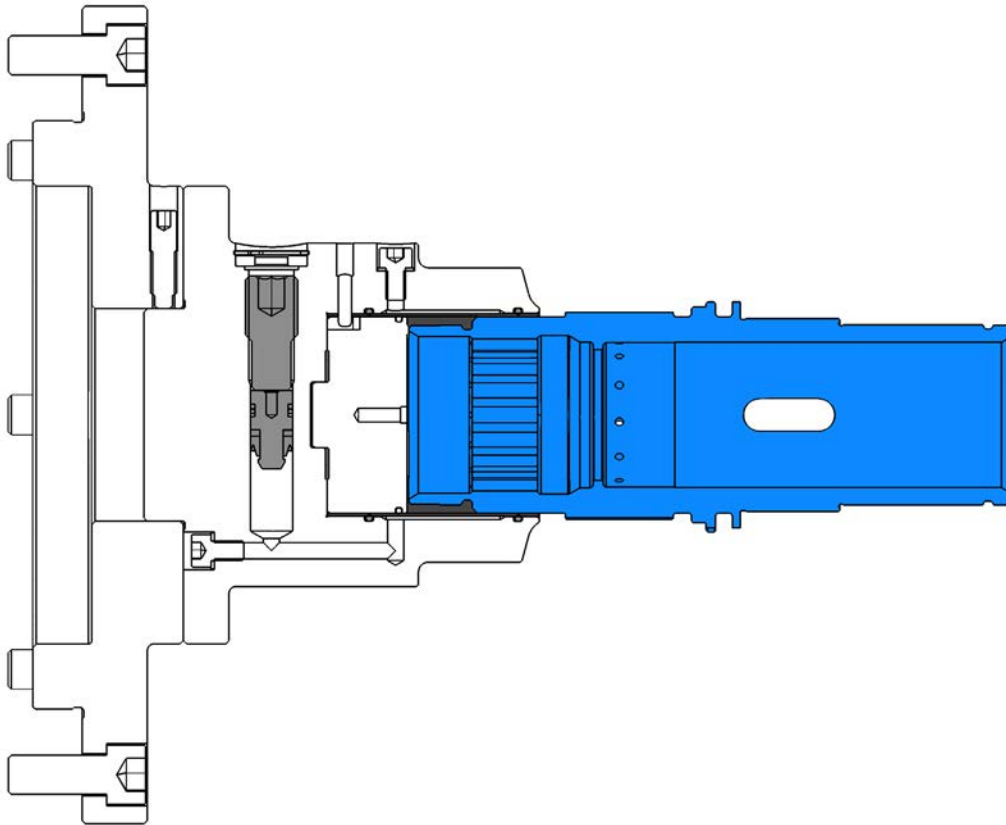
- High Accuracy: Concentricity $\leq 5\mu$
- Repeatability, durability and reliability
- Total sealing of the unit which provides a protection against chips and cutting coolant



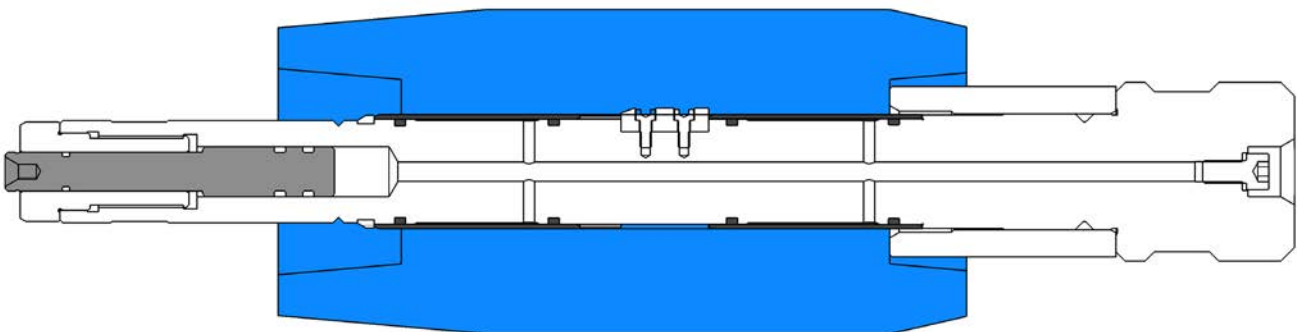


Hydraulic membrane chucks or mandrels

Hydraulic Chuck, flange mounted. Operated manually, 1 membrane for outside clamping diameter.



