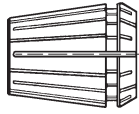




## ER Collets

### ER11 Collets

[C]



Part Number	Complete Description	Price Each
7111010	ER11 1.0mm	33.25
7111015	ER11 1.5mm	33.25
7111020	ER11 2.0mm	33.25
7111025	ER11 2.5mm	33.25
7111030	ER11 3.0mm	28.50
7111035	ER11 3.5mm	28.50
7111040	ER11 4.0mm	28.50
7111045	ER11 4.5mm	28.50
7111050	ER11 5.0mm	28.50
7111055	ER11 5.5mm	28.50
7111060	ER11 6.0mm	28.50
7111065	ER11 6.5mm	28.50
7111070	ER11 7.0mm	28.50

### ER25 Collets

[C]

Part Number	Complete Description	Price, Each
7125010	ER25 1.0mm	37.25
7125015	ER25 1.5mm	52.25
7125020	ER25 2.0mm	37.25
7125025	ER25 2.5mm	52.25
7125030	ER25 3.0mm	28.50
7125035	ER25 3.5mm	48.25
7125040	ER25 4.0mm	28.50
7125045	ER25 4.5mm	48.25
7125050	ER25 5.0mm	28.50
7125055	ER25 5.5mm	48.25
7125060	ER25 6.0mm	28.50
7125065	ER25 6.5mm	48.25
7125070	ER25 7.0mm	28.50
7125075	ER25 7.5mm	48.25
7125080	ER25 8.0mm	28.50
7125085	ER25 8.5mm	48.25
7125090	ER25 9.0mm	28.50
7125095	ER25 9.5mm	48.25
7125100	ER25 10.0mm	28.50
7125105	ER25 10.5mm	48.25
7125110	ER25 11.0mm	28.50
7125115	ER25 11.5mm	48.25
7125120	ER25 12.0mm	28.50
7125125	ER25 12.5mm	48.25
7125130	ER25 13.0mm	28.50
7125135	ER25 13.5mm	48.25
7125140	ER25 14.0mm	28.50
7125145	ER25 14.5mm	48.25
7125150	ER25 15.0mm	28.50
7125155	ER25 15.5mm	48.25
7125160	ER25 16.0mm	28.50

### ER16 Collets

[C]

Part Number	Complete Description	Price, Each
7116010	ER16 1.0mm	35.25
7116015	ER16 1.5mm	50.25
7116020	ER16 2.0mm	35.25
7116025	ER16 2.5mm	50.25
7116030	ER16 3.0mm	26.50
7116035	ER16 3.5mm	46.25
7116040	ER16 4.0mm	26.50
7116045	ER16 4.5mm	46.25
7116050	ER16 5.0mm	26.50
7116055	ER16 5.5mm	46.25
7116060	ER16 6.0mm	26.50
7116065	ER16 6.5mm	46.25
7116070	ER16 7.0mm	26.50
7116075	ER16 7.5mm	46.25
7116080	ER16 8.0mm	26.50
7116085	ER16 8.5mm	46.25
7116090	ER16 9.0mm	26.50
7116095	ER16 9.5mm	46.25
7116100	ER16 10.0mm	26.50

### ER32 Collets

[C]

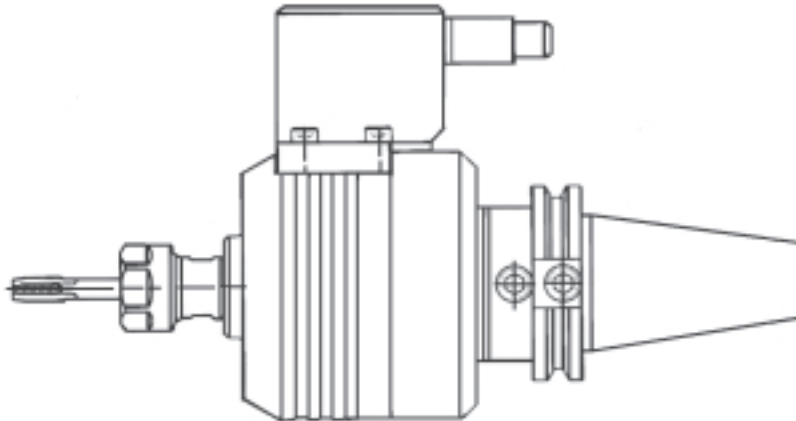
Part Number	Complete Description	Price, Each
7132020	ER32 2.0mm	47.75
7132025	ER32 2.5mm	60.00
7132030	ER32 3.0mm	30.25
7132035	ER32 3.5mm	50.25
7132040	ER32 4.0mm	30.25
7132045	ER32 4.5mm	50.25
7132050	ER32 5.0mm	30.25
7132055	ER32 5.5mm	50.25
7132060	ER32 6.0mm	30.25
7132065	ER32 6.5mm	50.25
7132070	ER32 7.0mm	30.25
7132075	ER32 7.5mm	50.25
7132080	ER32 8.0mm	30.25
7132085	ER32 8.5mm	50.25
7132090	ER32 9.0mm	30.25
7132095	ER32 9.5mm	50.25
7132100	ER32 10.0mm	30.25
7132105	ER32 10.5mm	50.25
7132110	ER32 11.0mm	30.25
7132115	ER32 11.5mm	50.25
7132120	ER32 12.0mm	30.25
7132125	ER32 12.5mm	50.25
7132130	ER32 13.0mm	30.25
7132135	ER32 13.5mm	50.25
7132140	ER32 14.0mm	30.25
7132145	ER32 14.5mm	50.25
7132150	ER32 15.0mm	30.25
7132155	ER32 15.5mm	50.25
7132160	ER32 16.0mm	30.25
7132165	ER32 16.5mm	50.25
7132170	ER32 17.0mm	30.25
7132175	ER32 17.5mm	50.25
7132180	ER32 18.0mm	30.25
7132185	ER32 18.5mm	50.25
7132190	ER32 19.0mm	30.25
7132195	ER32 19.5mm	50.25
7132200	ER32 20.0mm	30.25

### ER20 Collets

[C]

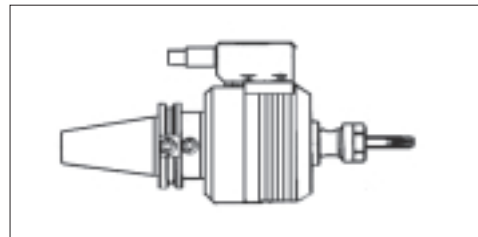
Part Number	Complete Description	Price Each
7120010	ER20 1.0mm	36.25
7120015	ER20 1.5mm	51.25
7120020	ER20 2.0mm	36.25
7120025	ER20 2.5mm	51.25
7120030	ER20 3.0mm	27.50
7120035	ER20 3.5mm	47.25
7120040	ER20 4.0mm	27.50
7120045	ER20 4.5mm	47.25
7120050	ER20 5.0mm	27.50
7120055	ER20 5.5mm	47.25
7120060	ER20 6.0mm	27.50
7120065	ER20 6.5mm	47.25
7120070	ER20 7.0mm	27.50
7120075	ER20 7.5mm	47.25
7120080	ER20 8.0mm	27.50
7120085	ER20 8.5mm	47.25
7120090	ER20 9.0mm	27.50
7120095	ER20 9.5mm	47.25
7120100	ER20 10.0mm	27.50
7120105	ER20 10.5mm	47.25
7120110	ER20 11.0mm	27.50
7120115	ER20 11.5mm	47.25
7120120	ER20 12.0mm	27.50
7120125	ER20 12.5mm	47.25
7120130	ER20 13.0mm	27.50

## GNCN / GNCK Tapping Attachments



### *High performance tapping attachments with integral reversing gear*

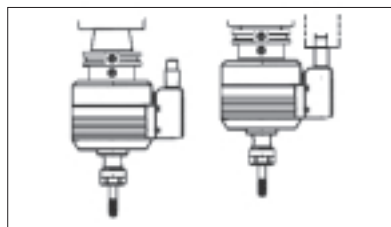
BILZ GNCN/GNCK tapping attachments are of modular design and can therefore meet the specific requirements of individual machines. They can be used on machining centres with automatic tool change facility and on special purpose machines.



Because of the integrated maintenance free reversing gear, changes in direction of the machine spindle are unnecessary.

The length compensation on tension, with a ball release system which operates when in reverse, guarantees thread depths of + 0,15 mm up to a speed of 4000 rpm. The GNCK tapping unit with coolant flow, can facilitate pressures up to a maximum of 50 bar.

Precision collets ensure that the tap is securely clamped, and additional square drivers can be utilised where high torque is being generated, for example, when thread forming.



The torque support locks the unit relative to the spindle, thus making automatic tool changing possible. When tool changing takes place, the locking mechanism releases the torque support and allows the tool changing operation to be effected.

Because of the use of the reversing gears, high tapping speeds are possible resulting in significantly shorter cycle times compared to conventional or rigid tapping.



# High Performance, High Precision Tapping Products

## GNCN / GNCK High Speed Self- Reversing Tapping Attachment

The Bilz GNCK/GNCN tapping attachment is modular in design to meet individual applications. It is fixed, depending on the spindle requirements, for automatic tool change by the stop arm- At tool change the stop will be released to make the attachment ready for use- .

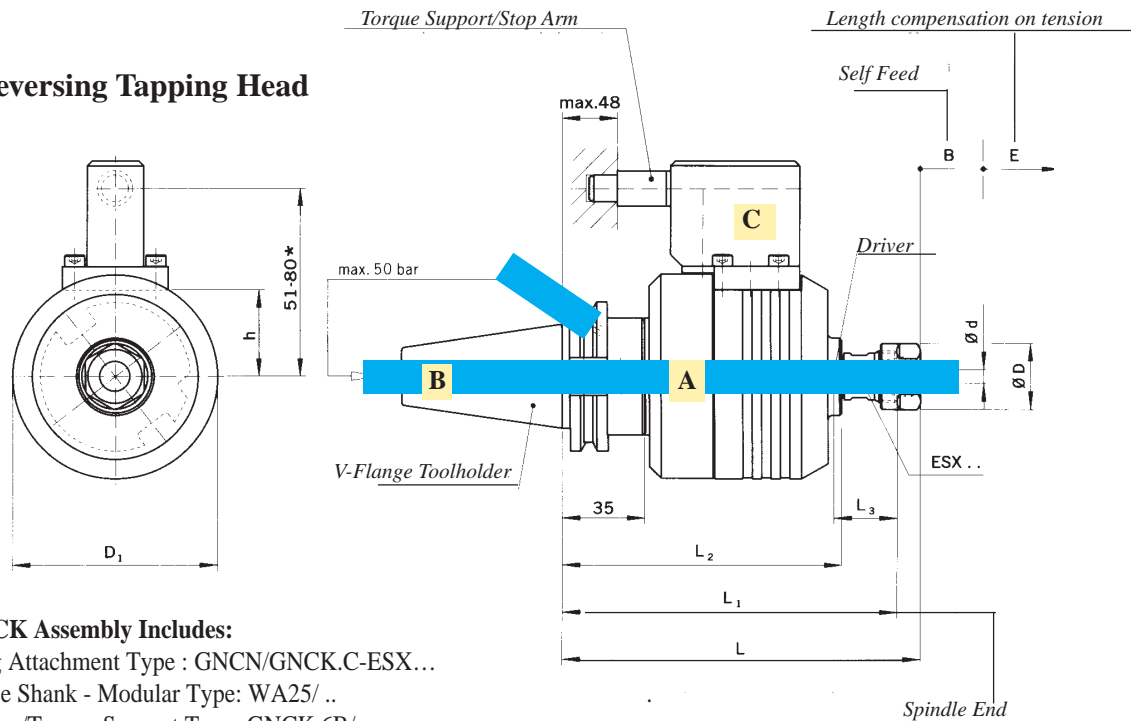
Available in 3 sizes of attachments:

