

The accessories.

Production Cylindrical Grinding Machine



S12 - The Efficient for the highest tolerances.

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Cut-in ring sensor

3102643-Z

Cut-in ring sensor for HSG-external grinding spindle
10.5kW for cut-in detection on external grinding with
clamping devices for live spindle grinding (chucks,
collets) or between fixed or rotating centers.
Cable length 1.5m plugable

Wheel adaptor, nominal dia. 73 mm / 2.87"

2912683-Z

Wheel adaptor dia. 400mm / 15.75" with bore 127mm /
5".
Width 25-63mm / 0.98"-2.48" form1 (80mm / 3.15"
form5)
for tapered shaft ends 1:10 nominal dia. 73mm / 2.87".
Incl. balancing segments and graduation

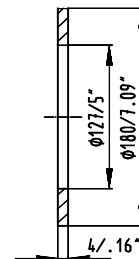
2912684-Z

Wheel adaptor dia. 500mm/19.69" with bore
203.2mm/8".
Width 32-63mm/1.26"-2.48" form1 (80mm/3.15" form5)
for tapered shaft ends 1:10 nominal dia. 73mm/2.87".
Incl. balancing segments and graduation

Spacer ring

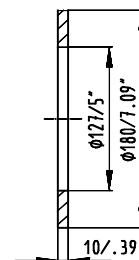
2713043-Z

Spacer ring 4mm/.16" with bore 127mm/5"

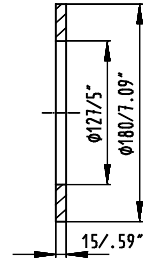


2433060-Z

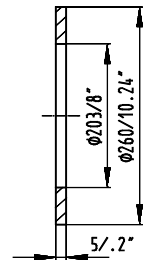
Spacer ring 10mm/.39" with bore 127mm/5"



2433061-Z
Spacer ring 15mm/.60" with bore 127mm/5"

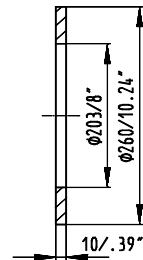


2433062-Z
Spacer ring 5mm/.20" with bore 203.2mm/8"

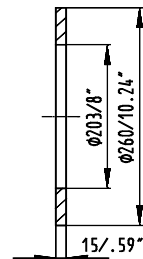


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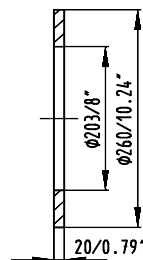
2433063-Z
Spacer ring 10mm/.40" with bore 203.2mm/8"



2433064-Z
Spacer ring 15mm/.60" with bore 203.2mm/8"



2433065-Z
Spacer ring 20mm/.80" with bore 203.2mm/8"



Extraction tool

2912696-Z

Extraction tool for wheel adaptors,
for shaft end with nominal dia. 73mm / 2.87"

Wheel changing unit

2470605-Z

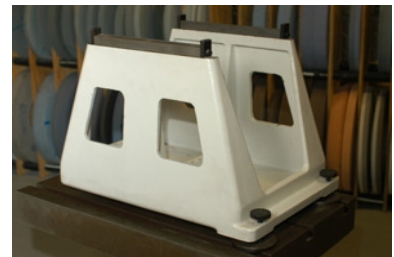
Swivel arm on the machine with suspension bracket
for changing grinding wheels. Suspension bracket
can be taken over with a lifting device belonging
to the customer

Static balancing

2416601-Z

Balancing equipment dia. up to 600mm / 24.62"
for static balancing of the grinding wheel outside
of the machine.

Note: Requires the respective balancing mandrel for
grinding wheels



2912686-Z

Balancing arbor for grinding wheels
with nominal dia. 73mm / 2.48", length 310mm
/ 12.20" for balancing equipment dia. 400mm
/ 15.75" or 600mm / 23.62"

External grinding wheels

General application of abrasives

11C Silicon Carbides for:

Cast iron / tungsten carbide / glass / plastics / non-ferrous
metals / ceramics / stainless, acid and heat resistant steel /
hardened steel 63 HRC and higher / nitriding steel.
hardened steel 63 HRC and higher / nitriding steel.

54A White aluminium oxide for:

Non-alloyed, alloyed, unhardened and hardened steel up to
63 HRC (carbon content up to 0.5% / stainless, acid and
heat resistant steel / nitriding steel (untreated) / cast steel
nodular cast iron / tool steel / hard-chrome plated steel.

81A Ceramic aluminium oxide:

Difficult-to-grind steel and alloys (tool steel, high speed steel) from soft state to 64 HRc / cast steel / cast iron

The following abrasives should no longer be used:

42A, 53A, 57A Pure aluminium oxide was replaced by 54A Pure aluminium oxide

Grinding wheel dia. 500mm/20", bore 203.2mm/8"

5585130-Z

Grinding wheel dia. 500x40x203.2mm / 19.69x1.57x8"
form 1, 11C 120 H 5 V. Cutting speed 50m/s /
9840sfpm

5585380-Z

Grinding wheel dia. 500x40x203.2mm / 19.69x1.57x8"
form 1, 54A 120 H 15 VPMF604W. Cutting speed 50m/s
/
9840sfpm

5585382-Z

Grinding wheel dia. 500x40x203.2mm / 19.69x1.57x8"
form 1, 54A 80 H 8 V604W. Cutting speed 50m/s /
9840sfpm

5585129-Z

Grinding wheel dia. 500x40x203.2mm / 19.69x1.57x8"
form 1, 81A 80 H 8 V601W. Cutting speed 50m/s /
9840sfpm

5585381-Z

Grinding wheel dia. 500x40x203.2mm / 19.69x1.57x8"
form 1N $v=60^\circ$ $x=3$, 54A 120 H 15 VPMF604W.
Cutting speed 50m/s / 9840sfpm

5585383-Z

Grinding wheel dia. 500x40x203.2mm / 19.69x1.57x8"
form 1N $v=60^\circ$ $x=3$, 54A 80 H 8 V604W.
Cutting speed 50m/s / 9840sfpm

5585125-Z

Grinding wheel dia. 500x40x203.2mm / 19.69x1.57x8"
form 1N $v=60^\circ$ $x=3$, 81A 80 H 8 V601W.
Cutting speed 50m/s / 9840sfpm

5585384-Z

Grinding wheel dia. 500x50x203.2mm / 19.69x1.97x8"
form 1, 54A 120 H 15 VPMF604W. Cutting speed 50m/s
/
9840sfpm

5585385-Z

Grinding wheel dia. 500x50x203.2mm / 19.69x1.97x8"
form 1, 54A 80 H 8 V604W. Cutting speed 50m/s /
9840sfpm

5585133-Z

Grinding wheel dia. 500x63x203.2mm / 19.69x2.48x8"
form 1, 11C 120 H 5 V. Cutting speed 50m/s /
9840sfpm

5585386-Z

Grinding wheel dia. 500x63x203.2mm / 19.69x2.48x8"
form 1, 54A 120 H 15 VPMF604W. Cutting speed 50m/s
/ 9840sfpm

5585388-Z

Grinding wheel dia. 500x63x203.2mm / 19.69x2.48x8"
form 1, 54A 80 H 8 V604W. Cutting speed 50m/s
/ 9840sfpm

5585132-Z

Grinding wheel dia. 500x63x203.2mm / 19.69x2.48x8"
form 1, 81A 80 H 8 V601W. Cutting speed 50m/s
/ 9840sfpm

5585387-Z

Grinding wheel dia. 500x63x203.2mm / 19.69x2.48x8"
form 1N $v=60^\circ x=3$, 54A 120 H 15 VPMF604W.
Cutting speed 50m/s / 9840sfpm

5585389-Z

Grinding wheel dia. 500x63x203.2mm / 19.69x2.48x8"
form 1N $v=60^\circ x=3$, 54A 80 H 8 V604W.
Cutting speed 50m/s / 9840sfpm

5585390-Z

Grinding wheel dia. 500x80x203.2mm / 19.69x3.15x8"
form 5 P=290 F=20, 54A 120 H 15 VPMF904W.
Cutting speed 50m/s / 9840sfpm

5585391-Z

Grinding wheel dia. 500x80x203.2mm / 19.69x3.15x8"

form 5 P=290 F=20, 54A 80 H 8 V904W.

Cutting speed 50m/s / 9840sfpm

Internal grinding unit

5600032-Z

Package consisting of adhesive and hardener for mounting of internal grinding wheels on threaded bolts

HF internal grinding motor spindles with 4 lubrication connections

General notes for HF internal grinding motor spindles:

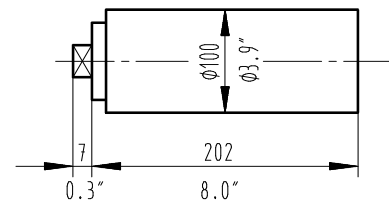
- Incl. testing and initial lubrication, if spindle is ordered together with the machine
- Machine is to be equipped with internal grinding attachment for HF spindles
- Reduction sleeves required depending on the diameter of the internal grinding attachment and the motor spindles

2667695-Z

Internal grinding motor spindle Fischer MFM 10120 (120'000min-1 / 3.5kW) dia. 100mm / 3.94" according to Studer specification 1330348A with tool holding fixture HJND 60.

