KOMdrive Feed-out tools

for Special-Purpose Machines

CERATIZIT is a high-technology engineering group specialised in cutting tools and hard material solutions.

Tooling a Sustainable Future

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KOMdrive – High-precision feed out tools for special-purpose machines

Unbeatable precision combined with a long service life

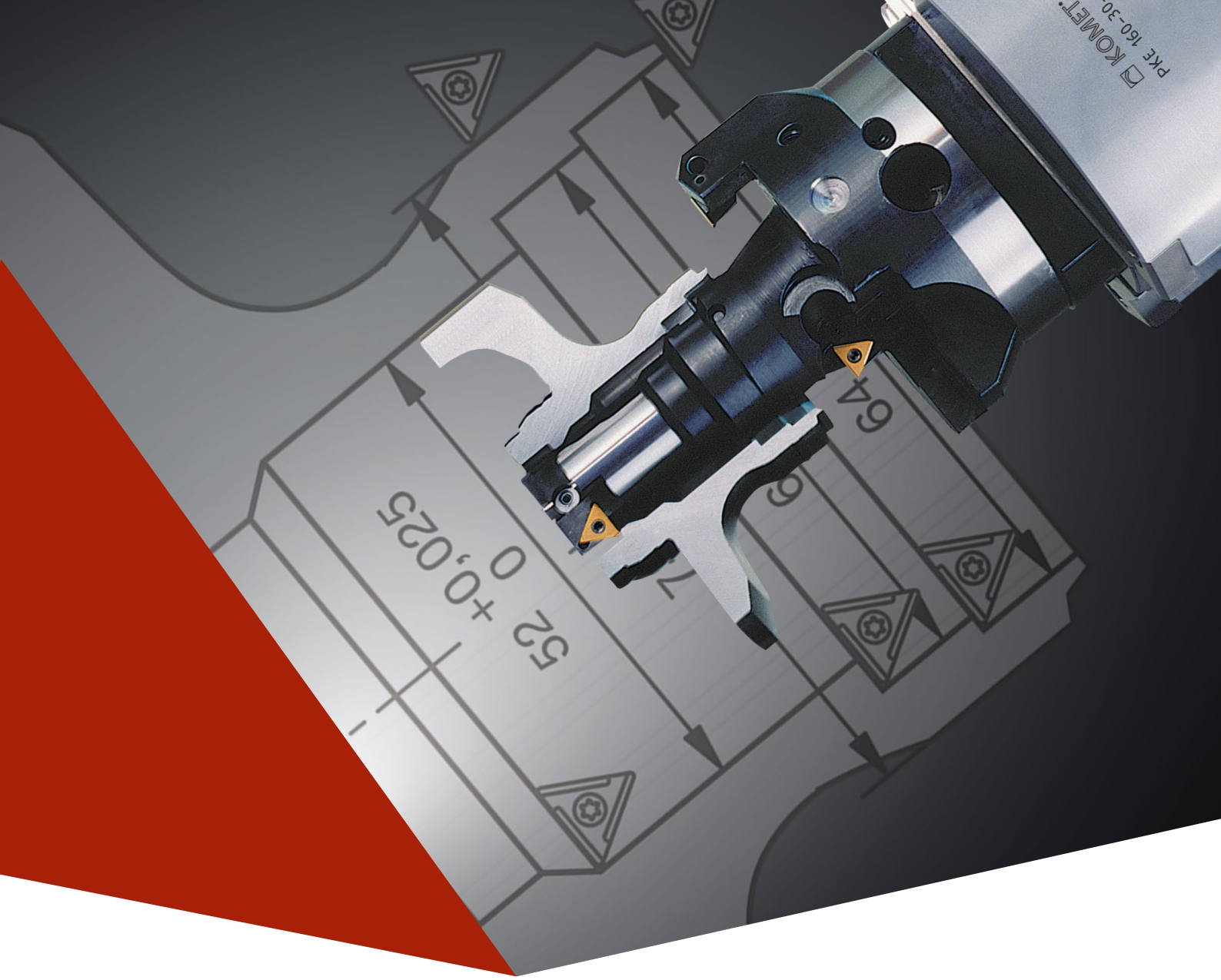
The slides of the facing heads are actuated mechanically through precision ground serrated rack components designed with maximum engagement of the teeth. The radial stroke is limited through fine adjustable internal stops for safety reasons. Sliding parts are made of long-term nitrided steel with high surface hardness and low friction properties.