M2 - M6	#0 -1/4"	4,000 rpm
MS - M12	#0 -1/2"	2,500 rpm
M10 - M20	1/2" - 3/4"	1,500 rpm

Features:

- Eliminates machine spindle reversal
- Modular adaptability
- Improved tap life due to constant cutting speed
- Guarantee thread depth of  $\pm .006$
- Tapping right handed and left handed threads
- Maximum endurance of driving devices by means of built-in buffering elements for the acceleration forces

### Self Reversing Tapping Head



#### GNCN/GNCK Assembly Includes:

- A** • Tapping Attachment Type : GNCN/GNCK.C-ESX...
- B** • V-Flange Shank - Modular Type: WA25/ ..
- C** • Stop Arm /Torque Support Type: GNCK 6B/
  - Tool kit comprised of 2 fork wrenches and allen hex key

A	Tapping Attach. Collet	Tap size	ød	n <sub>max,1</sub> min	B	E	øD	øD <sub>1</sub>	h	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub> min/max
Non- Internal Coolant													
GNCN6C-ESX12	ESX12	M2-M6(0-1/4")	3-7	4000	3,5	6,5	19	70	27	132	125	106	13/21
GNCN12C-ESX16	ESX16	M4-M 12(0-1/2n)	3-10	2500	5	9	28	87	37	153	143	119	25/45
GNCN20C-ESX25	ESX25	M12-M20(1/2"-3/4")	7,1-16	1500	8	10	42	100	45	187	175	142	29/42
Internal Coolant 50 bar (725 psi)													
GNCK6C-ESX12	ESX12	M3-M6(0-1/4")	3-7	4000	3,5	6,5	19	70	27	132	125	106	13/21
GNCK12C-ESX16	ESX16	M4-M 12(0-1/2n)	3-10	2500	5	9	28	87	37	153	143	119	25/45
GNCK20C-ESX25	ESX25	M12-M20(1/2"-3/4")	7,1-16	1500	8	10	42	100	45	187	175	142	29/42

Note: ESX/ER.. Collet purchased separately

#### **B** V-Flange Toolholder - Modular

Part Number	Complete Description	Price Each
388 831 407	WA25/A126/AD50	306.00
388 831 414	WA25/A126/B50	263.00
388 831 533	WA25/A126/SK50	322.00
388 831 511	WA25/A86/SK50	P.O.A.
388 831 397	WA25/HSK63A	363.00
388 831 400	WA25 IK/HSK63A	396.00
388 831 401	WA25 IK/HSK100A	455.00

Note: Quantity pricing applies

#### **C** Stop Arm / Torque Support

Part Number	Complete Description	Price Each
...	GNCN/GNCK 6B...*	425.00
...	GNCN/GNCK 12B...*	425.00
...	GNCN/GNCK 20B...*	425.00

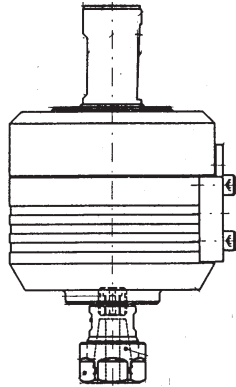
\* Specific Machine Model Required



## GNCN/GNCK Tapping Attachment

### A GNCN/GNCK Attachment Only

- Tap head to attach to V-flange and stop arm\*
- Modular MS25 Shank similar to DIN 1835
- Drive Square utilized in GNCN/GNCK12/20
- Wrench kit included



Note : Customer may furnish his own V-flange and stop arm to attach the GNCN/GNCK Tapping Unit

Part Number	Complete Description	Price Each [C]
39 250 399	Internal Coolant 50 bar GNCK 6C-ESX12	1,924.00
39 250 293	GNCK 12C-ESX16	1,924.00
39 250 505	GNCK 20C-ESX16	2,427.00
Non-Internal Coolant		
39 250 430	GNCN 6C-ESX12	1,630.00
39 250 462	GNCN 12C-ESX16	1,630.00
39 250 519	GNCN 20C-ESX16	2,132.00


Note: ESX Collects must be purchased separately

Ordering Information for Attachment only

GNCN 6C-ESX 12

GNCK 6C-ESX 12

### GNCN/GNCK Accessories / Drive Squares

	Driver	□	L <sub>3</sub>	Set 
GNCN6C-ESX12/ GNCK6C-ESX12/.	————	2.7-5	13-2	GNCK-ESX12
GNCN12C-ESX16/ GNCK12C-ESX16/	BN1716-4	4	27	GNCK-ESX16
	BN1716-4,5	4,5	28	
	BN 1716-5	4,9-5	29	
	BN1716-5.6	5.5-5.6	29	
	BN1716-6.3	6.2-6.3	30	
	BN1716-6.5	6,5	30	
GNCN20C-ESX25/ GNCK20C-ESX25/	————	8	44	GNCK-ESX25
	BN1725-8	<7	29	
	BN1725-10	7-8	38	
	BN1725-12	9-10	40	
		11-12	42	

### GNCN/GNCK Adjustment Kits [C]

Part Number	Complete Description	Price Each
39 831 954	GNCK-ESX16	28.00
39 831 955	GNCK-ESX12	28.00
39 831 956	GNCK-ESX25	28.00

## GNCN/GNCK Programming Information

For tapping operations on machining centers using GNCN/GNCK, the following should be taken into account when programming the machine:

- No change in direction of rotation of the machine spindle, as this is carried out by the GNCN/GNCK.
- Feed = thread pitch. (97 - 98% in, 97 - 98% out),
- No dwell
- Hard start - no compression
- Length compensation on tension
- Self feed guaranteed to + .006" of thread depth
- Override switch must always be at 100%.

### To Program GNCN/GNCK

Rapid advance to safety distance "Y" 2-3 mm over the workpiece. Program thread depth "Z" plus tap chamfer. Check thread depth. Retract to appropriate safety distance "X".

Y = 2 - 3 mm over the workpiece

Z = Threaded path plus chamfer minus:

GNCN/GNCK 6 1.75mm

GNCN/GNCK 12 2.5mm

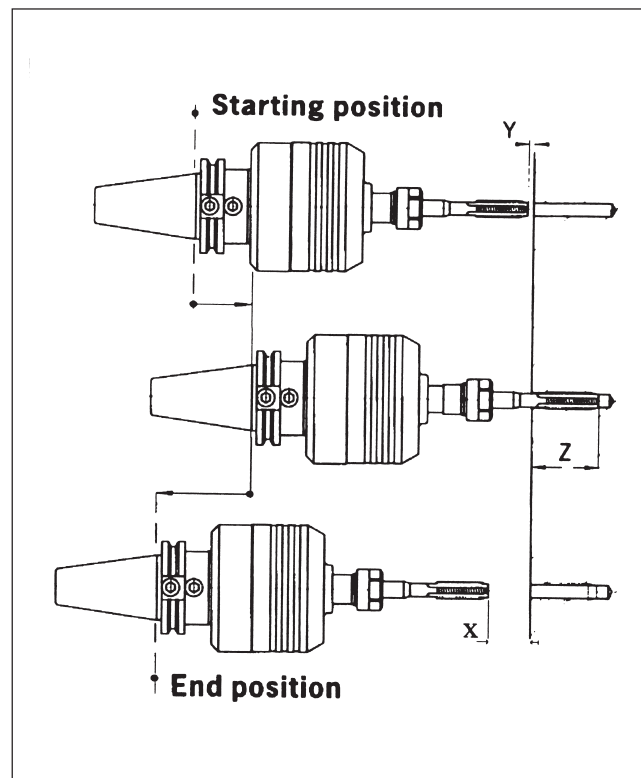
GNCN/GNCK 20 4mm

X = Retract to:

GNCN/GNCK 6 10mm

GNCN/GNCK 12 14mm

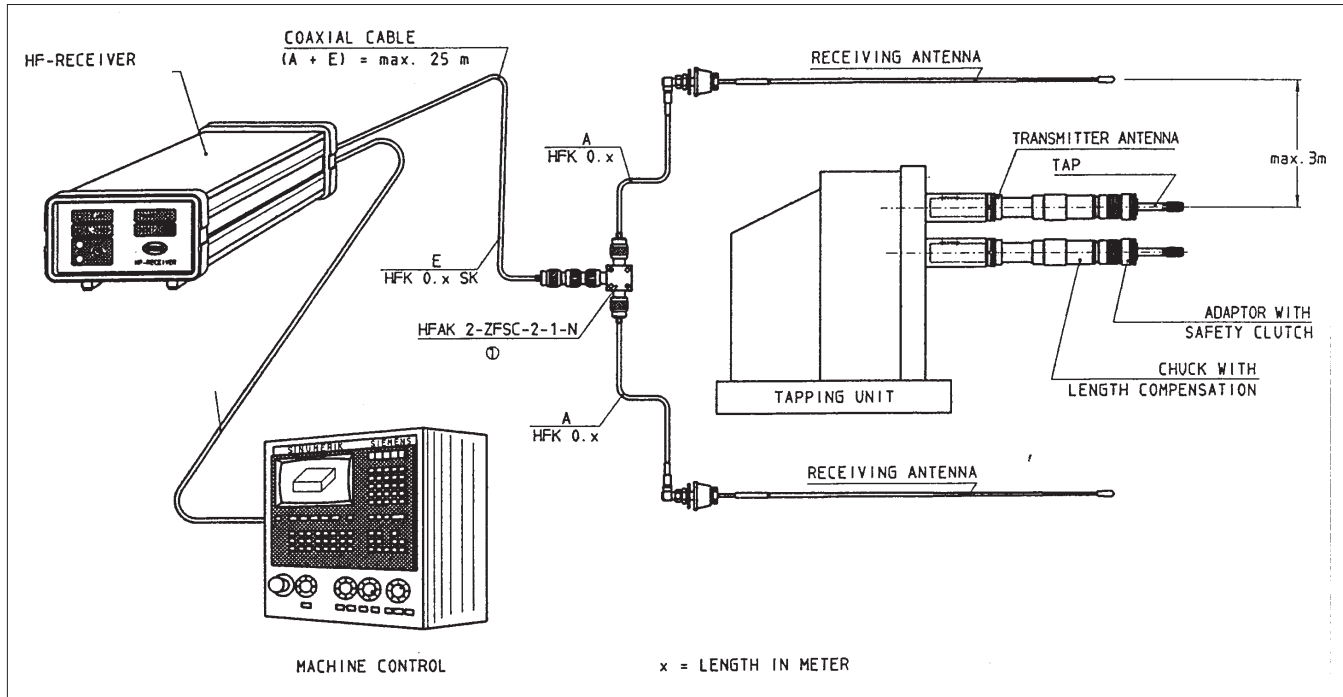
GNCN/GNCK 20 18mm





# High Performance, High Precision Drilling and Tapping System

## High Frequency Fault Detection System



## Tool Fault Detection System

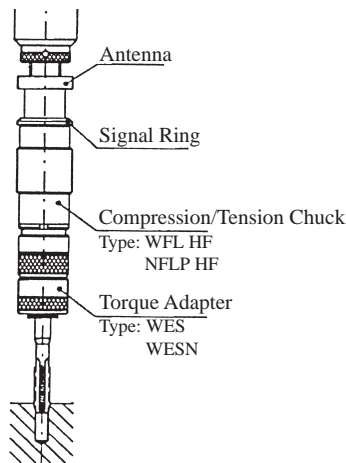
### Applications

- Transfer Lines
- Special Purpose Machines
- Multiple Spindle Heads
- CNC Machines

### Benefits

- In-process tool control immediately signals any irregularities in the tapping process and automatically stops it.
- Wireless signal transmission to the receiver allows restriction-free application.
- Minimizes inspection time and production losses during assembly.
- Eliminates the need for manual or other electronic thread gaging.
- Chuck battery control feature ensures functioning of the system.