Hydraulic mandrel, mounted between centers. Operated automatically by live center. 2 tubular membranes for inside clamping diameter.



TMS

Manual quick workholding change system

TMS is a manual quick workholding change system with a self centering on its taper/face and a pull back system by 3 quick-locking screws in a half turn of the key.

APPLICATION

- Any machining processes

TECHNICAL FEATURES

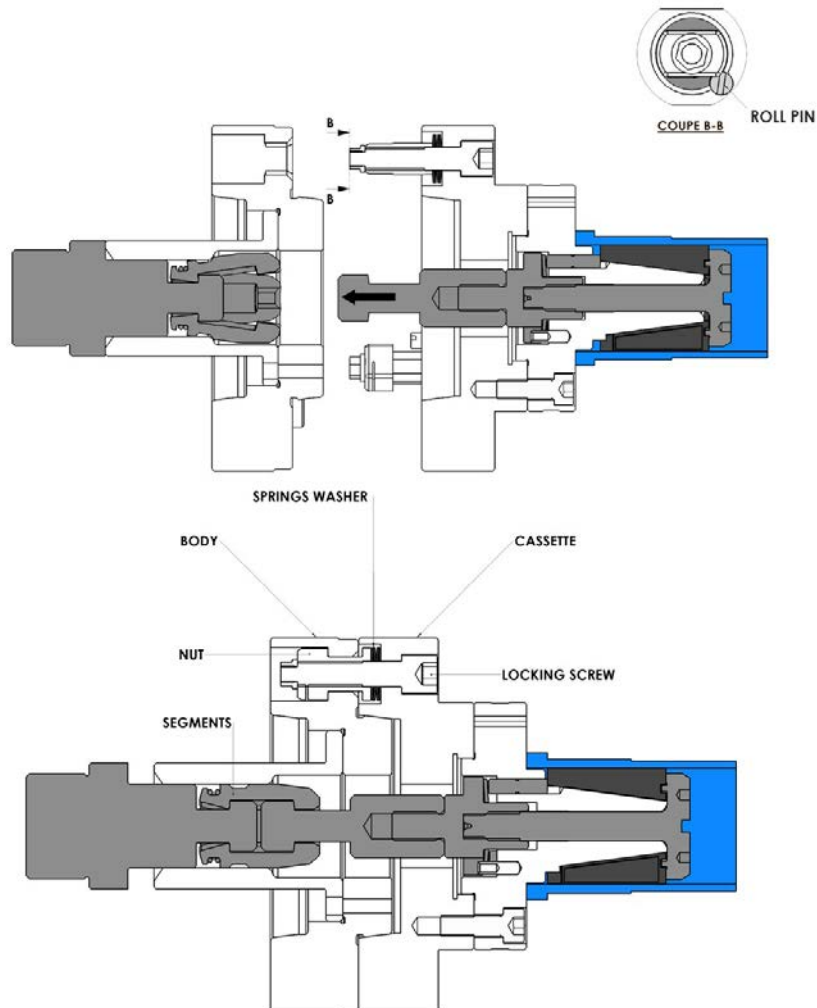
- Actuation: By a simple cylinder
- Attachment: 6, 8, 11 et 15''
- Workholding interchangeability is performed by an Operator

ADVANTAGES

- High Accuracy: Concentricity $\leq 5\mu$
- Simple and fast, saving your time during change over, allowing flexibility to your machines.



TMS Locating System





TWS

Automatic quick workholding change system

TWS is an automatic quick workholding change system which pulls back the mandrel on the spindle taper or face by means of sliding jaws or segments. It is actuated directly by the cylinder.