Oil-air lubrication with 4 lubrication connections and water cooling.

Note: Machine is to be equipped with oil-air lubrication for 4 lubrication connections

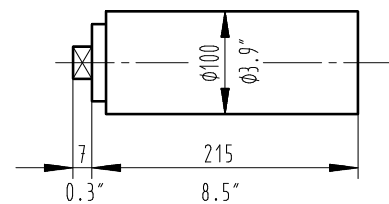


2667666-Z

Internal grinding motor spindle Fischer MFM 1090 (90'000min-1 / 4.2kW) dia. 100mm / 3.94" according to Studer specification 1330348A with tool holding fixture HJND 50.

Oil-air lubrication with 4 lubrication connections and water cooling.

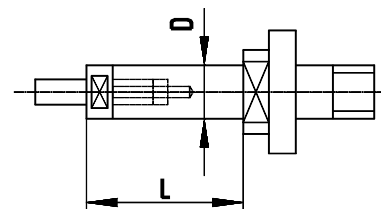
Note: Machine is to be equipped with oil-air lubrication for 4 lubrication connections



Internal grinding arbors HJND 50

5552277-Z

Grinding arbor HJND 50-514 dia. 5x14mm



5552278-Z

Grinding arbor HJND 50-520 dia. 5x20mm

5552279-Z

Grinding arbor HJND 50-528 dia. 5x28mm

5552280-Z

Grinding arbor HJND 50-716 dia. 7x16mm

5552281-Z

Grinding arbor HJND 50-725 dia. 7x25mm

5552282-Z

Grinding arbor HJND 50-736 dia. 7x36mm

5552283-Z

Grinding arbor HJND 50-918 dia. 9x18mm

5552284-Z

Grinding arbor HJND 50-930 dia. 9x30mm

5552285-Z

Grinding arbor HJND 50-945 dia. 9x45mm

5552286-Z

Grinding arbor HJND 50-1220 dia. 12x20mm

5552287-Z

Grinding arbor HJND 50-1235 dia. 12x35mm

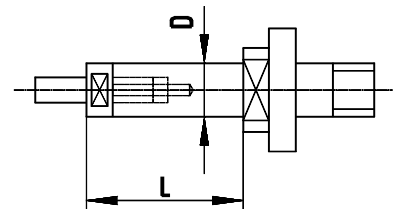
5552288-Z

Grinding arbor HJND 50-1250 dia. 12x50mm

Internal grinding arbors HJND 60

5552265-Z

Grinding arbor HJND 60-412 dia. 4x12mm



5552266-Z

Grinding arbor HJND 60-418 dia. 4x18mm

5552267-Z

Grinding arbor HJND 60-424 dia. 4x24mm

5552268-Z

Grinding arbor HJND 60-514 dia. 5x14mm

5552269-Z

Grinding arbor HJND 60-520 dia. 5x20mm

5552270-Z

Grinding arbor HJND 60-528 dia. 5x28mm

5552271-Z

Grinding arbor HJND 60-716 dia. 7x16mm

5552272-Z

Grinding arbor HJND 60-725 dia. 7x25mm

5552273-Z

Grinding arbor HJND 60-736 dia. 7x36mm

5552274-Z

Grinding arbor HJND 60-918 dia. 9x18mm

5552275-Z

Grinding arbor HJND 60-930 dia. 9x30mm

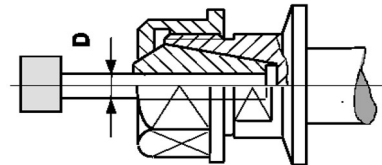
5552276-Z

Grinding arbor HJND 60-945 dia. 9x45mm

Chuck HJNZ

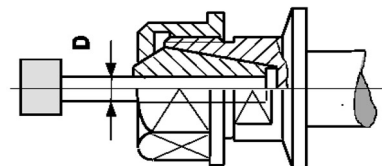
5552208-Z

Chuck HJNZ 50 +2 collets ER11 dia. 3+6mm



5552207-Z

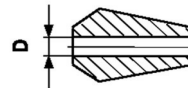
Chuck HJNZ 60 +2 collets ER11 dia. 3+6mm



Collets ER11

2026510-Z

Collet ER11 dia. 1mm



2026511-Z

Collet ER11 dia. 1.5mm

2026512-Z

Collet ER11 dia. 2mm

2026513-Z

Collet ER11 dia. 2.5mm

2026514-Z

Collet ER11 dia. 3mm

2026515-Z

Collet ER11 dia. 3.5mm

2026516-Z

Collet ER11 dia. 4mm

2026517-Z
Collet ER11 dia. 4.5mm

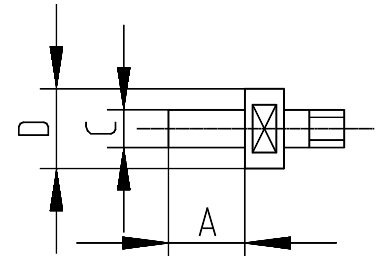
2026518-Z
Collet ER11 dia. 5mm

2026519-Z
Collet ER11 dia. 5.5mm

2026520-Z
Collet ER11 dia. 6mm

Additional bolts (wheel adaptors) for internal grinding arbors

5551944-Z
Set of 10 bolts dia. 4mm



5551939-Z
Set of 10 bolts dia. 5mm

5551921-Z
Set of 10 bolts dia. 7mm

5551922-Z
Set of 10 bolts dia. 9mm

5551940-Z
Set of 10 bolts dia. 12mm

Wheels for internal grinding arbors

General application of abrasives

11C Silicon Carbides for:

Cast iron / tungsten carbide / glass / plastics / non-ferrous metals / ceramics / stainless, acid and heat resistant steel / hardened steel 63 HRc and higher / nitriding steel.

54A Pure aluminium oxide for:

Non-alloyed, alloyed, unhardened and hardened steel up to 63 HRc (carbon content up to 0.5% / stainless, acid and heat resistant steel / nitriding steel (untreated) / cast steel nodular cast iron / tool steel / hard-chrome plated steel.

93A Ceramic aluminium oxide (30%) for:

Difficult-to-grind steel and alloys (tool steel, high speed steel) from soft state to 64 HRc / cast steel / cast iron

The following abrasives should no longer be used:

42A Pure aluminium oxide was replaced by 54A Pure aluminium oxide

64A Pure aluminium oxide was replaced by 93A Ceramic aluminium oxide

5583110-Z

Set of 10 wheels dia. 8x8x2.5mm 11C 80 G 6 V

Cutting speed 50m/s / 9840sfpm

5583043-Z

Set of 10 wheels dia. 8x8x2.5mm 54A 80 H 8 V604W

Cutting speed 50m/s / 9840sfpm

5583044-Z

Set of 10 wheels dia. 8x8x2.5mm 93A 120 H 13 VP601

Cutting speed 50m/s / 9840sfpm

5583120-Z

Set of 10 wheels dia. 10x10x4mm 11C 80 G 6 V

Cutting speed 50ms/s / 9840sfpm

5583045-Z

Set of 10 wheels dia. 10x10x4mm 54A 80 H 8 V604W

Cutting speed 50m/s / 9840sfpm

5583046-Z

Set of 10 wheels dia. 10x10x4mm 93A 120 H 13

VP601

Cutting speed 50m/s / 9840sfpm

5583112-Z

Set of 10 wheels dia. 13x13x4mm 11C 60 H 15 VP

Cutting speed 50m/s / 9840sfpm

5583047-Z

Set of 10 wheels dia. 13x13x4mm 54A 80 H 8 V604W
Cutting speed 50m/s / 9840sfpm

5583048-Z

Set of 10 wheels dia. 13x13x4mm 93A 120 H 13
VP601
Cutting speed 50m/s / 9840sfpm

5583121-Z

Set of 10 wheels dia. 16x16x6mm 11C 60 H 15 VP
Cutting speed 50m/s

5583049-Z

Set of 10 wheels dia. 16x16x6mm 54A 80 H 8 V604W
Cutting speed 50m/s / 9840sfpm

5583076-Z

Set of 10 wheels dia. 16x16x6mm 93A 120 H 13
VP601
Cutting speed 50m/s / 9840sfpm

5583122-Z

Set of 10 wheels Ø 20x20x6mm 11C 60 H 15 VP
Cutting speed 50m/s / 9840sfpm

5583077-Z

Set of 10 wheels dia. 20x20x6mm 54A 80 H 8 V604W
Cutting speed 50m/s / 9840sfpm

5583078-Z

Set of 10 wheels dia. 20x20x6mm 93A 120 H 13
VP601
Cutting speed 50m/s / 9840sfpm

Weels for chucks

5583601-Z

Set of 10 wheels SARUBIN 60M dia. 6mm/.24"

Accessories for workhead

2909768-Z

Cut-in ring sensor (transmitter ring) for mounting on the clamping device for live spindle grinding or its adaptors with correspondent interface for use on workheads with fitting taper MT4.