## Compression Tap Chuck With Torque Sensitive Tap Adapter



In combination with Bilz tap chucks, the HF system controls the tapping operation by monitoring the applied torque. The HF transmitter is built into the tool and reacts to the length compensation of the chuck, which is automatically compressed by the machine feed if the torque setting of the adapter is exceeded. A signal is sent via the antenna to the HF-receiver which either switches the machine off or gives an optical or audible signal. When the HF system is in use, costly control stations for checking threads or bores are usually not necessary.



## Electronic Fault & Detection System

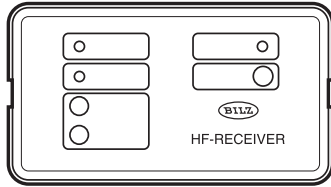
- For use on: transfer lines, special purpose machines and multiple spindle machines.
- In-process tool control immediately signals any irregularities in the tapping cycle and automatically stops it.
- Generally eliminates the need for manual or other electronic thread gaging.
- Battery check feature.

## Receivers

### HFE Model 3000 [C]

- Single channel receiver serves as the electronic link to the HF transmitter at the machine control station.
- Control panel features alarm, battery check, main power and level output indicators plus manual reset button.
- Level indicator monitors and visually indicates the strength of the HF signal.
- Designed for use with an unlimited number of HF chucks.

Part Number	Complete Description	Frequency	Price Each
42 600 317	HFE 3000-1U Receiver	49.830 MHz	3500.00
42 600 318	HFE 3000-2U Receiver	49.860 MHz	3500.00
42 600 319	HFE 3000-3U Receiver	49.890 MHz	3500.00
42 600 320	HFE 3000-4U Receiver	49.815 MHz	3500.00
42 600 321	HFE 3000-5U Receiver	49.845 MHz	3500.00
42 600 322	HFE 3000-6U Receiver	49.875 MHz	3500.00

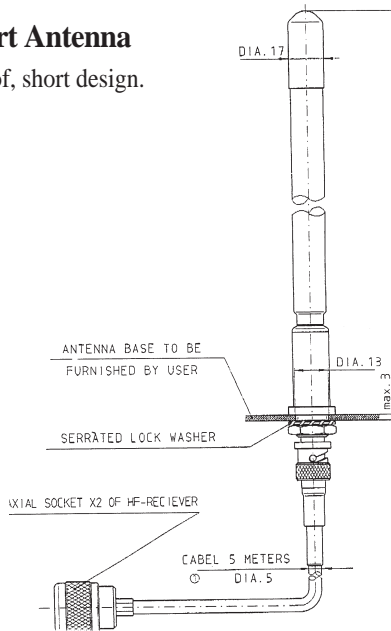


**NOTE: ADDITIONAL FREQUENCIES AVAILABLE**  
i.e. 73 MHz

## Antennas

### HFA 2 Short Antenna

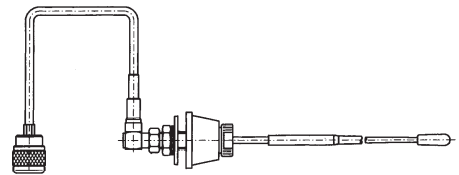
- Waterproof, short design.



Part Number	Complete Description	[C]	Price Each
42 600 411	HFA 2.0 Antenna only		126.00
42 600 441	HFA 2.05 Antenna with 5m cable		183.00
42 600 444	HFA 2.10 Antenna with 10m cable		199.00

### HFA 0 Long Antenna

Part Number	Complete Description	[C]	Price Each
42 922 029	HFA 0 Antenna only		99.00
42 600 012	HFA 0.05 Antenna with 5m cable		202.00
42 600 050	HFA 0.10 Antenna with 10m cable		220.00



## Transmitters

### HFS 3000 – U. Transmitter [C]

- Transmitter channels 1U-6U.
- Equipped with internal battery control which activates an alarm when voltage drops below acceptable levels.
- Transmits HF signal via antenna if machining irregularities occur during tapping operations.
- Battery, transmitter, crystal sealed against coolant.

Part Number	Complete Description	Price Each
42 600 377	HFS 3000-1U Transmitter	318.00
42 600 378	HFS 3000-2U Transmitter	318.00
42 600 379	HFS 3000-3U Transmitter	318.00
42 600 380	HFS 3000-4U Transmitter	318.00
42 600 381	HFS 3000-5U Transmitter	318.00
42 600 382	HFS 3000-6U Transmitter	318.00

**NOTE: Change O-Ring each time you change a battery.**

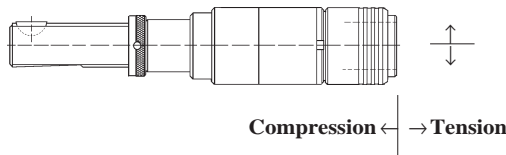


# High Performance, High Precision Drilling and Tapping Systems

## BILZ High Frequency Fault Detection Tap Chucks

### WFL/WFLP/WFLK

- Fault detection by means of compression relative to torque.
- Radial / Parallel Float for cored holes on part piece bosses.
- Tension / Compression feature for multiple pitch spindles.



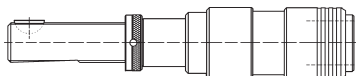
## BILZ Quick-Change Tapping Chucks with Integrated HF-Transmitter

### WFL ...-../Acme - HF.U

[C]

#### Tr

- Equipped with built-in transmitter.
- Specify frequency when ordering.



NOTE: WFA hardstart option available.

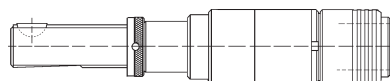
Part Number	Complete Description	Price Each
42 300 403	WFL 020-20 / Tr 20 -HF.U	886.00
42 310 606	WFL 130-30 / Tr 28 -HF.U	905.00
42 210 620	WFL 130-30 / 1-1/16"-HF.U	1147.00
42 310 720	WFL 140-4 / 1-1/16"-HF.U	1398.00

### WFLP ...-../Acme - HF.U

[C]

#### Tr

- Equipped with built-in transmitter.
- Specify frequency when ordering.
- Radial/Parallel Float.



NOTE: WFA hardstart option available.

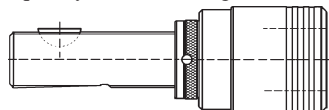
Part Number	Complete Description	Price Each
42 200 403	WFLP 020-20 / Tr 20 -HF.U	957.00
42 200 620	WFLP 030-30 / 3/4" -HF.U	1109.00
42 210 720	WFLP 130-30 / Tr 28 -HF.U	985.00
42 210 401	WFLP 130-30 / 3/4" -HF.U	1147.00
42 210 403	WFLP 130-30 / 1-1/16" -HF.U	1147.00
42 210 720	WFLP 140-40 / 1-1/16" -HF.U	1147.00

### WFLK ...-../Acme - HF.U

[C]

#### Tr

- Equipped with built-in transmitter.
- Specify frequency when ordering.



NOTE: WFA hardstart option available.

Part Number	Complete Description	Price Each
42 418 002	WFLK 115-5 / Tr 28 -HF.U	1136.00
42 418 003	WFLK 115-5 / 3/4" -HF.U	1285.00

## HF Accessories

### HF Accessories

[C]

- Battery

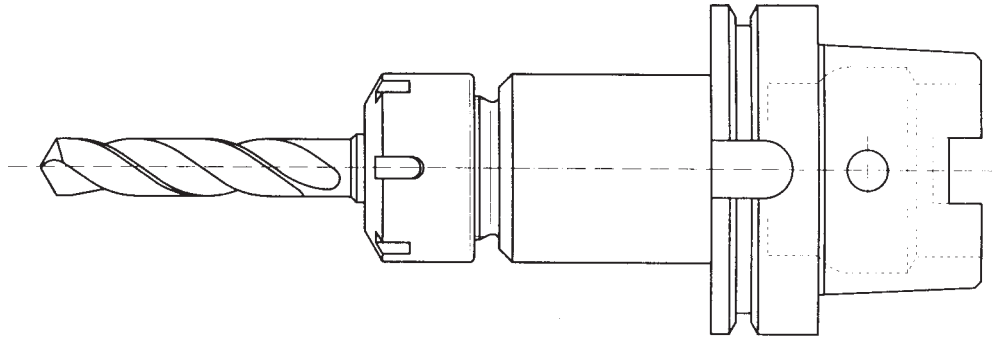
NOTE: Change O-Ring each time you change a battery.

Part Number	Complete Description	Price Each
42 814 662	HF 013 Battery	17.00

## BILZ New Generation H.F. Fault Detection Tap Chucks

### WFL/WFLP/WFLC

- New HFP .U design.
- Available for custom engineering.



*Collets for drilling and reaming operations using “pressure clamping” system for optimum concentricity and accuracy.*

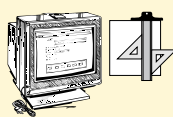
Using the mechanical expansion clamping principle, rigid and accurate tool clamping is achieved and is maintained at higher than normal spindle speeds. Enhanced tool life and high surface finish of the component are two of the resulting advantages of this clamping system.

The clamping is achieved by the use of a special lock nut, which, when tightened, brings axial pressure to bear on the end of the RD collet, which has specially formed bellows. The axial pressures created by the nut are converted through the bellows into a radial clamping force, which locks the collet on to the shank of the tool thus establishing rigid, precise and parallel clamping. In addition to this, an exceptionally high level of concentricity is obtained, the average concentricity expected from this system is  $\leq 10 \mu\text{m}$ .

The torque requirements are marked on the nut allowing for precise and consistent clamping of full cylindrical shanks to DIN 6535, and the system is designed so that a number of differing shanks can be accommodated in one holder by using various sleeves. When changing the sleeves it is important to ensure that the sight groove is correctly located at the front.

**INTERNAL COOLANT FLOW**

The coolant, up to a maximum of 100 bar is fed onto the cutting edges of the tool thus guaranteeing optimum coolant at high speeds.

Detailed, dimensional tool drawings are available upon request.  
Call (800) 227-5460 or  
FAX (800) 937-7752



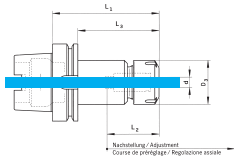


## BILZ SRD - The Clamping Chuck for High Performance Tools

- Rigid and accurate clamping, less than 10 microns.
- Internal coolant capable up to 100 bar.
- Secure torque transfer by means of mechanical clamping.
- Interchangeable pressure sleeves.