APPLICATION

- Any machining processes

TECHNICAL FEATURES

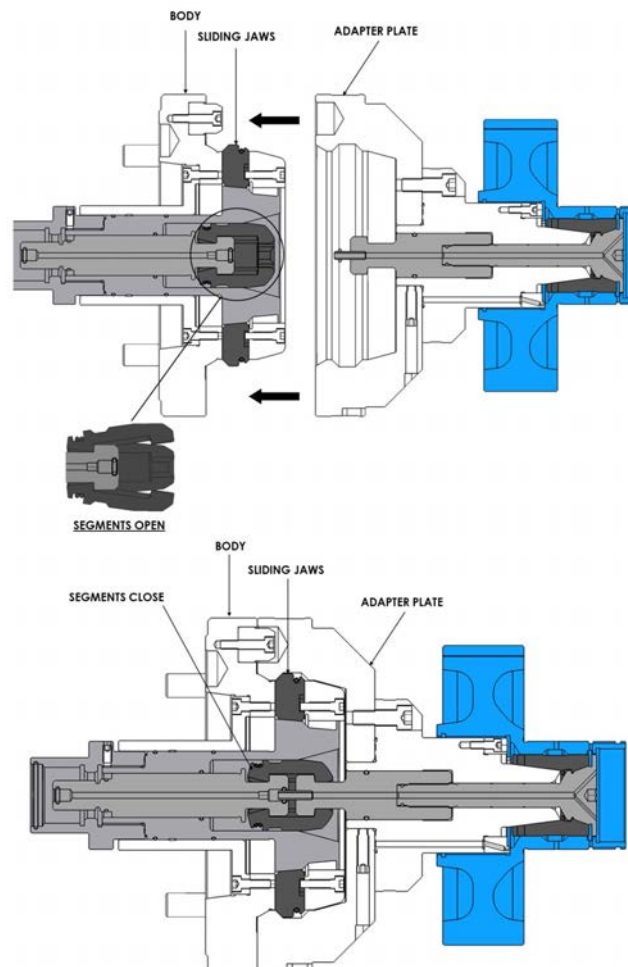
- Actuation: by a double pistons cylinder. The action of the first piston simultaneously locks the cassette and grips the retention knob by means of segments or sliding jaws. The second piston activates the clamping and unclamping of the work holding device by the actuating sleeve
- Attachment: 6, 8, 11 et 15''
- Workholding interchangeability is performed by an operator or a robot



ADVANTAGES

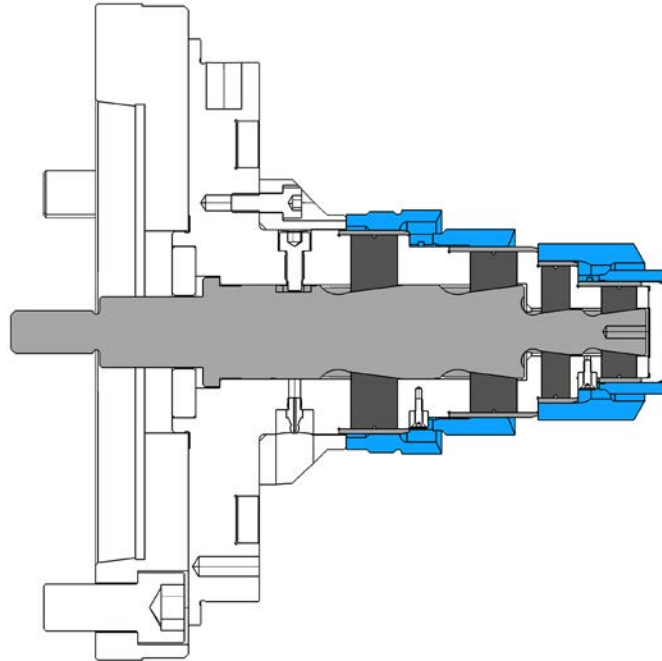
- High Accuracy: Concentricity $\leq 10 \mu\text{m}$
- Simple and fast, saving your time during change over, allowing flexibility to your machines.