Note: Requires correspondent sensor receiver ring on the workhead

2909769-Z

Receiver ring of cut-in ring sensor for universal workhead with fitting taper MT4.

Note: With receiver ring mounted, it is only possible to use chucks which can be attached from the front side with screws. For the use of other chucks, centers and collets, the receiver ring has to be detached

2909770-Z

Receiver ring of cut-in ring sensor for chuck workhead with fitting taper MT4.

Note: With receiver ring mounted, it is only possible to use chucks which can be attached from the front side with screws. For the use of other chucks, centers and collets, the receiver ring has to be detached

Adaptors for centres

2030026-Z

Adaptor for centres MT2 for fitting taper MT4

2805017-Z

Adaptor for centres MT3 for fitting taper MT4

Zero backlash drivers

2909923-Z

Simple driving fork for zero backlash driving of a lathe dog, instead of a driving pin dia. 8mm / 0.31". Fits drivers of workheads with fitting taper MT2, MT3, MT4 or MT5

2439854-Z

Lateral force free driving fork for the backlash free driving of a workpiece carrier.

Note: Requires driving plate for workhead

2909924-Z

Driving plate for workhead MT4 with spindle nose dia. 70mm / 2.76" and revolving center for mounting of a tangentially stiff driving fork and/or drawdown springs for steady rest grinding applications

applications

2439862-Z

Drawdown spring set for steady rest grinding applications for pressing the workpiece against center of the workhead.

Note: Driving plate required

Carrier

1809617-Z

Set of 5 carriers for dia. 10-50mm / .39-1.97"



1809724-Z

Carrier for dia. 50-80mm / 1.97-3.15"



1809725-Z

Carrier for dia. 80-120mm / 3.15-4.72"



Collets W20

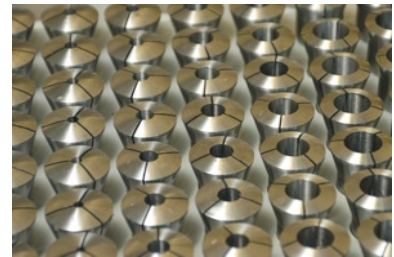
1930704-Z

Adaptor for collets W20 for fitting taper MT4

Note: Requires draw-bar or lever operated rapid clamping for manual actuation or pneumatic clamping cylinder for controlled actuation

5558101-Z

Set of 37 collets W20 dia. 2-20mm, in steps of 0.5mm
Single collets orders possible



1930539-Z

Collet W20 dia. 0.5mm



1930540-Z

Collet W20 dia. 1mm

1930541-Z

Collet W20 dia. 1.5mm

1930400-Z

Collet W20 dia. 2mm

1930401-Z

Collet W20 dia. 2.5mm

1930402-Z

Collet W20 dia. 3mm

1930403-Z

Collet W20 dia. 3.5mm

1930404-Z

Collet W20 dia. 4mm

1930405-Z
Collet W20 dia. 4.5mm

1930406-Z
Collet W20 dia. 5mm

1930407-Z
Collet W20 dia. 5.5mm

1930408-Z
Collet W20 dia. 6mm

1930409-Z
Collet W20 dia. 6.5mm

1930410-Z
Collet W20 dia. 7mm

1930411-Z
Collet W20 dia. 7.5mm

1930412-Z
Collet W20 dia. 8mm

1930413-Z
Collet W20 dia. 8.5mm

1930414-Z
Collet W20 dia. 9mm

1930415-Z
Collet W20 dia. 9.5mm

1930416-Z
Collet W20 dia. 10mm

1930417-Z
Collet W20 dia. 10.5mm

1930418-Z
Collet W20 dia. 11mm

1930419-Z
Collet W20 dia. 11.5mm

1930420-Z
Collet W20 dia. 12mm

1930421-Z
Collet W20 dia. 12.5mm

1930422-Z
Collet W20 dia. 13mm

1930423-Z
Collet W20 dia. 13.5mm

1930424-Z
Collet W20 dia. 14mm

1930425-Z
Collet W20 dia. 14.5mm

1930426-Z
Collet W20 dia. 15mm

1930427-Z
Collet W20 dia. 15.5mm

1930428-Z
Collet W20 dia. 16mm

1930429-Z
Collet W20 dia. 16.5mm

1930430-Z
Collet W20 dia. 17mm

1930431-Z
Collet W20 dia. 17.5mm

1930432-Z
Collet W20 dia. 18mm

1930433-Z
Collet W20 dia. 18.5mm

1930434-Z
Collet W20 dia. 19mm

1930435-Z
Collet W20 dia. 19.5mm

1930436-Z
Collet W20 dia. 20mm

Adaptor for chucks

2909771-Z

Camlock head size 4, DIN 55029
for workhead MT4 and spindle nose dia. 70mm /
2.76" with interface for cut-in ring sensor.
Enables quick and simple change of clamping
devices for live spindle grinding.

Note: The standard assortment does not contain
camlock flanges and clamping devices with camlock
interfaces

Adaptor for chuck (blank)

2909677-Z

Flange blank dia. 105mm / 4.13"
for fitting taper MT4 (with torsion protection)
for mounting of clamping devices for live spindle
grinding or for customer devices or for usage as
face plate. Taper hardened and finished, flange
not hardened and rough.

Note: Requires manual draw-bar for locking
clamping devices

2909772-Z

Flange blank dia. 148mm / 5.82"
for spindle nose dia. 70mm / 2.76" from workheads
with fitting taper MT4 (with interface for cut-in
ring sensor). Clamping device interface is unworked,
suitable for holding a chuck up to dia. 160mm / 6.3".

Note:

- Finishing must be carried out for each clamping
device through a design order
- Only chucks fastened from the front with screws
can be used as clamping devices

Three-jaw chuck (manually operated)

2909678-Z

Three jaw manual chuck dia. 100mm / 3.94"
for fitting taper MT4 (with torsion protection)
spiral chuck, radial precision centering.
Clamping range: outside dia. 3-93mm / .12-3.66",
inside dia. 25-87mm / .97-3.42". Repeating accuracy
approx. 0.02mm / .000,79".

Incl. hard jaws (1 set for outside and 1 set for
inside chucking), chuck key and adjusting key.
Laying of a coolant tube for internal grinding
process cooling is possible.

Note: Requires manual draw-bar for locking
clamping devices

2909679-Z

Three jaw manual chuck dia. 125mm / 4.92"
for fitting taper MT4, (with torsion protection),
spiral chuck, radial precision centering.
Clamping range: outside dia. 3-125mm / .12-4.92",
inside dia. 34-115mm / 1.34-4.53". Repeating accuracy
approx. 0.02mm / .000,79".

Incl. hard jaws (1 set for outside and 1 set for
inside chucking), chuck key and adjusting key. Laying
of a coolant tube for internal grinding process cooling
is possible.

Note: Requires hand chuck key for locking
clamping devices

2909654-Z

Three jaw manual chuck dia. 160mm / 6.3"
for fitting taper MT4, (with torsion protection),
spiral chuck, radial precision centering.
Clamping range: outside dia. 3-160mm / .12-6.3",
inside dia. 42-154mm / 1.65-6". Repeating accuracy
approx. 0.02mm / .000,79".

Incl. hard jaws (1 set for outside and 1 set for
inside chucking), chuck key and adjusting key.
Laying of a coolant tube for internal grinding
process cooling is possible.

Note: Requires hand chuck key for locking
clamping devices

Three-jaw chuck (manually operated) wedge type

2909783-Z

Three jaw manual chuck dia. 125mm / 4.92"
for spindle nose dia. 70mm / 2.76" from workheads
with fitting taper MT4, (with interface for a
cut-in ring sensor), wedge type.
Clamping range: Outside dia. 3-126mm / .12-4.96",
inside dia. 27-128mm / 1.06-5.04", jaw stroke 4.8mm
/ .19", repeating accuracy <0.02mm / .000,79".
Incl. 1 set of standard jaws and hard reversing jaws
for outside or inside chucking and chuck key for
chuck actuation. Laying of a coolant tube for internal
grinding process cooling is possible

2909264-Z

Soft top jaws for three jaw manual chuck dia. 125mm
/ 4.92" wedge type (L = 55mm / 2.17", W = 20mm /
.79",
H = 27.5mm / 1.08")

2439695-Z

Soft top jaws for three jaw manual chuck dia. 125mm
/ 4.92" wedge type (L = 54mm / 2.12", W = 20mm
/ 0.78", H = 27.5mm / 1.08")

2909784-Z

Three jaw manual chuck dia. 160mm / 6.3"
for spindle nose dia. 70mm / 2.76" from workheads
with fitting taper MT4 (with interface for cut-in
ring sensor), wedge type.
Clamping range: Outside dia. 5-162mm / .20-6.37",
inside dia. 65-179mm / 2.56-7.04", jaw stroke 6.3mm
/ .25", repeating accuracy <0.02mm / .000,79".
Incl. 1 set of standard jaws and hard reversing jaws
for outside or inside chucking and chuck key for chuck
actuation. Laying of a coolant tube for internal
grinding process cooling is possible

2909265-Z

Soft top jaws for three jaw manual chuck
dia. 160mm / 6.3" wedge type (L = 85mm / 3.35",
W = 20mm / 0.79", H = 35.5mm / 1.39")

2439699-Z

Soft top jaws for three jaw manual chuck
dia. 160mm / 6.3" wedge type (L = 105mm / 4.13",
W = 20mm / 0.78", H = 35.5mm / 1.39")

Four-jaw manually operated chuck (spiral chuck)

2909680-Z

Four-jaw chuck dia. 125mm / 4.92"
for fitting taper MT4 (with torsion protection)
spiral chuck.