### SRD .. / HSK-A [C]

- Hollow taper shank DIN 69893 A
- 12 mm internal axial adjustment
- 100 bar coolant pressure
- Cylindrical shanks to DIN 6535

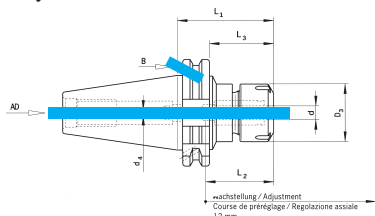


**NOTE: Internal coolant version SRD ..IK/HSK 63A available upon request.**

Part Number	Complete Description	Price Each
00 000 000	SRD 08 / HSK - A 50	POA
00 000 000	SRD 08 / HSK - A 63	POA
00 000 000	SRD 12 / HSK - A 50	POA
00 000 000	SRD 12 / HSK - A 63	POA
00 000 000	SRD 12 / HSK - A 100	POA
00 000 000	SRD 16 / HSK - A 63	POA
00 000 000	SRD 16 / HSK - A 100	POA
00 000 000	SRD 20 / HSK - A 63	POA
00 000 000	SRD 20 / HSK - A 100	POA

### SRD .. /A126/B .. [C]

- Hollow taper shank DIN 69871
- 12 mm internal axial adjustment
- 100 bar coolant pressure
- Cylindrical shanks to DIN 6535

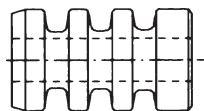


**NOTE: With coolant flow B or AD.**

Part Number	Complete Description	Price Each
30 500 008	SRD 08 /A 126 /B 40	524.00
30 500 010	SRD 12 /A 126 /B 40	524.00
30 500 018	SRD 12 /A 126 /B 50	611.00
30 500 004	SRD 16 /A 126 /B 40	524.00
30 500 002	SRD 16 /A 126 /B 50	611.00
30 500 003	SRD 20 /A 126 /B 40	562.00
30 500 009	SRD 20 /A 126 /B	650.00

### RD .. Ø. Pressure Sleeve Collet [C]

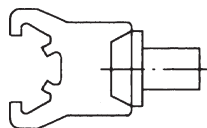
- Concentric under 10 microns
- Cylindrical shanks to DIN 6535
- Use with SRD chuck



Part Number	Complete Description	Price Each
99 933 124	RD 08 Ø 6	125.00
99 933 125	RD 08 Ø 8	125.00
99 930 000	RD 12 Ø 10	125.00
99 932 149	RD 12 Ø 12	125.00
99 932 944	RD 16 Ø 12	131.00
99 933 678	RD 16 Ø 14	131.00
99 930 732	RD 16 Ø 16	131.00
99 933 123	RD 20 Ø 16	146.00
99 933 401	RD 20 Ø 18	146.00
99 932 945	RD 20 Ø 20	146.00

### KM .. DS Insert Key [C]

- Insert key for torque wrench, TorcoFix - SE 4201-01 or 730/12



Part Number	Complete Description	Price Each
33 400 819	KM 08 - DS	76.00
33 400 820	KM 12 - DS	76.00
33 400 821	KM 16 - DS	82.00
33 400 822	KM 20 - DS	82.00



## Electronic Tool Identification Systems – TDSi and TDS

The Bilz Tool Dialog System, TDSi + TDS, was developed for the identification of tools and other machine elements. It is suitable for use on :

- Machining Centers
  - CNC Turning Centers
  - Flexible Machining Systems

Various components are available for different applications in which TDSi + TDS provides direct contact between the tool and the machine control.

**For computer controlled manufacturing in FMS cells, material flow has to be controlled by information flow.**

For individual machines in FMS cells, TDSi + TDS revolutionizes the tool identification and data communication function. They replace costly manual or tape operated data input and are highly reliable in avoiding confusion and transmission errors by means of automatic data transmission.

### Non-Contact System – TDSi

In **TDSi**, the non-contact data transmission to and from the data carrier is accomplished with the same reliability as with a contact system. However, greater flexibility between the locations of the read-write-adapter and the data carrier is possible.

**TDSi**



[C]

Part Number	Complete Description	Price Each
44 000 003	TDSE 220 TDS Processor	P.O.A.
44 000 012	TDSE 221 TDS Processor	P.O.A.
44 000 005	TZVI 201 Line Amplifier	P.O.A.
44 000 006	TDSK 5-20-BB8-B8 Cable	P.O.A.
4 000 009	TDTI 1024 Read-Write Chip	P.O.A.
	up to 99 pc.	P.O.A.
	up to 499 pc.	P.O.A.
	up to 999 pc.	P.O.A.
	over 1000 pc.	P.O.A.
44 000 004	TADI 201 B 3 Read-Write Adapter	P.O.A.
44 000 018	VA625.5 -TAD 201BB Pneumatic Feed Device	P.O.A.

In DNC operations, automatic control of the tool holders to be used is provided independent of service personnel. The unit formed by the data carrier in the tool holder allows decentralized data storage.

**TDSi + TDS consists of:**

- |                  |                 |
|------------------|-----------------|
| TDS data carrier | Type TDTi + TDT |
| TDS adapter      | Type TADi + TAD |
| TDS amplifier    | Type TZVi + TZV |
| TDS processors   | Type TDSE       |

The Bilz TDSi + TDS can be connected to all current control and computer systems. Connection to highly sophisticated computer and control systems is carried out via serial or parallel interfaces.

### Contact System – TDS

In **TDS**, data is transmitted by means of contact between the TDS adapter and the data carrier. The contact pins are equipped with special electronics which guarantee effective data transmission under the most demanding industrial conditions.

**TDS**

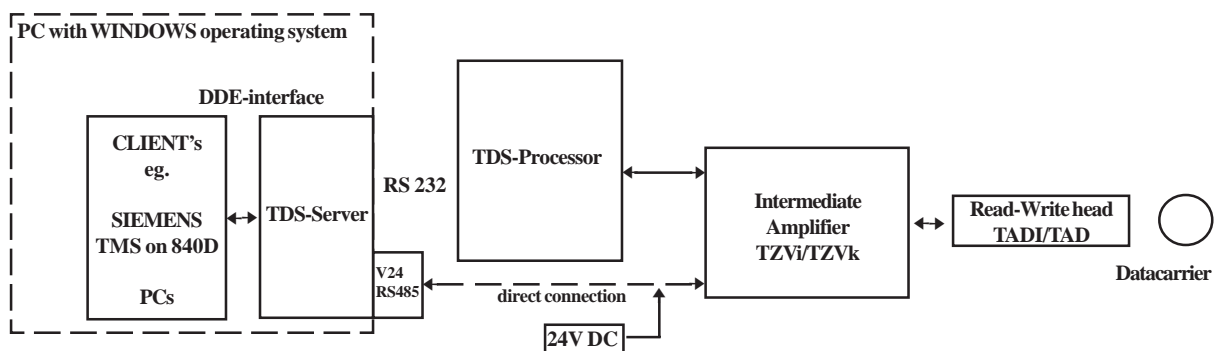
[C]



Part Number	Complete Description	Price Each
	TDSE 220 TDS Processor	P.O.A.
	TDSE 221 TDS Processor	P.O.A.
	TDSE 202 TDS Processor	P.O.A.
44 000 006	TDSK 5-20 -338 B8	P.O.A.
P.O.A.	<b>TDS-System 256</b>	
43 000 135	TAD 501-B7 Read-Write Adapter for 256 Chip	P.O.A.
43 000 136	TAD 502-B7 Read-Write Adapter for 256 Chip	P.O.A.
43 000 060	TDT 256.1 Read Write Chip	P.O.A.
	up to 99 pc.	P.O.A.
	up to 499 pc.	P.O.A.
	up to 999 pc.	P.O.A.
	over 1000 pc	P.O.A.
43 000 167	TDT 256.3 Read Write Chip	Price On Request
43 000 168	TDT 256.2 Read Write Chip	Price On Request
	<b>TDS - System 1024</b>	
43 000 134	TAD 301R-B7Read-Write Adapter for 1024 Chip	P.O.A.
43 000 137	TAD 302R-B7Read-Write Adapter for 1024 Chip	P.O.A.

## TDS in PC-Environment

**TDS-Server: Linking-up TDS by WINDOWS**



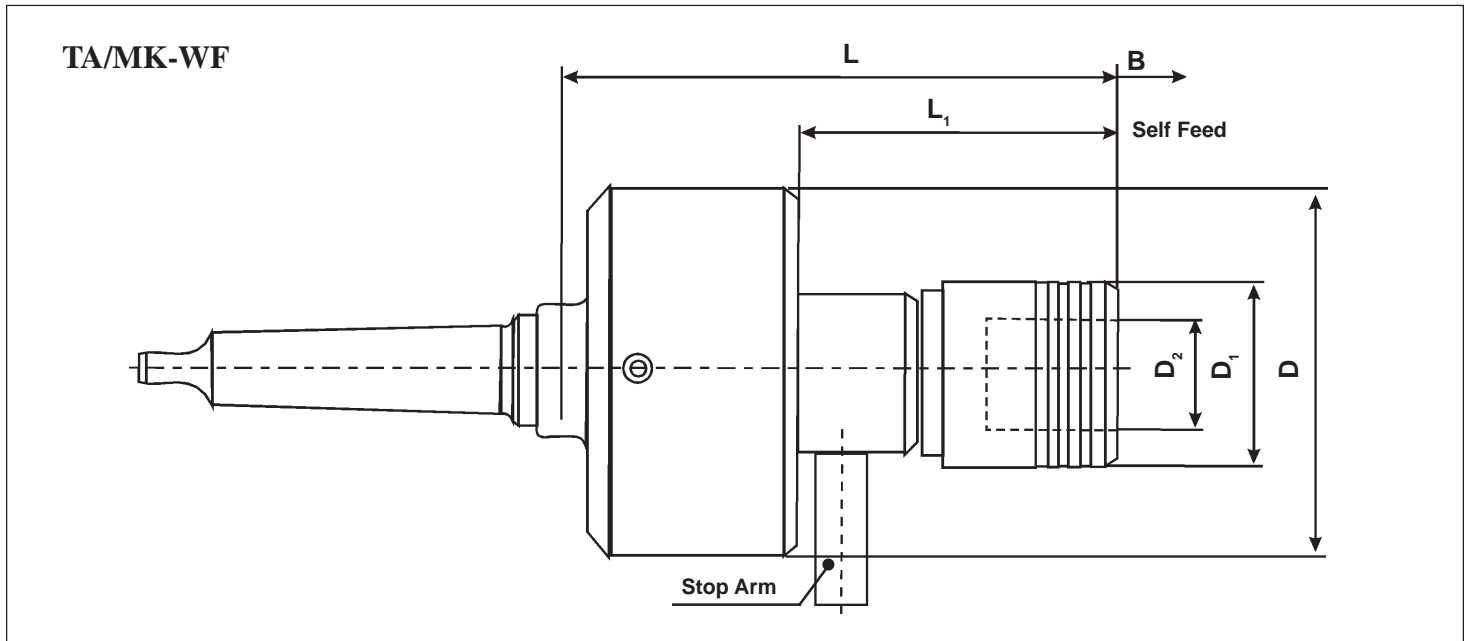


## BILZ TA Series Quick Change Reversing Tapping Attachments

These self reversing tapping attachments are designed for use on machines which may have manual feed and non-reversing spindles.

The tool design is simple, effective, and is virtually maintenance free. They are available in 1/2" and 3/4" capacity with many different shank styles. These units can be used for right hand and left hand tapping.

The TA Series uses standard BILZ Quick Change adapters, positive drive or torque controlled.