TWS Locating System



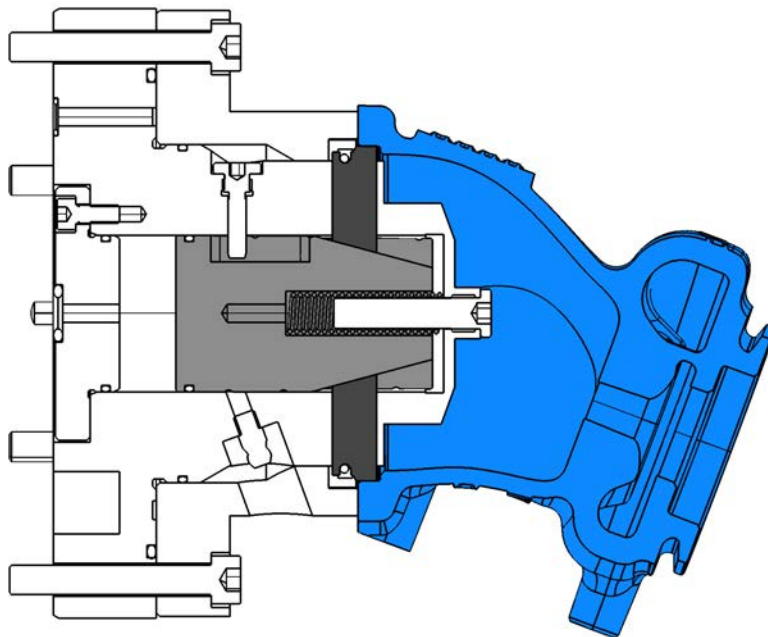
Sliding jaws mandrel

Sliding jaws mandrel, flange fixture, drawbar actuation, equipped with 4 sets of sliding jaws.



Sliding jaws mandrel

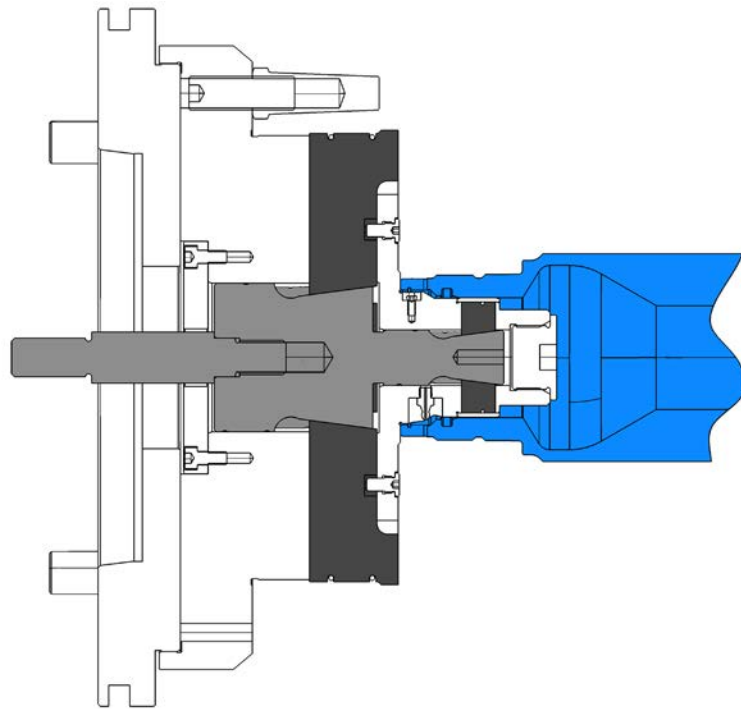
Sliding jaws mandrel, flange fixture, hydraulic actuation, unclamping by spring, equipped with 1 set of serrated jaws.