Clamping range: outside dia. 3-125mm / .12-4.92",
inside dia. 34-115mm / 1.34-4.53".

The jaws are individually adjustable.

Incl. hard jaws (1 set for outside and 1 set for
inside chucking), chuck key and adjusting key.

Laying of a coolant tube for internal grinding
process cooling is possible.

Note: Requires manual draw-bar for locking
clamping devices

2909661-Z

Four-jaw chuck dia. 160mm / 6.3"
for fitting taper MT4 (with torsion protection)
spiral chuck.

Clamping range: outside dia. 3-160mm / .12-6.3",
inside dia. 42-160mm / 1.65-6.3".

The jaws are individually adjustable.

Incl. hard jaws (1 set for outside and 1 set for
inside chucking), chuck key and adjusting key.

Laying of a coolant tube for internal grinding
process cooling is possible.

Note: Requires hand chuck key for locking
clamping devices

Face plate

2909681-Z

Face plate dia. 150mm / 5.9"
for fitting taper MT4 (with torsion protection).
With 4 grooves and 4 holes to fix workpieces or
clamping devices.

Note: Requires hand chuck key for locking
clamping devices

2909662-Z

Face plate dia. 195mm / 7.68"
for fitting taper MT4 (with torsion protection),
with 4 grooves and 4 holes to fix workpieces or
clamping devices.

Note: Requires hand chuck key for locking
clamping devices

Magnetic chuck

2909682-Z

Magnetic chuck dia. 120mm / 4.72"
for fitting taper MT4 (with torsion protection),
permanent magnet.

Note: Requires manual draw-bar for locking
clamping devices

2909663-Z

Magnetic chuck dia. 165mm / 6.5"
for fitting taper MT4 (with torsion protection),
permanent magnet.

Note: Requires manual draw-bar for locking
clamping devices

Power chuck

2909633-Z

3 jaw power chuck dia. 110mm / 4.33"
for spindle nose dia. 70mm / 2.76" from workheads
with fitting taper MT4 (with interface for
installation of a cut-in ring sensor) and on
clamp actuating tube adaptor.

Clamping range: outside dia. 3-106mm / .12-4.17",
inside dia. 42-135mm / 1.65-5.31".

Jaw stroke: 3.2mm / .126", repeating accuracy
<0.02mm / .000,79".

Incl. 1 set of one-piece hard reversing jaws for outside
and inside chucking. Jaw holding fixture,
serrated 1/16"x90°. Laying of a coolant tube for internal
grinding process cooling is possible.

Notes:

- Conversion to other clamping devices is expensive.
- Requires pneumatic clamping cylinder

2909643-Z

Soft top jaws for power chuck dia. 110mm / 4.33"
(L=40 / 1.57", W=26.5 / 1.04", H=32mm / 1.18").

Note: For jaws with a prescribed diameter,
it is necessary to order a jaw machining per dia.
by a design order

2909719-Z

3 jaw precision power chuck dia. 110mm / 4.33"
for spindle nose dia. 70mm / 2.76" from workheads
with fitting taper MT4 (with interface for
installation of a cut-in ring sensor) and on
clamp actuating tube adaptor. Without jaws.
Jaw stroke: 1.25mm / .05", repeating accuracy
<0.002mm / .000,79". Jaw holding fixture with ball
positioning for jaw changing precision within 0.005mm
/ .000,2". Laying of a coolant tube for internal
grinding process cooling is possible.

Notes:

- Conversion to other clamping devices is expensive
- Requires pneumatic clamping cylinder
- Correspondent top jaws for each clamping
diameter required

2909721-Z

Soft top jaws for precision power chuck
dia. 110mm / 4.33" (L=49mm / 1.93", W=18mm /
.71",
H=28mm / 1.1").

Notes:

- 1 set per clamping diameter required
- For jaws with a prescribed diameter, it is necessary
to order a jaw machining for each dia. by a design
order indicating the desired diameter

2909723-Z

Chuck simulator for precision power chuck
dia. 110mm / 4.33" for precise pre-machining
of top jaws

2909725-Z

Pretension discs for outside chucking for precision
power chuck dia. 110mm / 4.33". For precise grinding
of the clamping diameter on the jaws. Pretension
disc can be removed without removal of the jaws.
Set consists of 8 discs, graduation 0.25mm / .010"

2909727-Z

Pretension ring for inside chucking for precision power chuck dia. 110mm / 4.33". For precise grinding of the clamping diameter on the jaws. The ring can be clamped in 4 different positions with a pretension diameter difference of 0.5mm / .02" for each. By means of 3 cyl. pins dia. 5mm / .2" or 6mm / .24" it is possible to cover the whole clamping range (supplied without cyl. pins)

2909664-Z

3 jaw power chuck dia. 160mm / 6.3" for spindle nose dia. 70mm / 2.76" from workheads with fitting taper MT4 (with interface for installation of a cut-in ring sensor) and on clamp actuating tube adaptor.

Clamping range: outside dia. 6-165mm / .24-6.5", inside dia. 36-181mm / 1.42-7.12". Jaw stroke: 3.6mm / .14", repeating accuracy <0.02mm / .000,79".

Incl. 1 set of one-piece hard reversing jaws for outside and inside chucking. Jaw holding fixture, serrated 1/16"x90°. Laying of a coolant tube for internal grinding process cooling is possible.

Notes:

- Conversion to other clamping devices is expensive
- Requires pneumatic clamping cylinder

2909676-Z

Soft top jaws for power chuck dia. 160mm / 6.3" (L=55 / 2.17", W=26.5 / 1.04", H=38mm / 1.5").

Note: For jaws with a prescribed diameter, it is necessary to order a jaw machining for each dia. by a design order indicating the desired diameter

2909718-Z

3 jaw precision power chuck dia. 160mm / 6.3"
for spindle nose dia. 70mm / 2.76" from workheads
with fitting taper MT4 (with interface for
installation of a cut-in ring sensor) and on
clamp actuating tube adaptor. Without jaws.
Jaw stroke: 2.5mm / .10", repeating accuracy
<0.002mm
/ .000,79". Jaw holding fixture with ball positioning
for jaw changing precision within 0.005mm / .000,2".
Laying of a coolant tube for internal grinding process
cooling is possible.

Notes:

- Conversion to other clamping devices is expensive
- Requires pneumatic clamping cylinder
- Correspondent top jaws for each clamping diameter
required

2909720-Z

Soft top jaws for precision power chuck dia. 160mm
/ 6.3" (L=72mm / 2.83", W=26mm / 1.02", H=36mm
/ 1.42").

Notes:

- 1 set per clamping diameter required
- For jaws with a prescribed diameter, it is necessary
to order a jaw machining for each dia. by a design
order indicating the desired diameter

2909722-Z

Chuck simulator for precision power chuck dia. 160mm
/ 6.3" for precise pre-machining of top jaws

2909724-Z

Pretension discs for outside chucking for precision
power chuck dia. 160mm / 6.3". For precise grinding
of the clamping diameter on the jaws. Pretension
disc can be removed without removal of the jaws.
Set consists of 17 discs, graduation 0.25mm / .010"

2909726-Z

Pretension ring for inside chucking for precision
power chuck dia. 160mm / 6.3". For precise grinding
of the clamping diameter on the jaws. The ring can be
clamped in 4 different positions with a pretension
diameter difference of 0.5mm / .02" for each.
By means of 3 cyl. pins dia. 5mm / .20" or 6mm / .24"
it is possible to cover the whole clamping range
(supplied without cyl. pins)

2909656-ZK

Working of soft jaws for chuck, dia.: ...mm

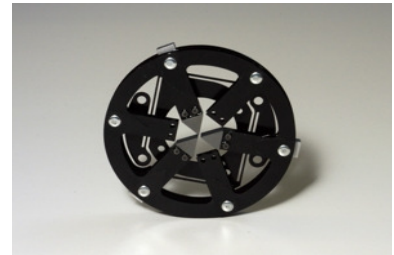
Note: 1 x for diameter necessary

Insert

2224739-ZK

Insert for lateral force free driver, size 1 with 3 jaws for clamping dia.mm/inch.