### Specifications

(B)

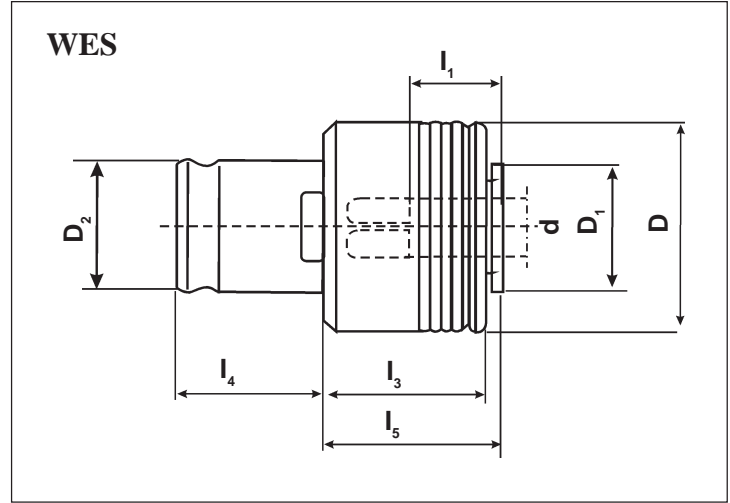
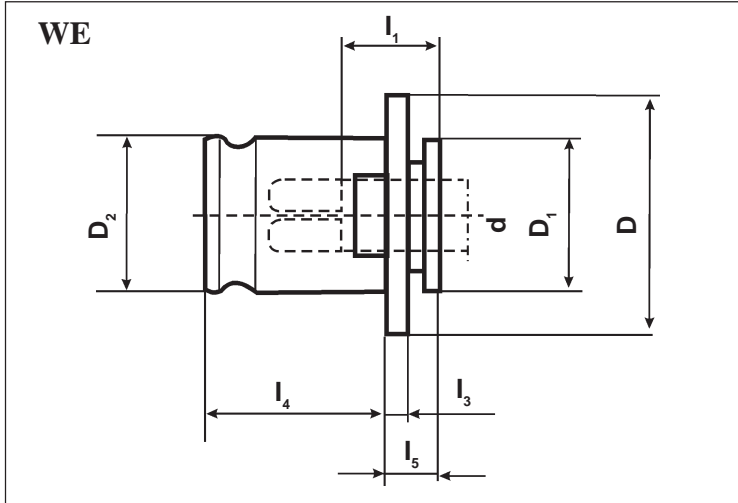
Part Number	Type	Adapter Size	Capacity	Max RPM	B	L	L1	D	D1	D2	Price
02100007 <i>With 7/8-20 Threaded Mount *</i>	TA 12 7/8-20-WF1	1	#4-1/2" M3-M12	1200	.236 6 mm	4.724 120 mm	2.362 60 mm	3.150 80 mm	1.260 32 mm	.748 19 mm	\$495
02100008 <i>With 7/8-20 Threaded Mount *</i>	TA 20 7/8-20-WF2	2	5/16-3/4" M8-M20	500	.315 8 mm	5.905 150 mm	3.386 86 mm	3.937 100 mm	1.969 50 mm	1.220 31 mm	\$595

\* Select shank from opposite pages



**Positive Drive  
Quick Change Tap Adapters**

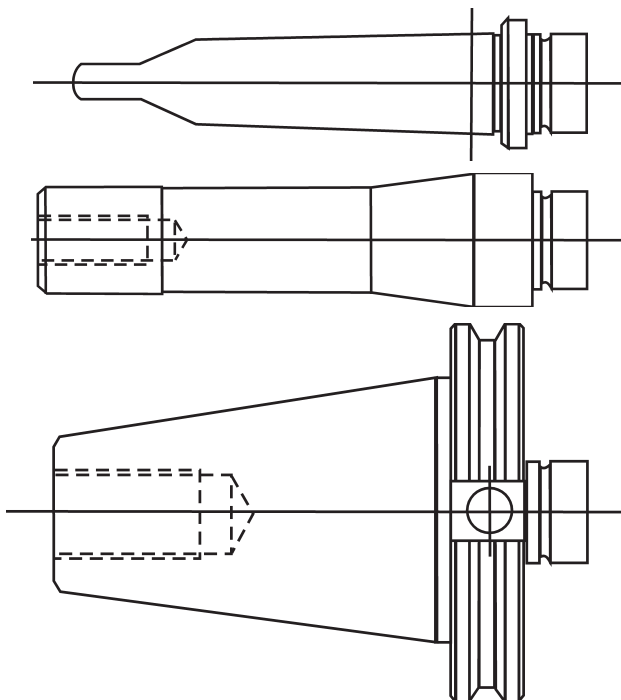
**Torque Controlled  
Quick Change Tap Adapters**



**Specifications**

Type	Taps	Pipe	Tap Shank Diam.	d	D	D Dia.	D <sub>1</sub> Ø	D <sub>1</sub> Dia.	D <sub>2</sub> Ø	D <sub>2</sub> Dia.	I <sub>1</sub> Ø	I <sub>1</sub> Inch	I <sub>3</sub> Ø	I <sub>3</sub> Inch	I <sub>4</sub> Ø	I <sub>4</sub> Inch	I <sub>5</sub> Ø	I <sub>5</sub> Inch	
WE 1	M3 - M12	#0-9/16"	1/8"	.141"-.429"	3,5 - 11,3	30	1.181"	19	.748"	19	.748"	17	.669"	4	.157"	21,5	.846"	7	.276"
WE 2	M8 - M20	5/16"-7/8"	—	.318"-.697"	7 - 18	48	1.890"	30	1.220"	31	1.220"	30	1.181"	5	.197"	35	1.378"	11	.433"
WES 1 B	M3 - M12	#0-9/16"	1/8"	.141"-.429"	3,5 - 11,3	32	1.260	19	.748"	19	.748"	17	.669"	25	.157"	21,5	.846"	25	.984"
WES 2 B	M8 - M20	5/16"-7/8"	—	.318"-.697"	7 - 18	50	1.970	30	1.220"	31	1.220"	30	1.181"	31	.197"	35	1.378"	34	1.339"

See pages 12-19 for adapters



**Shanks**

The BILZ TA Series Reversing Tapping Attachments are equipped with a female 7/8-20 threaded mount for numerous applications. Special shanks and adapters are available upon request. (B)

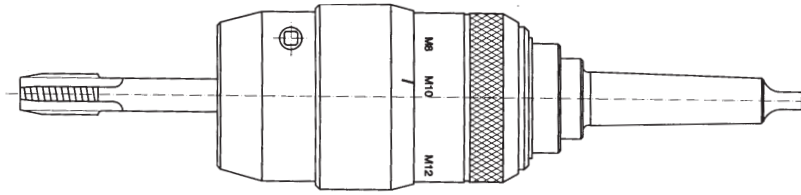
Number	Description	Price
02002700	MT-2 SHANK 7/8-20	\$58.00
02002800	MT-3 SHANK 7/8-20	\$64.00
02002900	MT-4 SHANK 7/8-20	\$72.00
02003200	1/2" DIA SHANK 7/8-20	\$32.00
02003300	5/8" DIA SHANK 7/8-20	\$32.00
02003400	3/4" DIA SHANK 7/8-20	\$32.00
02003500	7/8" DIA SHANK 7/8-20	\$32.00
02005500	R-8 SHANK 7/8-20	\$60.00
02006100	1" DIA SHANK 7/8-20	\$32.00
02012000	NMTB 30 SHANK 7/8-20	\$126.00
02012100	NMTB 40 SHANK 7/8-20	\$156.00

For Adaptation to Automatic Air or Electric Quill Drill Units, please request quotation.

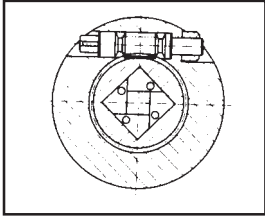


# Multi-Functional Tap Chucks and Accessories

## DPSL



### *Tapping Chuck for use on drilling and tapping machines*

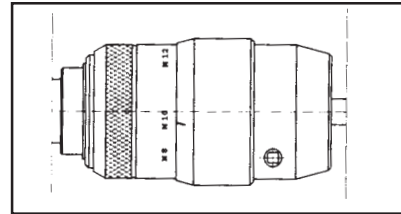


The tap is securely clamped on both the shank and square using a double clamping system. The wide clamping range of this unit is operated by using a key on the rectangular head adjustment screw within the body of the unit.

The adjustable safety clutch prevents tap breakage and the torque system ensures minimum wear on the clutch. The tap is automatically locked on return after the clutch has slipped.

The floating system employed compensates for any misalignment that may occur between the tap and the hole in the workpiece.

The length compensation acts on tension and compression to compensate for any pitch variation between the machine and the tapping chuck, the unit can be used on machines with both manual and automatic feed, through the built-in exact zero-position.



### Multi-Functional Tap Chucks - Type: DSPL

- Double chucking head with wide capability for direct clamping of tap shanks.
- Integral, adjustable torque clutch reduces tap breakage. Lefthand tap clutches available on request.
- Equipped with self-centering, radial parallel float to compensate for misalignment between tap and hole.
- Length compensating tension and compression feature adjusts for differences between spindle speed, feed rate and tap pitch.

### DSPL Replacement Keys

[C]

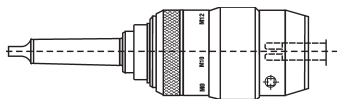
Part Number	Complete	Description	Price Each
10 016 002	DSPLK 12	V12-SW 4.5	13.00
10 026 002	DSPLK 20	V20-SW6	17.00
10 046 002	DSPLK 30	V30	22.00
10 056 002	DSPLK 42	V42	28.00

### Multi-Functional Tap Chucks – Type: DSP

- Double chucking head with wide capability for direct .
- Integral, adjustable torque clutch reduces tap breakage. Permits "off-machine" setting of tapping depths. Lefthand tap clutches available on request.
- Equipped with self-centering, radial parallel float to compensate for misalignment between tap and hole.

### DSPL

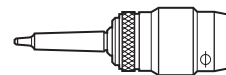
[C]



Part Number	Complete Description	Tap Range	Price Each
10 121 202	DSPL 12/MT2	#6- 1/2"	1436.00
10 121 203	DSPL 12/MT3		1436.00
10 600 043	DSPL 12/SS1.0"		1697.00
10 201 203	DSPL 20/MT3	1/4"-3/4"	1638.00
10 201 204	DSPL 20/MT4		1638.00
10 600 070	DSPL 20/SS1.0"		1769.00
10 600 024	DSPL 20/1.25"		1768.00
10 301 204	DSPL 30/MT4	5/8"- 1- 1/8"	2660.00
10 301 205	DSPL 30/MT5		2743.00
10 600 025	DSPL 30/SS1.25"		2790.00
10 421 205	DSPL 42/MT5	3/4"-1-5/8"	4186.00
10 600 026	DSPL 42/SS1.50"		4448.00
10 421 006	DSPL 42/MT6		4388.00

### DSP

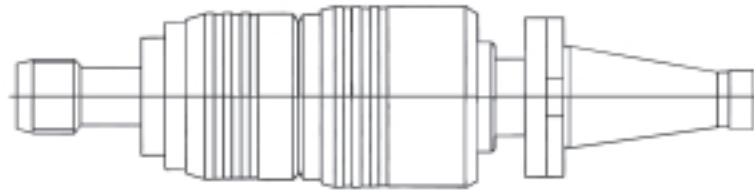
[C]



Part Number	Complete Description	Price Each
10 600 018	DSP 12/JT33	P.O.A.
10 600 066	DSP 20/JT3	P.O.A.
10 122 116	DSP 12/B16	1042.00

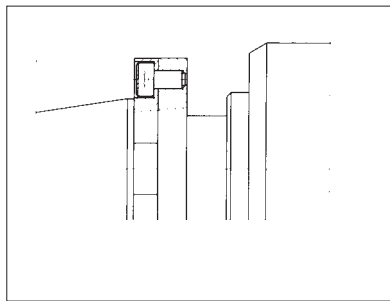


## WFSL

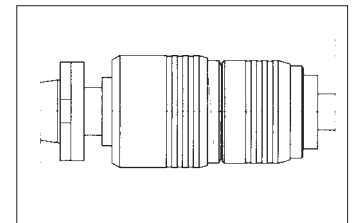


### *Tapping Chucks and Adaptors for the production of larger threads*

The WFSL tapping system is used for the production of larger type threads as required in the turbine and reactor industries. The system can be used on both manual or numerically controlled machines.