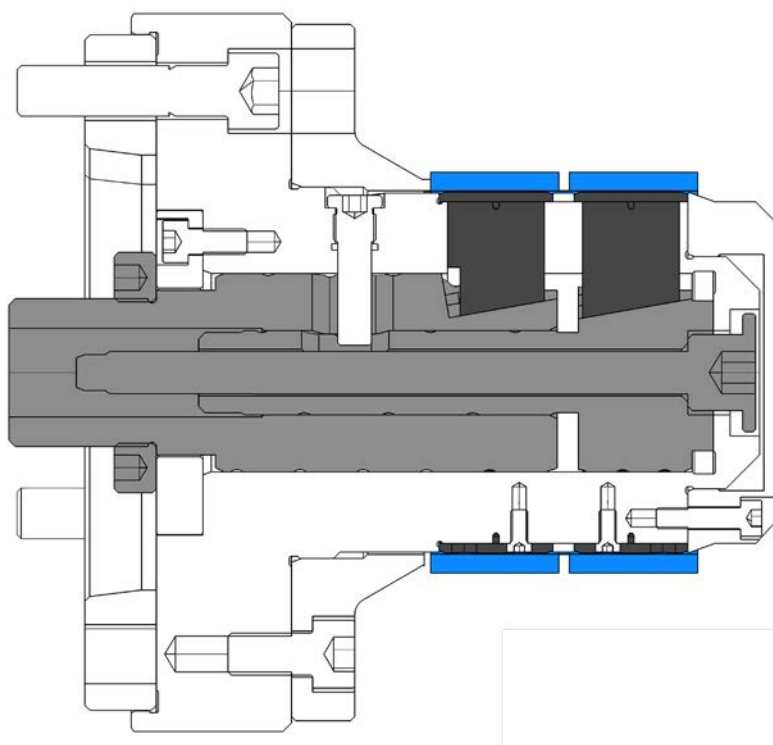
Sliding jaws mandrel

Sliding jaws mandrel, flange fixture, drawbar actuation, equipped with 2 sets of serrated jaws to clamp 2 different workpieces



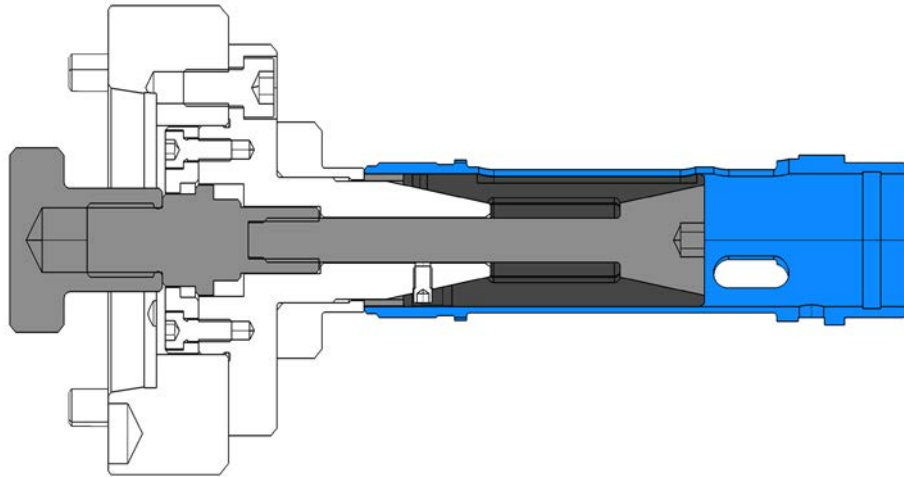
Sliding jaws mandrel

Sliding jaws mandrel, flange fixture, double drawbars actuation, equipped with 2 sets of independant sliding jaws.



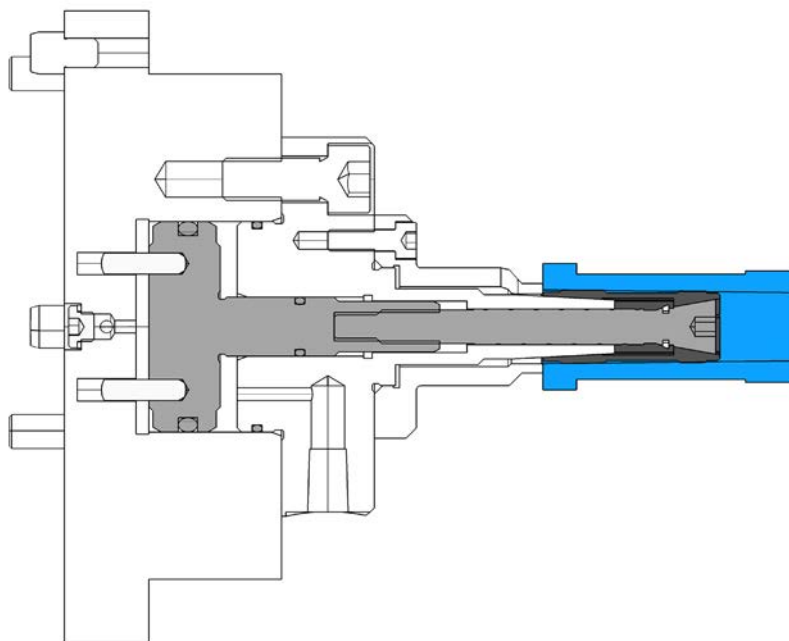
Double taper sleeve mandrel

Double taper sleeve mandrel, flange fixture, drawbar actuation.