Note: It is necessary to order per each clamping dia.



2224743-ZK

Insert for lateral force free driver, size 1 with 6 jaws for clamping dia.mm/inch.

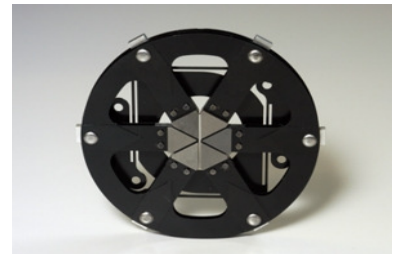
Note: It is necessary to order per each clamping dia.



2224750-ZK

Insert for lateral force free driver, size 2 with 6 jaws for clamping dia.mm/inch.

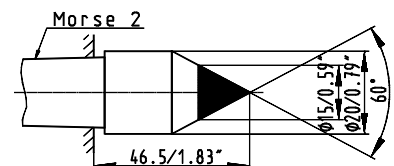
Note: It is necessary to order per each clamping dia.



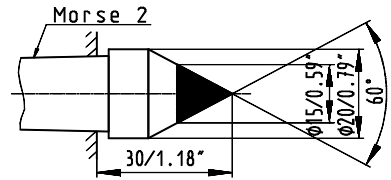
Centres with adaptor MT2

0138004-Z

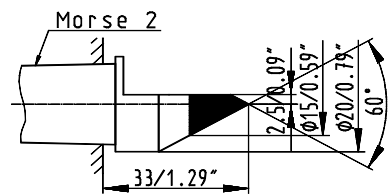
Full centre long dia. 20mm/.79" MT2



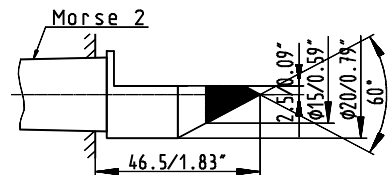
0166025-Z
 Full centre short dia. 20mm/.79" MT2



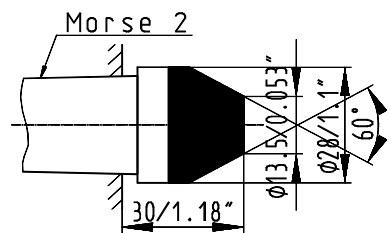
0810052-Z
 Half centre short dia. 20/2.5mm/.79/.10" MT2



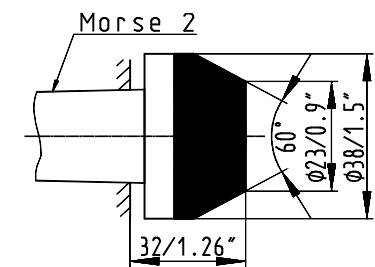
0138005-Z
 Half centre long dia. 20/2.5mm/.79/.10" MT2



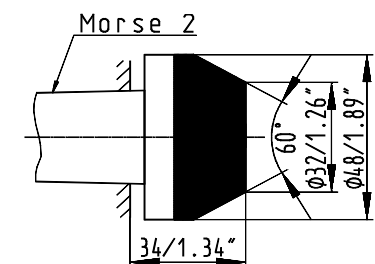
0166026-Z
 Blunt centre long dia. 28mm/1.1" MT2



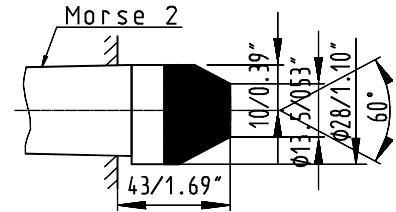
0166029-Z
 Blunt center long dia. 38mm/1.5" MT2



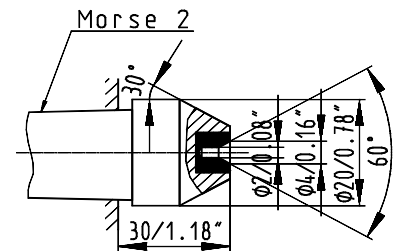
0166030-Z
 Blunt center long dia. 48mm/1.89" MT2



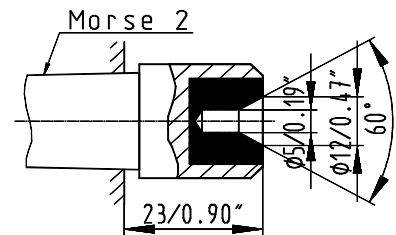
0138006-Z
Blunt half centre dia. 28/10mm/1.1/.4" MT2



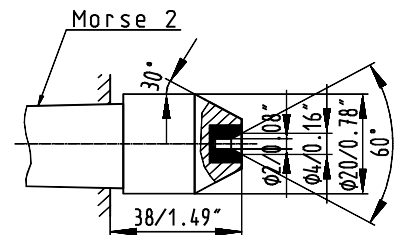
0809087-Z
Female full centre short dia. 4mm/.157" MT2



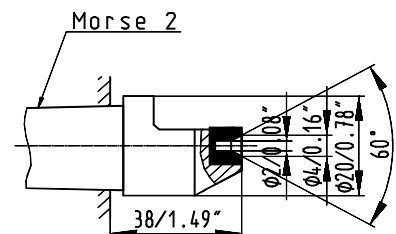
0865023-Z
Female full centre short dia. 12mm/.47" MT2



0810031-Z
Female full centre long dia. 4mm/.157" MT2



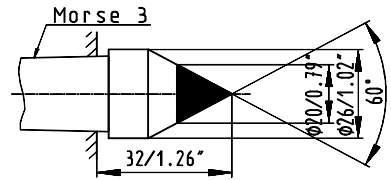
0810032-Z
Female half centre dia. 4/2.5mm/.157"/.10" MT2



Centres with adaptor MT3

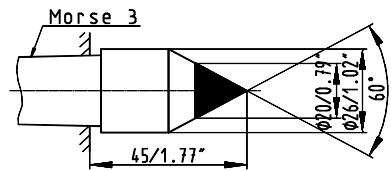
0709017-Z

Full centre short dia. 26mm/1.02" MT3



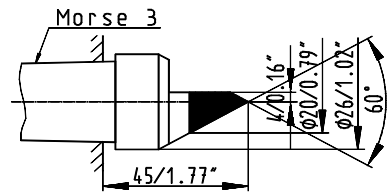
0710020-Z

Full centre long dia. 26mm/1.02" MT3



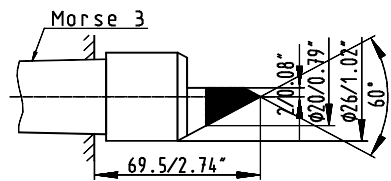
0710021-Z

Half centre short dia. 26/4mm/1.02/.157" MT3

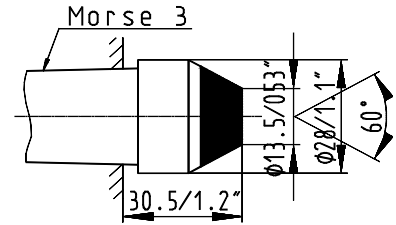


0710045-Z

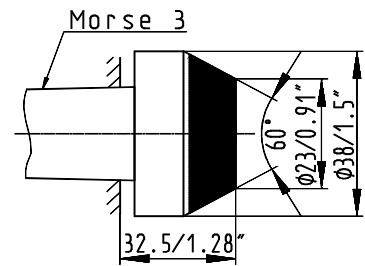
Half centre long dia. 26/2mm/1.02/.08" MT3



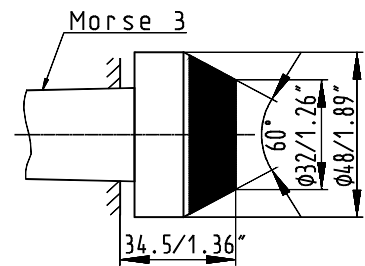
0709058-Z
Blunt centre dia. 28mm/1.1" MT3



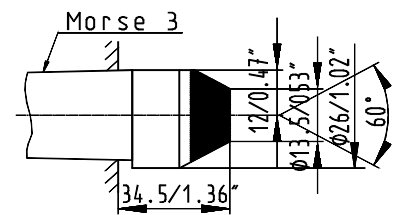
0709059-Z
Blunt centre dia. 38mm/1.5" MT3



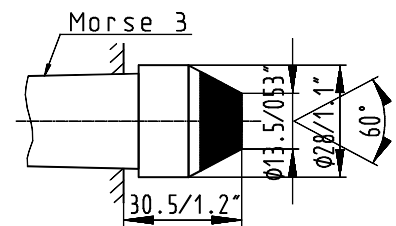
0709044-Z
Blunt centre dia. 48mm/1.89" MT3



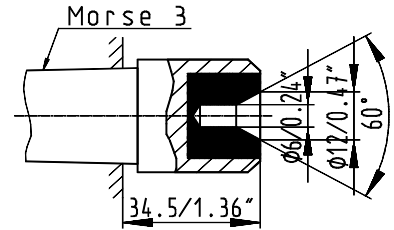
1865052-Z
Blunt half centre dia. 28/12mm/1.1/.472" MT3