The interchangeable flange mounting configuration of the chucks ensures the adaptability to a variety of machine spindle types, also the length compensation on the chucks, plus the adjustable safety clutch on the adaptors, ensure effective and accurate tapping under the most difficult conditions. In addition to this, the system is designed for rapid and easy adaptor change. The system is also available with coolant flow facility.

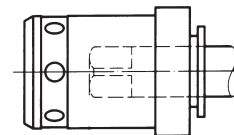


The system is designed to accommodate tapping both with a single tap or series taps. When tapping with series taps, a narrow thread is produced initially, using the first of the series taps. Prior to the tapping of the full thread form, the plug tap, already locked into the adaptor, must be engaged by hand into the thread in order to ensure double threading does not occur. On successful engagement, the adaptor is then located into the tap chuck and final tapping can take place.

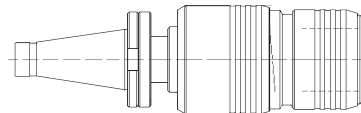
### Multi-Functional Tap Chucks – Type : WFSL

- Length compensating tension and compression feature adjusts for differences between spindle speed, feed rate and tap pitch.
- Integral, adjustable torque clutch reduces tap breakage. Lefthand tap clutches available on request.
- Quick-change feature minimizes set-up time for both tap and adapter changes.

### WE & WEK Adaptors ( For WFSL Chucks)



### WFSL [C]



Part Number	Complete Description	Tap Range	Shank ø	Price Each
12 001 004	WFSL 60/MT5	1- 1/8" - 2-1/4"	.866 -2.225	6103.00
12 001 005	WFSL 60/MT6			6283.00
12 002 003	WFSL 100/MT 5	1-3/4"-4"	1.430-2.480	9511.00
12 002 004	WFSL 100/MT 6			9682.00
12 111 052	WFSL 60 without shank			5591.00
12 113 052	WFSL 100 without shank			9024.00

Part Number	Complete Description	Price Each
26 060*	WE 60 Shank & Square	377.00 [C]
26 100*	WE 100	1056.00
26 066*	WEK 60	377.00
26 106*	WEK 100	377.00

\* Specify Tap Size, Dimension of Tap Square and Dimension of Tap Shank Diameter

Note: NMTB Available on request. Available with internal coolant flow on request.



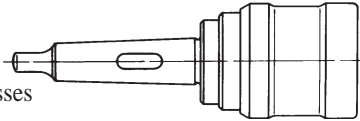
## Multi-Functional Tap Chucks and Accessories

### Quick-Change Drilling Chucks – Type : SBK

- Complete quick-change systems for drilling, chamfering, reaming and tapping operations. Utilize SEK adapters.
- Automatic locking of adapters in chucks increases productivity.
- High adapter concentricity eliminates radial “play.”
- Vertical or horizontal operation allows use on either right or lefthand rotating machines.

#### SBK . / MT . Master Chuck [C]

- Quick - Change
- Multi-Functional
- Manual, Radial Drill Presses

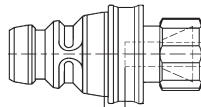


Part Number	Complete Description*	Price Each
30 120 002	SBK 2/MT2	401.00
30 120 003	SBK 2/MT3	415.00
30 130 003	SBK 3/MT3	488.00
30 130 004	SBK 3/MT4	511.00
30 140 004	SBK 4/MT4	688.00
30 140 005	SBK 4/MT5	719.00
	SBK5/MT6	P.O.A.

### Quick-Change Adapters – Type : SEK . / RF

- Quick-change design for use with SBK master chucks.
- For tools with cylindrical shanks

#### SEK . / RF Rubber-Flex® Adapters [C]

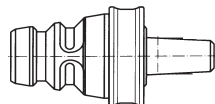


Part Number	Complete Description	Price Each
30 133 000	SEK 3/RF 44	265.00
10 80 600	RF 443 ø 2.8 - 7	43.00
10 80 700	RF440 ø 7 - 13	43.00
22 926	RF44 Collet Wrench	18.00
30 143 000	SEK 4/RF 44	329.00
10 80 600	RF 443 ø 2.8 - 7	43.00
10 80 700	RF440 ø 7 - 13	43.00
22 926	RF44 Collet Wrench	18.00

### Quick - Change Adapters – Type : SFK . / MT

- Quick - Change design for use with SBK Master Chucks

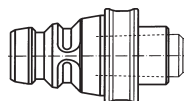
#### SEK . / JT.. [C]



Part Number	Complete Description	Price Each
30 190 129	SEK 2/JT33 Adapter	P.O.A.
30 190 104	SEK 3/JT33 Adapter	P.O.A.
30 190 160	SEK 4/JT33 Adapter	P.O.A.

#### SEK . / MT. [C]

- Morse Taper
- DIN 228 MK



Part Number	Complete Description	Price Each
30 121 001	SEK 2/MT1 Adapter	129.00
30 121 002	SEK 2/MT2 Adapter	129.00
30 131 001	SEK 3/MT1 Adapter	158.00
30 131 002	SEK 3/MT2 Adapter	151.00
30 131 003	SEK 3/MT3 Adapter	151.00
30 141 001	SEK 4/MT1 Adapter	186.00
30 141 002	SEK 4/MT2 Adapter	186.00
30 141 003	SEK 4/MT3 Adapter	177.00
30 141 004	SEK 4/MT4 Adapter	177.00
30 151 004	SEK5/MT4 Adapter	P.O.A.
30 151 005	SEK5/MT5 Adapter	P.O.A.

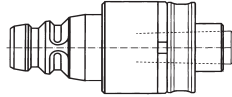


## Morse Taper Adapters (With Parallel Float) For SBK Chucks

- Quick-change design for use with SBK drill chucks in reaming applications.
- Equipped with self-centering, radial parallel float to compensate for misalignment between reamer and hole.

### SEPK / MT

[C]



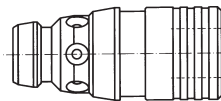
Part Number	Complete Description	Price Each
30 124 002	SEPK 2/MT2 Adapter w/Parallel Float	P.O.A.
30 134 003	SEPK 3/MT3 Adapter w/Parallel Float	P.O.A.
30 144 004	SEPK 4/MT4 Adapter w/Parallel Float	P.O.A.

## Quick-Change Tension & Compression Adapter-Chuck For SBK Chucks

- Quick-change design for use with SEK adapters (refer to page 30 for specific information on SEK adapters.)
- Length compensating tension and compression feature adjusts for differences between spindle speed, feed rate and tap pitch.
- Integral, adjustable hard start mechanism increases cutting pressure to ensure positive start of tapping cycle.
- May be operated in horizontal or vertical positions for tapping either right or lefthand threads.

### SELK . / .

[C]



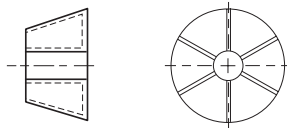
- WFLK Design
- Tension / Compression
- Quick Change

Part Number	Complete Description	Price Each
30 135 001	SELK 3/1	520.00
30 135 002	SELK 3/2	570.00
30 145 002	SELK 4/2	579.00
30 145 003	SELK 4/3	774.00

## Collets & Accessories

### Rubber-Flex® Collets

[C]



Part Number	Complete Description	Range Inch	Price Each
9752J	J 112 Rubber-Flex Collet	.094 - .146	35.00
9753J	J 113 Rubber-Flex Collet	.146 - .198	35.00
9754J	J 114 Rubber-Flex Collet	.198 - .250	35.00
9747J	J 420 Rubber-Flex Collet	.176 - .320	30.00
9748J	J 421 Rubber-Flex Collet	.139 - .257	30.00
9751J	J 422 Rubber-Flex Collet	.253 - .383	30.00
9817J	J 423 Rubber-Flex Collet	.090 - .180	30.00
9749J	J 440 Rubber-Flex Collet	.280 - .500	35.00
9750J	J 441 Rubber-Flex Collet	.176 - .383	35.00
9867J	J 443 Rubber-Flex Collet	.110 - .280	35.00

### Rubber-Flex® Collet Wrenches

[C]

#### RF

Part Number	Complete Description*	Price Each
99 910 199	RF 41 Collet Wrench-1	17.00
99 910 200	RF 42 Collet Wrench-2	17.00
99 910 201	RF 44 Collet Wrench-3	19.00

\* NOTE: For J 100 Series, add -1  
 For J 420 Series, add -2  
 For J 440 Series, add -3





# Torque Adjustment Tools and Tool Kits

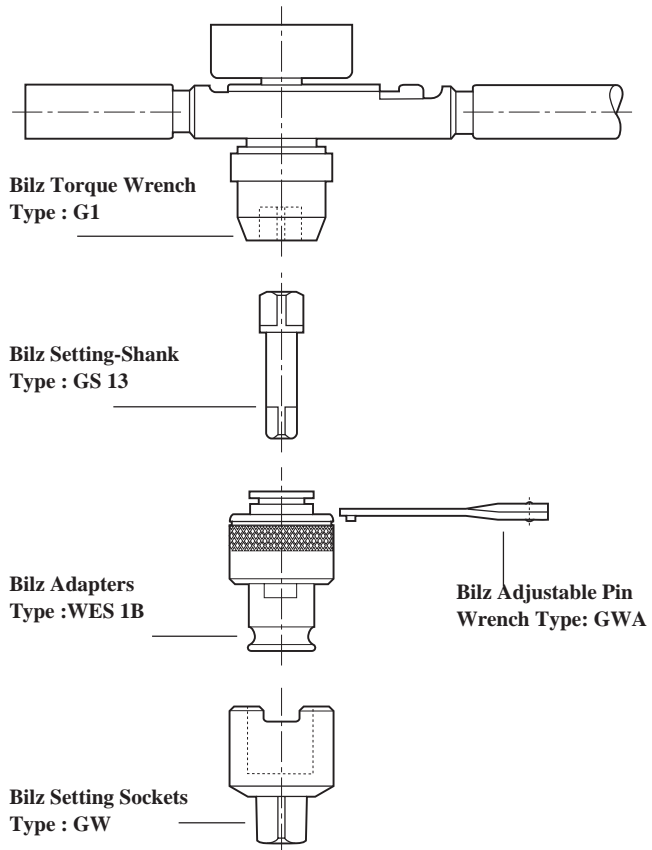
## Torque Adjustment Tools

For quick-change adapters with safety clutch.