Double taper sleeve mandrel

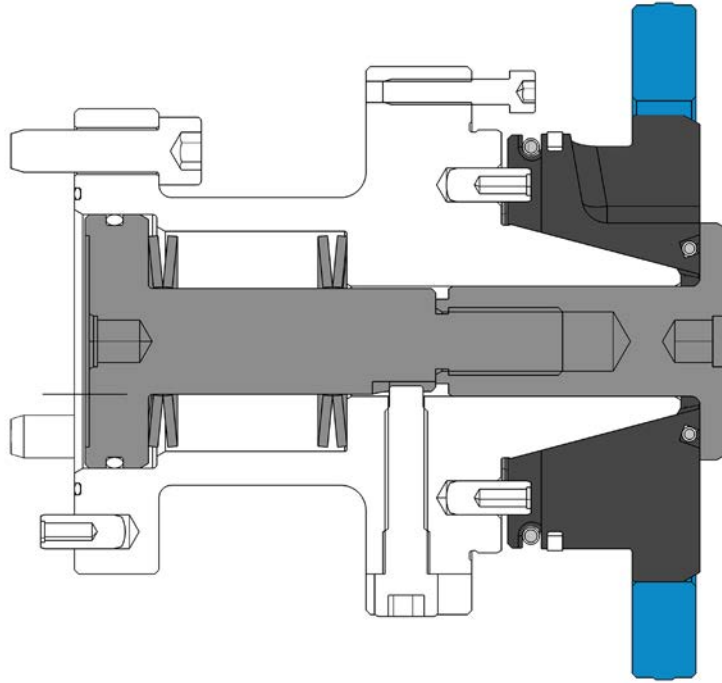
Double taper sleeve mandrel, flange fixture, pneumatic clamping actuation.





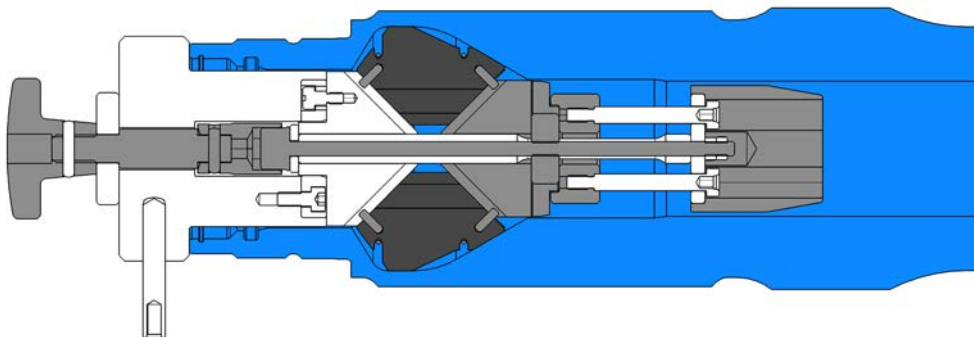
Segment sleeve mandrel

Segments mandrel, flange fixture, Spring element actuation, hydraulic unclamping actuation.



Segment sleeve mandrel

Segments mandrel, flange fixture, operated manually.





SMW-AUTOBLOK TOBLER
17, Avenue des Frères Montgolfier - Z.I Mi-Plaine
F-69680 Chassieu, FRANCE
Tel. +33 (0) 472791818
Fax +33 (0) 472791819
E-mail: autoblok@smwautoblok.fr



AUTOBLOK s.p.a.
Via Duca D'Aosta n.24
Fraz. Novaretto
I-10040 Caprie - Torino
Tel. +39 011 - 9638411
Tel. +39 011 - 9632020
Fax +39 011 - 9632288
E-mail: info@smwautoblok.it



SMW-AUTOBLOK Corporation
285 Egidi Drive - Wheeling, IL 60090 USA
Tel. +1 847 - 215 - 0591
Fax +1 847 - 215 - 0594
E-mail: autoblok@smwautoblok.com