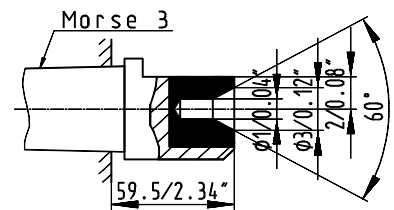
0709057-Z
Female full centre dia. 3mm/.118" MT3



1865051-Z
 Female full centre dia. 12mm/.472" MT3

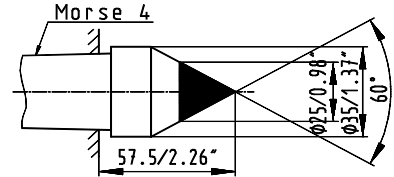


0710048-Z
 Female half centre dia. 3/2mm/.118/.08" MT3

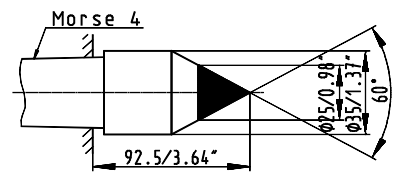


Centres with adaptor MT4

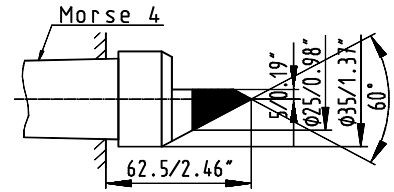
2810030-Z
 Full centre short dia. 35mm/1.38" MT4



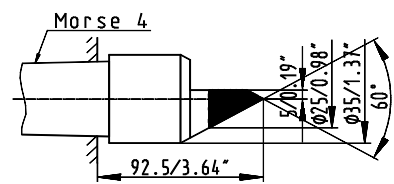
2810182-Z
 Full centre long dia. 35mm/1.38" MT4



2810031-Z
Half centre short dia. 35/13mm/1.38/.51" MT4



2810183-Z
Half centre long dia. 35/13mm/1.38/.51" MT4



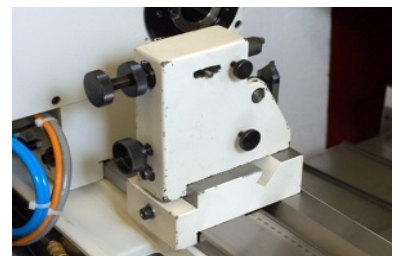
Tailstock

2237720-Z
Tailstock for set-up (set-up aid for setting 3-jaw steady on internal grinding unit)



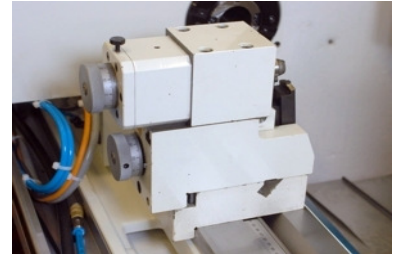
Steady

2414618-Z
Two-point steady for dia. 4-88 mm / 0.16-3.5"
(centre height 175mm / 6.89")



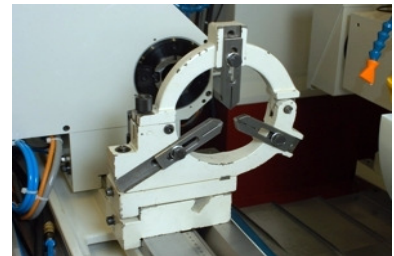
2414622-Z

Two-point steady for dia. 10-100mm / 0.4-4"
(centre height 175mm / 6.89")



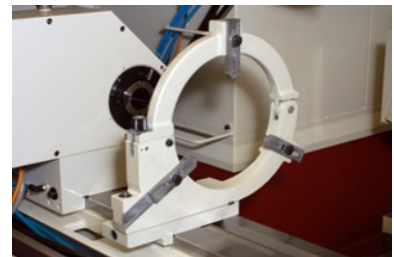
2414611-Z

Three-jaw steady for dia. 5-140mm / .2-5.51",
(for centre height 175mm / 6.89") with fine adjustment



2414614-Z

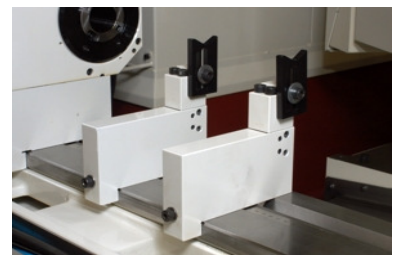
Three-jaw steady for dia. 125-230mm / 4.92-9.05"
(centre height 175mm / 6.89") with fine adjustment
Note: Dial gauging radial see chapter "various"



Prism support

2414626-Z

Prism support (2 pieces) for dia. 15-150mm
/ 0.6-5.9" (centre height 175mm / 6.89")

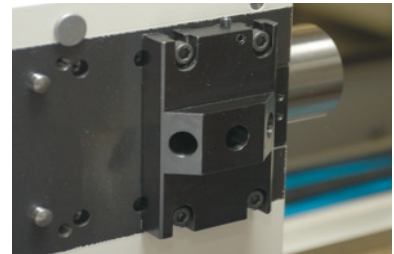


Dressing tool holder for workhead or tailstock

2915601-Z

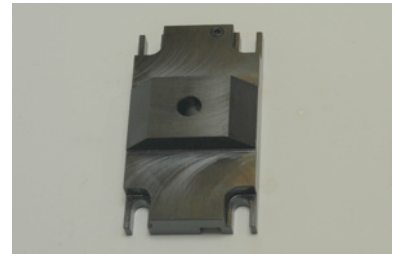
Dressing tool holder vertically adjustable for workhead or tailstock.

With 3 fitting tapers Morse1 shortened for 2 dressing tools



2915606-Z

Dressing tool holder vertically adjustable, for workhead or tailstock. With 1 taper dia. 9.52mm / .37" for dressing for thread grinding applications with one dressing tool



Dressing attachment (non controled)

3115607-Z

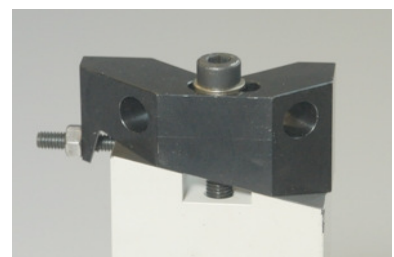
Dressing device attachable to the T-slot of the longitudinal slide, center height 175mm / 6.89", only for external grinding wheels.

Note: Requires dressing tool holder height adjustable for dressing device

Dressing tool holder for dressing attachment

2415745-Z

Dressing tool holder height adjustable for dressing device in the T-slot of the longitudinal slide, with 2 connecting bores oblique MT1 shortened, for 2 dressing tools



2415750-Z

Dressing tool holder height adjustable for dressing device on the T-slot of the longitudinal table, with 1 connecting bore straight dia. 9.52mm / .37" for dressing while thread cutting with 1 cylindrical dressing tool and 1 connecting bore straight MT1 shortened, for 1 dressing tool



Holding arbor for rotational dressing tools

2915651-Z

Dressing shaft for holding silicon carbide dressing tools dia. 200x50x15-25mm / 7.87x1.97x0.59-1". Incl. one driving lathe dog for dia. 50mm / 1.97" shaft. Dressing shaft can be clamped between centers instead of the workpiece for dressing of CBN and diamond external grinding wheels.

Notes:

- Incl. driving lathe dog for shafts of 50mm / 1.97", driven through workhead
- Dressing tool has to be ordered separately

3112799-Z

Additional holding arbor with dia. 52-h2, for profile roll with dia. 70mm / 2.76" up to max. dia. 140mm / 5.51" and max. 90mm / 3.54" wide.

Note: Profile roll has to be ordered separately

Dressing turbine

2915691-Z

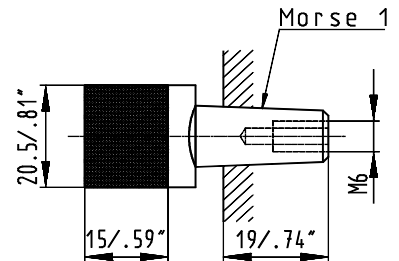
Dressing spindle 16000min-1. rpm-range with integrated cut-in sensor 3'000-16'000min-1 power supply 0.13-0.2kW (max. 0.4kW at 9'000min-1). Spindle dia. 72mm / 2.83" with cylindrical dressing tool holding fixture dia. 40-h3. Connection cable length 2m and Harting plug HAN-module with lateral cable output (spindle according to electrical specification 1330366A).