Bilz-adapters with safety clutches are adjusted and checked with Bilz-torque adjustment tools. The torque adjustment tools are assembled as shown below.

**NOTE:** For recommended tapping torques, refer to table on page 50.

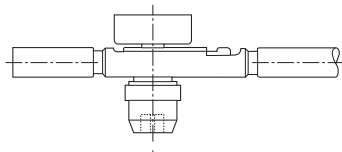
For Adapters Size 0-3



**NOTE:** When ordering setting shanks, type GS, please give shank diameter and square of the relative tap used in the adapter.

**Example for ordering:** Bilz-Torque Wrench G2  
Bilz-Setting Shank GS 13 5/8"

### G Torque Wrenches [C]



Part Number	Complete Description	Price Each
27 000 001	G 0-Z	549.00
27 000 000	G 0 M3-M10 0-16	549.00
27 001 001	G 1-Z 3/16"-1/2" 0-50	549.00
27 001 000	G 1 M4-M12 0-30	549.00
27 002 001	G 2-Z 1/4"-7/8" 0-120	549.00
27 002 000	G 2 M80-M20 0-120	549.00
27 003 001	G 3	549.00

### GW Setting Sockets [C]



Part Number	Complete Description	Price Each
27 100 000	GW 0 Setting Socket	42.00
27 110 000	GW 1 Setting Socket	45.00
27 120 000	GW 2 Setting Socket	75.00
27 130 000	GW 3 Setting Socket	P.O.A.

### GWA Pin Wrenches [C]



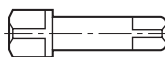
Part Number	Complete Description	Price Each
27 200 000	GWA 0	17.00
27 210 000	GWA 1	18.00
27 225 000	GWA 2/GWA 40	20.00
27 230 000	GWA 3	20.00



## Torque Adjustment Tools

### GS 13 Torque Setting Shanks

[C]



Part Number	Complete Description	Price Each
27 020 008	GS 13 No. 6 Setting Shank	40.00
27 020 010	GS 13 No. 8 Setting Shank	40.00
27 020 015	GS 13 No. 10 Setting Shank	40.00
27 020 016	GS 13 No. 12 Setting Shank	40.00
27 020 018	GS 13 1/4" Setting Shank	40.00
27 020 027	GS 13 5/16" Setting Shank	40.00
27 020 031	GS 13 3/8" Setting Shank	40.00
27 020 027	GS 13 7/16" Setting Shank	40.00
27 020 031	GS 13 1/2" Setting Shank	40.00
27 020 036	GS 13 9/16" Setting Shank	40.00
27 020 038	GS 13 5/8" Setting Shank	40.00
27 020 042	GS 13 11/16" Setting Shank	40.00
27 020 047	GS 13 3/4" Setting Shank	40.00
27 020 050	GS 13 13/16" Setting Shank	40.00
27 020 052	GS 13 7/8" Setting Shank	40.00
27 020 056	GS 13 1" Setting Shank	40.00
27 020 068	GS 13 1-1/8" Setting Shank	40.00
27 020 069	GS 13 1-1/4" Setting Shank	40.00
27 020 070	GS 13 1-3/8" Setting Shank	40.00
27 020 027	GS 13 1/8" SSP Setting Shank	40.00
27 020 079	GS 13 1/8" LSP Setting Shank	40.00
27 020 045	GS 13 1/4" PIPE Setting Shank	40.00
27 020 052	GS 13 3/8" PIPE Setting Shank	40.00
27 020 052	GS 13 1/2" PIPE Setting Shank	40.00
27 020 056	GS 13 5/8" PIPE Setting Shank	40.00
27 020 068	GS 13 3/4" PIPE Setting Shank	40.00
27 020 069	GS 13 7/8" PIPE Setting Shank	40.00
27 020 070	GS 13 1" PIPE Setting Shank	40.00

## Torque Adjustment Tool Kits

(For Use With WES Quick-Change Adapters)

### Torque Setting Tool Kit

Size 0

[C]

Part Number	Complete Description	Price, Complete Kit \$ 803.00
10 900 010	Torque Setting Tool Kit	Size 0
27 000 001	G 0	Torque Wrench
27 100 000	GW 0	Setting Socket
27 200 000	GWA 0	Pin Wrench
27 020 008	GS 13 No. 6	Setting Shank
27 020 010	GS 13 No. 8	Setting Shank
27 020 015	GS 13 No. 10	Setting Shank
27 020 016	GS 13 No. 12	Setting Shank
27 020 018	GS 13 1/4"	Setting Shank

Size 1

[C]

Part Number	Complete Description	Price, Complete Kit \$ 847.00
10 900 020	Torque Setting Tool Kit	Size 1
27 001 001	G 1	Torque Wrench
27 110 000	GW 1	Setting Socket
27 210 000	GWA 1	Pin Wrench
27 020 015	GS 13 No. 10	Setting Shank
27 020 016	GS 13 No. 12	Setting Shank
27 020 018	GS 13 1/4"	Setting Shank
27 020 027	GS 13 5/16" (7/16")	Setting Shank
27 020 031	GS 13 3/8" (1/2")	Setting Shank
27 020 036	GS 13 9/16"	Setting Shank

### Torque Setting Tool Kit

Size 2

[C]

Part Number	Complete Description	Price, Complete Kit \$ 957.00
10 900 030	Torque Setting Tool Kit	Size 2
27 002 001	G 2	Torque Wrench
27 120 000	GW 2	Setting Socket
27 225 000	GWA 2/GWA 40	Pin Wrench
27 020 027	GS 13 5/16" (7/16")	Setting Shank
27 020 031	GS 13 3/8" (1/2")	Setting Shank
27 020 036	GS 13 9/16"	Setting Shank
27 020 038	GS 13 5/8"	Setting Shank
27 020 042	GS 13 11/16"	Setting Shank
27 020 047	GS 13 3/4"	Setting Shank
27 020 050	GS 13 13/16"	Setting Shank
27 020 052	GS 13 7/8"	Setting Shank

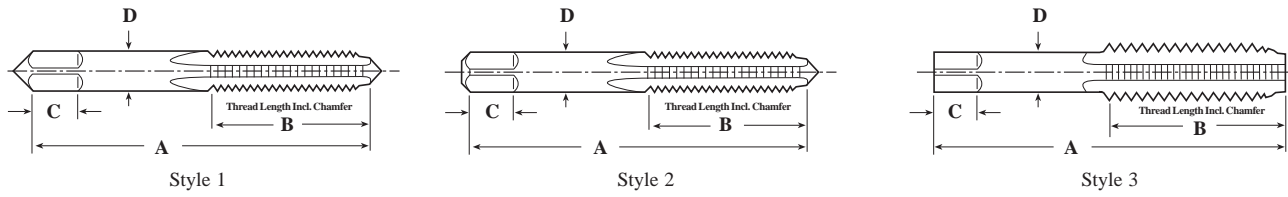
Size 3

[C]

Part Number	Complete Description	Price, Complete Kit \$ 957.00
10 900 040	Torque Setting Tool Kit	Size 3
27 003 001	G 3	Torque Wrench
27 130 000	GW 3	Setting Socket
27 230 000	GWA 3	Pin Wrench
27 020 050	GS 13 13/16"	Setting Shank
27 020 052	GS 13 7/8"	Setting Shank
27 020 056	GS 13 1"	Setting Shank
27 020 068	GS 13 1-1/8"	Setting Shank
27 020 069	GS 13 1-1/4"	Setting Shank
27 020 070	GS 13 1-3/8"	Setting Shank



Technical Information – Tap Dimensional Data For U.S. Standard Taps



Machine Screw Size No.	Nom. Fract. Diam. Inches	Nom. Metric Diam. Millimeters	Tap Dimensions—Inches				
			Overall Length A	Thread Length B	Square Length C	Shank Diam. C	Size of Square E
0	1/16	M1.6	1-5/8	5/16	3/16	.141	.110
1		M1.8	1-11/16	3/8	3/16	.141	.110
2		M2, M2.2	1-3/4	7/16	3/16	.141	.110
3	3/32	M2.5	1-13/16	1/2	3/16	.141	.110
4			1-7/8	9/16	3/16	.141	.110
5	1/8	M3, M3.15	1-15/16	5/8	3/16	.141	.110
6		M3.5	2	11/16	3/16	.141	.110
8	5/32	M4	2-1/8	3/4	1/4	.168	.131
10	3/16	M4.5, M5	2-3/8	7/8	1/4	.194	.152
12	7/32		2-3/8	15/16	9/32	.220	.165
14	1/4	M6, M6.3	2-1/2	1	5/16	.255	.191
	5/16	M7, M8	2-23/32	1-1/8	3/8	.318	.238
	3/8	M10	2-15/16	1-1/4	7/16	.381	.286
	7/16		3-5/32	1-7/16	13/32	.323	.242
	1/2	M12, M12.5	3-3/8	1-21/32	7/16	.367	.275
	9/16	M14	3-19/32	1-21/32	1/2	.429	.322
	5/8	M16	3-13/16	1-13/16	9/16	.480	.360
	11/16	M18	4-1/32	1-13/16	5/8	.542	.406
	3/4		4-1/4	2	11/16	.590	.442
	13/16	M20	4-15/32	2	11/16	.652	.489
	7/8	M22	4-11/16	2-7/32	3/4	.697	.523
	15/16	M24	4-20/32	2-7/32	3/4	.760	.570
	1	M25	5-1/8	2-1/2	13/16	.800	.600
	1-1/16	M27	5-1/8	2-1/2	7/8	.896	.672
	1-1/8		5-7/16	2-9/16	7/8	.896	.672
	1-3/16	M30	5-7/16	2-9/16	1	1.021	.766
	1-1/4		5-3/4	2-9/16	1	1.021	.766
	1-5/16	M33	5-3/4	2-9/16	1-1/16	1.108	.831
	1-3/8		6-1/16	3	1-1/16	1.108	.831
	1-7/16	M36	6-1/16	3	1-1/8	1.233	.925
	1-1/2		6-3/8	3	1-1/8	1.233	.925
	1-5/8	M39	6-11/16	3-3/16	1-1/8	1.305	.979
	1-3/4	M42	7	3-3/16	1-1/4	1.430	1.072
	1-7/8		7-5/16	3-9/16	1-1/4	1.519	1.139
	2	M48	7-5/8	3-9/16	1-3/8	1.644	1.233
	2-1/8		8	3-9/16	1-3/8	1.769	1.327
	2-1/4	M56	8-1/4	3-9/16	1-7/16	1.894	1.420
	2-3/8		8-1/2	4	1-7/16	2.019	1.514
	2-1/2		8-3/4	4	1-1/2	2.100	1.575
	2-5/8	M64	8-3/4	4	1-1/2	2.225	1.669
	2-3/4		9-1/4	4	1-9/16	2.350	1.762
	2-7/8	M72	9-1/4	4	1-9/16	2.475	1.856
	3		9-3/4	4-9/16	1-5/8	2.543	1.907
	3-1/8		9-3/4	4-9/16	1-5/8	2.668	2.001
	3-1/4	M80	10	4-9/16	1-3/4	2.793	2.095
	3-3/8		10	4-9/16	1-3/4	2.883	2.162
	3-1/2		10-1/4	4-15/16	2	3.008	2.256
	3-5/8	M90	10-1/4	4-15/16	2	3.133	2.350
	3-3/4		10-1/2	5-5/16	2-1/8	3.217	2.413
	3-7/8		10-1/2	5-5/16	2-1/8	3.342	2.506
	4	M100	10-3/4	5-5/16	2-1/4	3.467	2.600



**Technical Information – DIN Tap Shank Dimensions**

Tap Shank Dimensions DIN

NOTE: Shaded areas cover all standard DIN shank sizes.