SMW-AUTOBLOK Spansysteme GmbH
Postfach 1151 • D-88070 Meckenbeuren
Wiesentalstraße 28 • D-88074 Meckenbeuren
Tel. +49 (0) 7542 - 405 - 0
Vertrieb Inland: Fax +49 (0) 7542 - 3886
E-mail vertrieb@smw-autoblok.de
Sales International: Fax: +49 (0) 7542 - 405 - 181
E-mail: sales@smw-autoblok.de



SMW-AUTOBLOK Japan Inc.
1-56 Hira, Nishi-Ku, JAPAN
461-Nagoya
Tel. +81 (0) 52 - 504 - 0203
Fax +81 (0) 52 - 504 - 0205
E-mail: japan@smwautoblok.co.jp



SMW-AUTOBLOK Telbrook Ltd.
7 Wilford Industrial Estate
Ruddington Lane, Wilford
GB-Nottingham, NG11 7EP
Tel. +44 (0) 115 - 982 1133
E-mail: info@smw-autoblok-telbrook.co.uk



SMW-AUTOBLOK (Shanghai) Work Holding Co.,Ltd.
Building 6, No.72, JinWen Road, KongGang
Industrial Zone, ZhuQiao Town, Pudong District
201323, Shanghai P.R. China
Tel. +86 21 - 5810 - 6396
Fax +86 21 - 5810 - 6395
E-mail: china@smwautoblok.cn



SMW-AUTOBLOK IBERICA, S.L.
Ursalto 4 – Pab. 9-10 Pol. 27
20014 Donostia - San Sebastián (Gipuzkoa)
Tel.: +34 943 - 225 079
Fax: +34 943 - 225 074
E-mail: info@smwautoblok.es



SMW-AUTOBLOK Mexico, S.A. de C.V.
Acceso III No. 16 Int.9
Condominio Quadrum
Industrial Benito Juarez
Querétaro, Qro. C.P. 76130
Tel. +52 (442) 209 - 5118
Fax +52 (442) 209 - 5121
E-mail: smwmex@smwautoblok.mx



AUTOBLOK s.p.a. Uff. Rappr.
B.Tulskaya str., 10, bld.3, off. 323,
115191 Moscow, RUSSIA
Tel. +7 495 -231-1011
Fax +7 495 -231-1011
E-mail: info@smw-autoblok.ru



SMW-AUTOBLOK Workholding Pvt. Ltd.,
Plot No. 4, Weikfield Industrial Estate,
Gat No. 1251, Sanaswadi, Tal – Shirur, INDIA
Dist – Pune. 412 208
Tel. +91 2137 - 616 974
Fax +91 2137 - 616 972
E-mail: info@smwautoblok.in



AUTOBLOK Company Ltd.
NO.6, SHUYI RD., SOUTH DIST.,
TAICHUNG, TAIWAN
Tel. +886 4-226 10826
Fax +886 4-226 12109
E-mail: taiwan@smwautoblok.tw



SMW-AUTOBLOK MAKİNA SAN. VE TİC. LTD. ŞTİ.
Yenişehir Mah, Osmanlı Blv, TURKEY
Volume Kurtköy Ofis, No:9, Kat:1,
D:4, PK: 34912, Pendik, İstanbul
Tel. +90 216 629 - 2019
E-mail: info@smwautoblok.com.tr



SMW-AUTOBLOK s.r.o.
Merhautova 20
CZ - 613 00 BRNO
Tel. +420 513 034 157
Fax +420 513 034 158
E-mail: info@smw-autoblok.cz



SMW-AUTOBLOK Scandinavia AB
Kasernvägen 2
SE - 281 35 Hässleholm
Tel. +46 (0) 761 420 111
E-mail: info@smw-autoblok.se



SMW-AUTOBLOK Poland SP. Z O.O
Ligocka 103 - Building 8
40-568 Katowice, POLAND
Tel. +48 (0) 664 673 428
E-mail: info@smwautoblok.pl



SMW-AUTOBLOK KOREA CO., LTD.
1108 ho, Baeksang Startower 1st,
65, Digital-ro 9-gil, Geumcheon-gu
Seoul, ROK-08511, KOREA
Tel. +82 2 6267 9505
Fax +82 2 6267 9507
E-mail: info-korea@smw-autoblok.net