Notes:

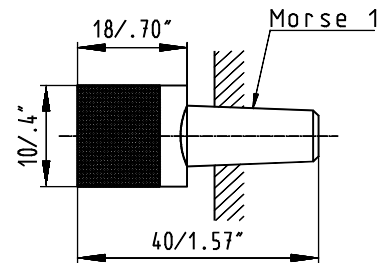
- Requires spindle holder dia. 72mm / 2.83"
- Requires dressing frequency converter
- Dressing tool has to be checked by technical clarification and subsequently ordered by a design order

Dressing tools with fitting taper MT1 shortened

2813076-Z
Grain fliese diamond 1.15 mm/.045" fitting taper
MT1 shortened



5560732-Z
Needle fliese MT1 shortened, type DV/10 NX
hight 10mm / .39", length 18mm / .71"

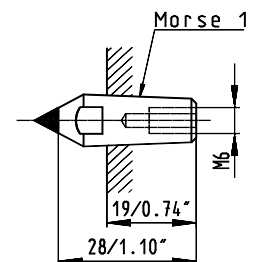


5560731-Z
Needle fliese MT1 shortened, type DV/20 NX
hight 20mm / .79", length 20mm / .79"

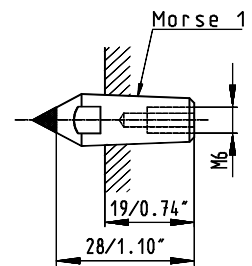
5560511-Z
Needle fliese MT1 shortened, type MKD-3-0640 DV/10
hight 10mm / .39", length 18mm / .71"

5560512-Z
Needle fliese MT1 shortened, type CVD-3-0640 DV/10
hight 10mm / .39", length 18mm / .71"

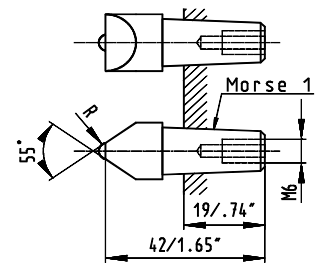
2813077-Z
Single point diamond 0.1 carat



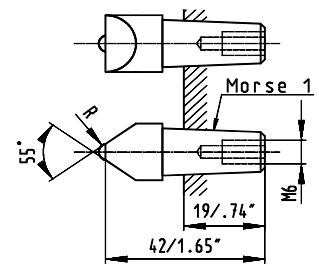
2813079-Z
 Single point diamond 1.5 carat



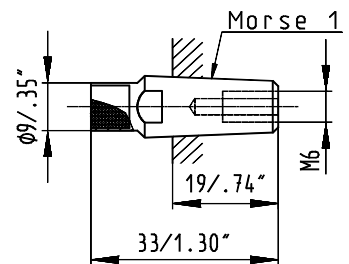
5560304-Z
 Single point diamond 0.45 carat 55 deg.
 R 0.25mm / .01"



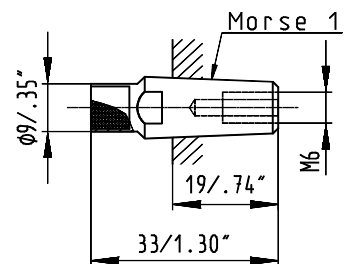
5560305-Z
 Single point diamond 0.45 carat 55 deg.
 R 0.5mm / .02"



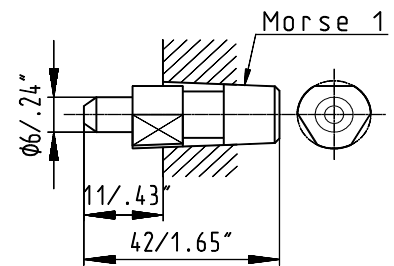
2813075-Z
 Impregnated diamond grit 25



2813081-Z
 Impregnated diamond grit 100

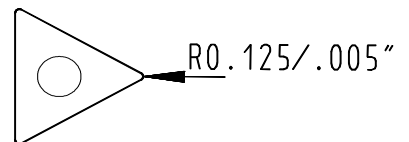


5560709-Z
Impregnated diamond with fitting taper MT1 shortened

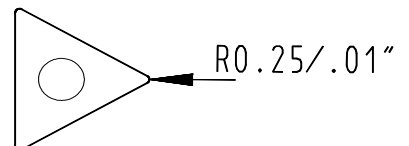


PCD-dressing plate with sep. fitting taper

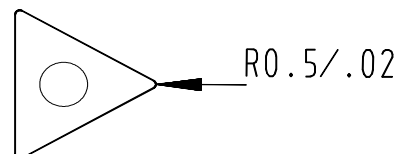
5560721-Z
PCD-dressing plate R 0.125mm/.005"



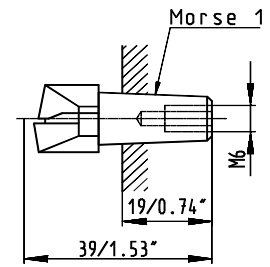
5560722-Z
PCD-dressing plate R 0.25mm/.01"



5560723-Z
PCD-dressing plate R 0.5mm/.02"

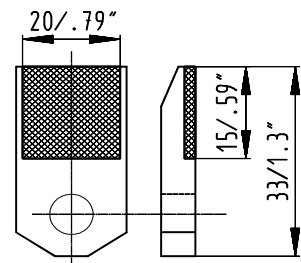


5560727-Z
 Adaptor for PCD-dressing plates (self-centering)

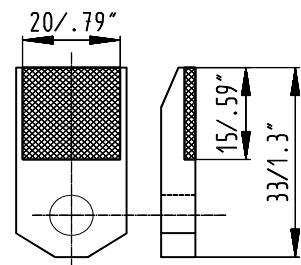


Grain fliese diamonds with sep. fitting taper

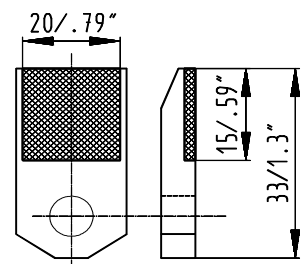
5560712-Z
 Grain fliese diamond 1.15mm/.045"



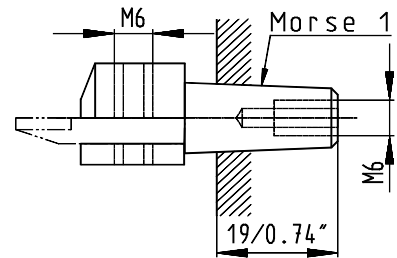
5560714-Z
 Grain fliese diamond 0.9mm/.035"



5560719-Z
 Grain fliese diamond 0.75mm/.03"

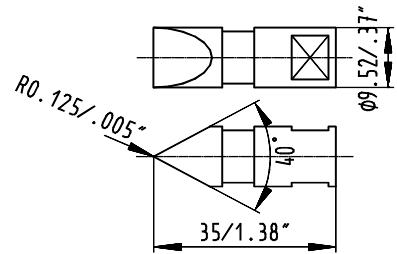


5560708-Z
 Adaptor MT1 shortened for grain fliese diamonds

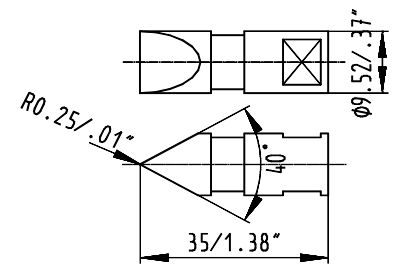


Dressing tools with cylindrical shaft dia 9.52x35mm

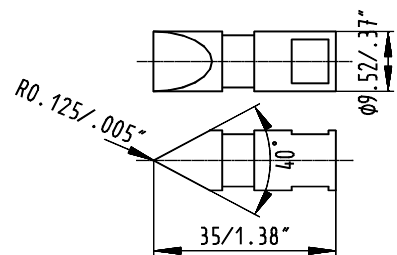
2415112-Z
 Single point diamond R 0.125, 40deg.
 (cylindrical shaft dia. 9.52x35mm / .37x1.38")



2415113-Z
 Single point diamond R 0.250, 40deg.
 (cylindrical shaft dia. 9.52x35mm / .37x1.38")

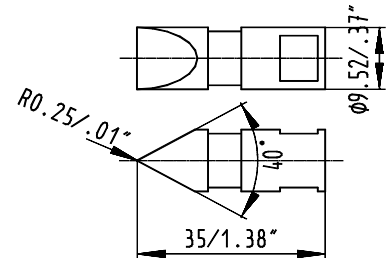


2415114-Z
 Profile diamond R 0.125, 40°, MKD
 (cylindrical shaft dia. 9.52x35mm / .37x1.38")



2415115-Z

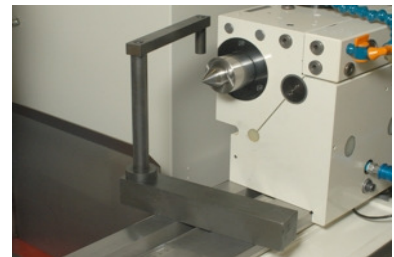
Profile diamond R 0.250, 40°, MKD (cylindrical shaft dia. 9.52x35mm/.37x1.38")



Auxiliary attachment for the adjustment of the dressing tool height

2621605-Z

Auxiliary attachment to adjust stationary dressing tools to 175mm/6.89" center height



Footpedal

2404753-Z

Approval pedal to carry out movements with open operating doors (with switch-off above the stroke). Facilitates workpiece alignment in the chucks. Connection cable length 3.5m



2404754-Z

Footpedal for clamping devices for electrically controlled clamping devices (hydraulic tailstock retraction, chucks etc.) Double foot pedal (clamping/unclamping) with over-travel switch on the clamping pedal. Connection cable length 3.5m

First cut recognition

2404774-Z

First cut sensor with magnetic base and connection cable, length 4m



Dynamic balancing

2912690-Z

Portable 1-level MPM 3.BMT100M.24 dynamic balancing device with an operating voltage of 24V DC. Display unit for manual adjustment of the balancing segments on a one-sided grinding wheel adaptor after a dynamic imbalance check.