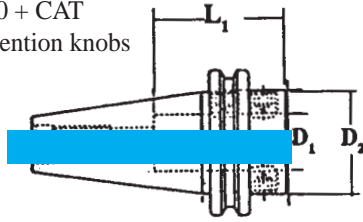
Dimension Dia. x Square (mm)	DIN 352	DIN 353	<b>DIN 371</b>	DIN 374	<b>DIN 376</b>	DIN 2182	DIN 2183
2.5 x 2.1	M 1 M 1.1 M 1.2 M 1.4 M 1.6 M 1.8		<b>M 1 M 1.1 M 1.2 M 1.4 M 1.6 M 1.8</b>	M 3.5	M 3.5	1/16"	
2.8 x 2.1	M 2 M 2.2 M 2.5		<b>M 2 M 2.2 M 2.5</b>	M 4	M 4	3/32"	5/32"
3.5 x 2.7	M 3		<b>M 3</b>	M 5	M 5	1/8"	
4 x 3	M 3.5		<b>M 3.5</b>			7/32"	
4.5 x 3.4	M 4		<b>M 4</b>	M 6	M 6	5/32"	1/4"
6 x 4.9	M 5 M 6 M 8		<b>M 5 M 6</b>	M 8	<b>M 8</b>		
7 x 5.5	M 10	G 1/8"		M 10	<b>M 10</b>	1/4"	3/8"
8 x 6.2			<b>M 8</b>			5/16"	7/16"
9 x 7	M 12			M 12	<b>M 12</b>	3/8"	1/2"
10 x 8			<b>M 10</b>				
11 x 9	M 14	G 1/4"		M 14	<b>M 14</b>		9/16"
12 x 9	M 16	G 3/8"		M 16	<b>M 16</b>		5/8"
14 x 11	M 18			M 18	<b>M 18</b>		11/16"
16 x 12	M 20	G 1/2"		M 20	<b>M 20</b>		13/16"
18 x 14.5	M 22 M 24	G 5/8"		M 22 M 24	<b>M 22 M 24</b>		7/8" 15/16"
20 x 16	M 27	G 3/4"		M 27	<b>M 27</b>		1"
22 x 18	M 30	G 7/8"		M 30	<b>M 30</b>		1-1/8"
25 x 20	M 33	G 1"		M 33	<b>M 33</b>		1-1/4"
28 x 22	M 36	G 1-1/8"		M 36	<b>M 36</b>		1-3/8"
32 x 24	M 39 M 42	G 1-1/4"		M 39 M 42	<b>M 39 M 42</b>		1-1/2" 1-5/8"
36 x 29	M 45 M 48	G 1-3/8" G 1-1/2" G 1-3/4" G 2"		M 45 M 48	<b>M 45 M 48</b>		1-3/4" 1-7/8"
40 x 32	M 52	G 2-1/4"		M 52	<b>M 52</b>		2"
45 x 35	M 56 M 60	G 2-1/2"			<b>M 56 M 60</b>		2-1/4"
50 x 39	M 64	G 2-3/4" G 3"			<b>M 64</b>		2-1/2"
56 x 44	M 68	G 3-1/4"			<b>M 68</b>		2-3/4"

Note: Suitable for coolant flow

## V-Flange Tool Holders for Chucks with Modular MS Shanks

### WA / A86 / SK..

- Taper to ANSI B5.50 + CAT
- UNC Threads on retention knobs



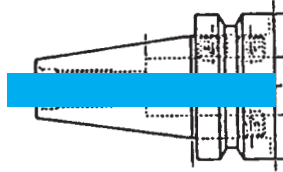
Note: Suitable for coolant flow

Type	MS	D <sub>1</sub>	L <sub>1</sub>	SK...ANSI B5 50 & CAT		SK50	
				L	øD <sub>2</sub>	L	øD <sub>2</sub>
WA25/A86/SK...MS25	25	54	35	44.45	35	57.2	35 69.9
WA32/A86/SK...MS32	32	61	35	44.45	35	57.2	35 69.9

Example for ordering: Bilz WA 25 / A 86 / SK 50

### WA / A73 / SK

- Taper to MAS 403



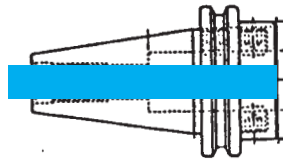
Note: Suitable for coolant flow

Type	MS	D <sub>1</sub>	L <sub>1</sub>	SK...MAS 403		SK50	
				L	øD <sub>2</sub>	L	øD <sub>2</sub>
WA25/A73/SK	MS25	25	54	35	63	35	100
WA32/A73/SK..	MS32	32	61	35	63	35	100

Example for ordering: Bilz WA 25 / A 73 / SK 50

### WA / A126 / SK..Shanks

- DIN 69871A



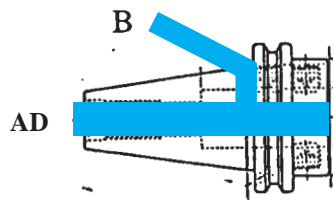
Note: Suitable for coolant flow

Type	MS	D <sub>1</sub>	L <sub>1</sub>	SK...DIN 69871		SK50	
				L	øD <sub>2</sub>	L	øD <sub>2</sub>
WA25/A126/SK	MS25	25	54	35	50	35	80
WA32/A126/SK	MS32	32	61	45	50	35	80

Example for ordering: Bilz WA 25 / A 126 / SK 50

### WA / A126...Shanks

- With coolant flow
- DIN 69871 AD

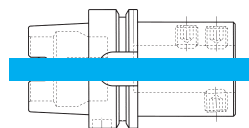


Note: Suitable for coolant flow

Type	MS	D <sub>1</sub>	L <sub>1</sub>	...DIN 69871		
				L	øD <sub>2</sub>	L
WA25/A126/AD	MS25	25	54	AD40	AD45	AD50
WA25/A126/B				B40	B45	B50
WA32/A126/AD	MS32	32	61	L	L	L
WA32/A126/B				L	L	L

Example for ordering: Bilz WA 25 / A 126 / AD 50

### WA IK / HSK 63A



Note: Suitable for coolant flow

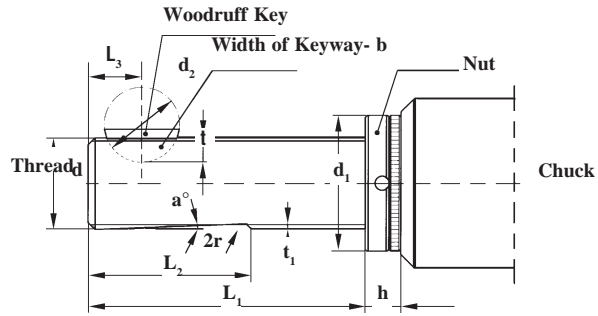
Type	MS	D <sub>1</sub>	D <sub>2</sub>	L <sub>1</sub>	HSK...DIN 69893			
					L	L	L	L
WA25 IK / HSK-A	MS25	25	50	54	76	78	84	90
WA32 IK / HSK-A	MS32	32	63	61	76	86	90	94

Example for ordering: Bilz WA 25 IK / HSK 63A



**ACME-Shanks**

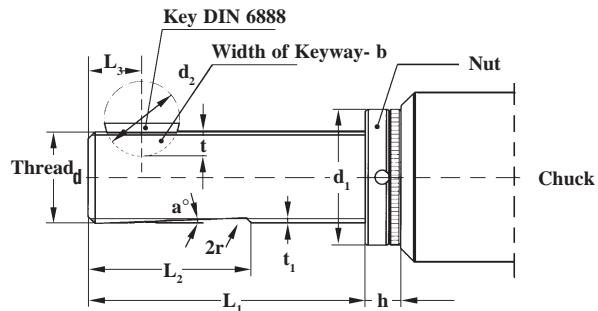
- Corresponds to the Ford Motor Company and General Motors Corporation Standards.



Thread	d-0.01 Dia.	d1 Dia.	d2 Dia.	b	t	t1	L1	L2	L3	h	a°	Woodruff Key
5/8" - 16	15.85	25.0	15.88	3.945	4.37	1.5	65.5	38.0	12.7	10.5	2.0	5/32" x 5/8"
3/4" - 12	19.03	29.0	15.88	3.945	4.37	1.5	65.5	38.0	12.7	10.5	2.0	5/32" x 5/8"
7/8" - 12	22.21	32.0	19.05	4.732	5.57	1.5	81.5	47.5	12.7	10.5	2.0	3/16" x 3/4"
1 1/16" - 12	26.96	40.0	22.23	4.732	7.15	1.5	81.5	47.5	15.7	10.5	2.0	3/16" x 7/8"
1 3/8" - 12	34.90	48.0	25.40	6.317	7.95	1.5	106.5	66.5	19.0	10.5	2.0	1/4" x 1"

**Trapezoidal Shanks**

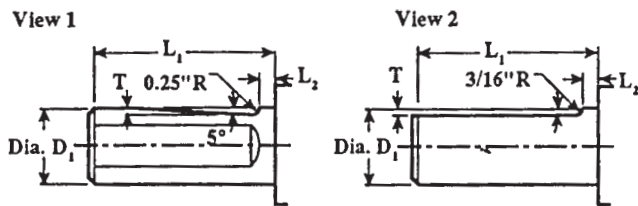
- DIN 6327 with Nut.



Thread	d g 5 Dia.	d1 Dia.	d2 Dia.	b P 9	t	t1	L1	L2	L3	h	a°	Key DIN 6888
Tr 16 x 1.5	16.0	25.0	16.0	5.0	5.4	1.3	73.0	43.0	11.0	12.0	2.0	5 x 6.5
Tr 20 x 2	20.0	32.0	19.0	5.0	6.4	1.3	76.0	46.0	13.0	12.0	2.0	5 x 7.5
Tr 25 x 2	25.0	37.0	22.0	6.0	7.5	1.5	83.0	51.0	15.0	12.0	2.0	6 x 9.0
Tr 28 x 2	28.0	40.0	22.0	6.0	7.5	1.5	83.0	51.0	15.0	12.0	2.0	6 x 9.0
Tr 36 x 2	36.0	50.0	28.0	8.0	9.5	1.7	104.0	65.0	20.0	14.0	2.0	8 x 11.0

**Modular Shank – Inch**

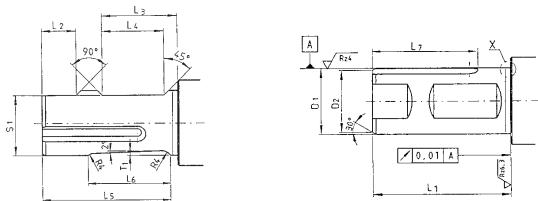
- Modular straight shank



D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	T	View
3/4"	2"	0.10"	0.106"	1
1"	2"	0.10"	0.106"	1
1-1/2"	3.5"	0.087"	0.094"	2

**Modular Shank – MS Metric**

- Sim DIN 1835



	D <sub>1</sub>	D <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	L <sub>5</sub>	L <sub>6</sub>	S <sub>1</sub>	T <sub>1</sub>
MS 25	25	23.5	53	13.5	29.3	24	50	32	23.2	1.8
MS 32	32	30.5	60	17	29.5	24	57	40	29.5	1.8