Note: One device can be used for several machines, if these are equipped with an interface for manual 1-level MPM dynamic balancing and an MPM balancing sensor for each spindle



Notes:

- Requires balancing sensor MPM (1 x per external grinding motor spindle)
- Requires connection set of cables set for portable balancing unit MPM BMT100

2912653-Z

Inbalance sensor MPM with magnetic base dia. 25mm / 1" for manual balancing with balancing unit MPM BMT100 or BMT210



2912689-Z

Set of connection cable for portable balancing unit MPM BMT100 with 24VDC voltage. 1 cable for 24VDC voltage for every balancing and revolution sensor (cable length 1.4m)



Gauging control

2431688-Z

Support for mounting 2 positioning measuring heads Unimar P50 stacked on one hydraulic retraction unit for measuring of lengths

2431696-Z

Support to hydraulic retraction unit to enable mounting of 2 diameter measuring heads Unimar S20 or S30 side on side on the same retraction unit. Distance of measuring between 8.5mm-50mm/0.33-1.97" with standard measuring feelers

2431697-Z

Support to hydraulic retraction unit to enable mounting of 2 diameter measuring heads Unimar S20 or S30 side on side on the same retraction unit. Distance of measuring between 8.5mm-90mm/0.33-3.54" with standard measuring feelers

2431698-Z

Set of extension parts to Unimar S31 for a dia. range up to 160mm / 6.3"

Diameter measuring stand

2431616-Z

Diameter measuring stand Marposs DIRAC 4N for bore control.

- Diameter measuring range 4-50mm/.16-1.97" (vertical measuring arrangement)
- Repeatability <0.0001mm/.000,004"
- Precision <0.0005mm/.000,02
- Thermal drift <0.0001mm/.000,004"/°K
- Measuring depth 20mm/.79" (other measuring depth on request)
- Cable length 3m.

Condition:

- Occupied one measuring circuit
- For each diameter a centering measuring arbor is necessary (evtl. extension cable)

2429651-ZK

Centering arbor for match-measuring tripod DIRAC 4N for measuring inside diameter ofmm according to drawing No. (The diameter must be within the measuring range of the match-measuring tripod).

Note: Workpiece-dependent, 1 x per inside diameter required

Internal measuring arbor Marposs M1 electron BASE

2429653-Z

Hand measuring arbor Marposs M1 electron Base:

- Diameter range 9-15mm/.35-.59"
- Precision <0.001mm/.000,04"
- Max. measuring depth 50mm/1.97"
- Cable length 3 m

Note: For each diameter a measuring sleeve is necessary (evtl. extension cable)

2429655-ZK

Measuring sleeve for hand measuring arbor Marposs M1 electron Base dia. 9-15mm / .35-.59", consisting of guiding sleeve and measuring probe for dia.mm.

Remark: Workpiece-dependent, 1 x per inside diameter required

2429657-Z

Hand measuring arbor Marposs M1 electron Base:

- Diameter range 15-36mm/.59-1.42"
- Precision <0.001mm/.000.04"
- Max. measuring depth 50mm/1.97"
- Cable length 3m

Note: For each diameter a measuring sleeve is necessary (evtl. extension cable)

2429659-ZK

Measuring sleeve for hand measuring arbor Marposs M1 electron Base dia. 15-36mm / .59-1.42", consisting of guiding sleeve and measuring probe for dia.mm.

Remark: Workpiece dependent, 1x per internal diameter necessary

2429661-Z

Hand measuring arbor Marposs M1 electron Base:

- Diameter range 36-120mm/1.42-4.72"
- Precision <0.001mm/.000,04"
- Max. measuring depth 50mm/1.97"
- Cable length 3m

Condition: For each diameter a measuring sleeve is necessary (evtl. extension cable)

2429663-ZK

Measuring sleeve for hand measuring arbor Marposs M1 electron Base dia. 36-120mm / 1.42-4.72", consisting of guiding sleeve and measuring probe for dia.mm.

Remark: Workpiece dependent, 1x per internal diameter necessary

Diameter measuring stand

2429683-Z

Diameter measuring stand Movomatic CI213 for bore control (vertical measuring arrangement).

- Measuring range 4-150mm/.16-5.91"
- Repeatability <0.0001mm/.000,004" measuring depth 1 x nominal diameter
- Precision <0.0005mm/.000,2"
- Cable length 3m

Condition:

- Occupied one measuring circuit
- For each diameter a centering measuring arbor is necessary (evtl. extension cable)



Centering measuring arbor

2429685-ZK

Measuring and centering arbor within dia. 4-20mm
/ .16-.79" for match-measuring tripod CI213,
designed for dia....mm according to drawing No.

Measuring depth:

- Minimum 0.5mm / .02"
- Standard = 1 x nominal diameter
- Absolute maximum = 3 x nominal diameter

Note: Workpiece-dependent, 1 x per inside
diameter required



2429817-ZK

Measuring and centering arbor within $\text{Ø}20.1\text{-}40\text{mm}$
/079-1.57" for match-measuring tripod CI213,
designed for dia....mm according to drawing No.

Measuring depth:

- Minimum 0.5mm/.02"
- Standard = 1 x nominal diameter
- Absolute maximum = 3 x nominal diameter

Note: Workpiece-dependent, 1 x per inside
diameter required



2429818-ZK

Measuring and centering arbor within dia. 40.1-100mm
/ 1.57-3.94" for match-measuring tripod CI213,
designed for dia....mm according to drawing No.

Measuring depth:

- Minimum 0.5mm / .02"
- Standard = 1 x nominal diameter
- Absolute maximum = 3 x nominal diameter

Note: Workpiece-dependent, 1 x per inside
diameter required



Hydraulic and lubricating oil

For X-/Z-axes: Oil Shell Tonna S32

For spindle screw lubrication: Grease Klüber Staburags NBU 8 EP

For high frequency motor spindles Fischer: Oil Motorex
Spindle Lube ISO VG 68

For tailstock: Oil Shell Tonna S32

For tailstock fine adjustment: Fett Mobilux EP 023

Oil for lubrication in connection with
pneumatic lifting: Mobil DTE 24

For hydraulic: Oil Mobil DTE 24

For hydrostatic: Oel Shell Tonna S32

Oil Shell Tonna S32

5601806-Z
5 litre can oil Shell Tonna S32



5601807-Z
3 cans at 20 litres oil Shell Tonna S32



Grease Klüber Staburags NBU 8 EP

5601613-Z
1 kg grease KLÜBER Staburags NBU 8 EP

Oil Mobil DTE 24

5601829-Z
5 litre can oil MOBIL DTE 24



5601816-Z
2 cans of 10 litre oil MOBILE DTE 24



5601814-Z
50kg drum oil MOBIL DTE 24



Oil Motorex Spindle Lube ISO VG 68

5601869-Z
4 litre can oil Motorex Spindle Lube ISO VG 68
cleanliness class 13/10 according ISO 4406



Grease Mobilux EP 023

5601818-Z
0.5 kg grease Mobilux EP 023

Coolant

5601412-Z
5 litre can of coolant CASTROL Hysol R



5601420-Z
15 litres can of coolant CASTROL Hysol R



Corrosion protection agents

3118613-Z

Corrosion protection agents. 5 litres can Motorex Coolant F for motor spindles internal cooling



2918032-Z

Can with 0.15 liter fungicide Motorex Antisept for the water cooling circuit of the motor spindles



2918695-Z

Can (1 l) of cleaner for the water coolant circuit of motor spindles, Motorex Swisscare SC



Filter mat for grinding mist extraction unit

2422667-Z

Spare filter mat (10 pcs.) for grinding mist extraction unit for emulsion



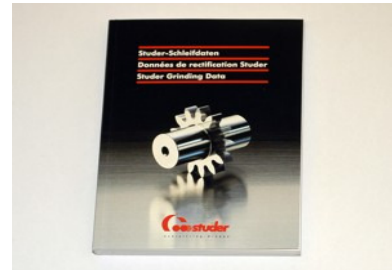
2422662-Z

Spare filter mat (10 pcs.) for grinding mist extraction unit for oil

Machine documentation

9904256-Z

Booklet Studer Grinding Data (pocket file)



Dial indicators

For steady: Dial gauging radial

5530018-Z

Radial dial gauge, metric (division 0.002mm)



5530118-Z

Radial dial gauge, inch (division 0.0001")



Auxiliary accessories

1848602-Z
Steel tool cabinet