Your Technical Sales Engineer will be happy to answer any further questions or please contact directly

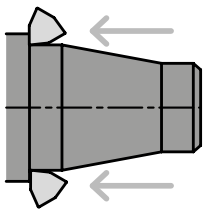
Offer.Actuatingtools@ceratizit.com

Advantages

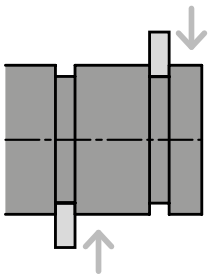
- Low coefficient of friction through special surface treatment of the sliding components
- Minimal backlash in the µm range
- Compact slide designs including integrated ABS connections for highest rigidity and metal removal
- High spindle speeds without compromising machining accuracy or service life
- Precision manufacturing processes and extensive research and development warrant the highest technological level



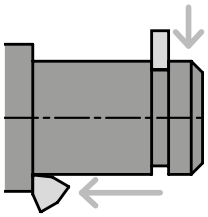
Machining examples



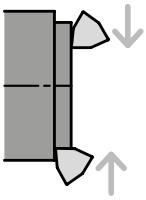
Contour machining



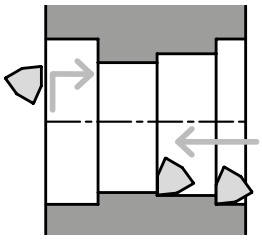
External grooving



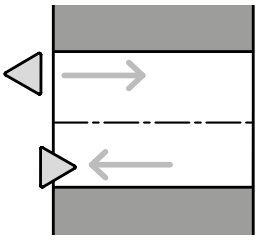
Grooving and facing



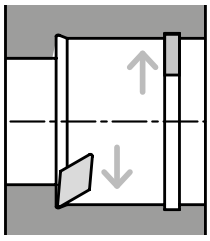
Face turning towards center



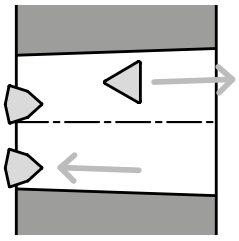
Boring and facing



Internal Machining



Facing and grooving



Drilling taper and boring

KOMdrive PKE

Facing head with single slide for low spindle speeds

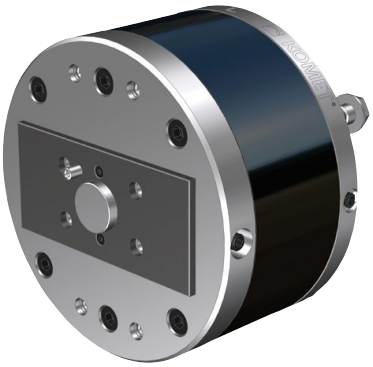
- **Very attractive price**
- **Available ex stock**
- **Increased service life thanks to the surface-treated gear parts**
- **Can be used on transfer lines, special purpose machines and automatic rotary indexing machines**
- **Can be adapted to almost any spindle using the intermediate flange**

KOMdrive PKD

Facing head with double slide for medium to high spindle speeds (depending on size of facing head)

- **Design-dependently balanced system**
- **Long service life thanks to large toothing surfaceche**
- **Significant cycle time reduction due to twin cutting and higher rpm**

KOMdrive PKU



Counterweighted facing head for medium to high spindle speeds (depending on size of facing head)

PKU balanced facing heads are suitable for the highest spindle speeds. The tool mounting areas are similar to the facing heads with a single slide, and offer optimum tooling rigidity. The facing heads may be furnished with an additional tool guide for heavy duty machining conditions. Please note that the weight of the front tools is limited for this series of facing heads (see page 24).

Balancing note: Balancing of these facing heads is achieved in any slide position through the weighting of the sliding components. The snap-on tools are involved in this dynamic and must therefore be adjusted in respect of weight and centre of gravity (see column „weight“), i.e. facing heads are finely balanced with the snap-on tools.

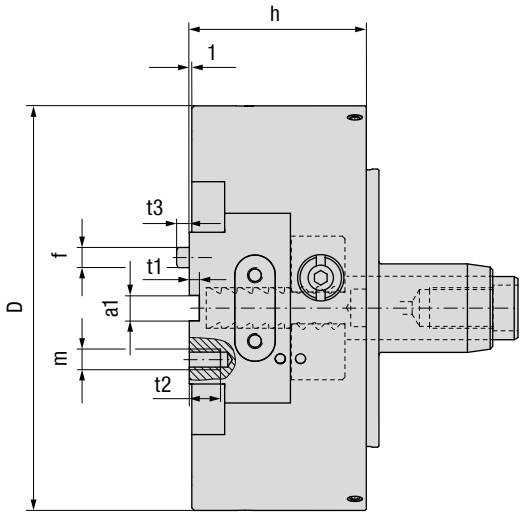
- **Cycle time reduction through higher rotation speed ranges**
- **Optimally balanced system due to balancing weight adjusted to tool weight**
- **Available in different versions for optimum process**
- **Facing heads with short stroke are suitable for: Internal machining (grooving, under-cutting and boring) with heavy front tools.**

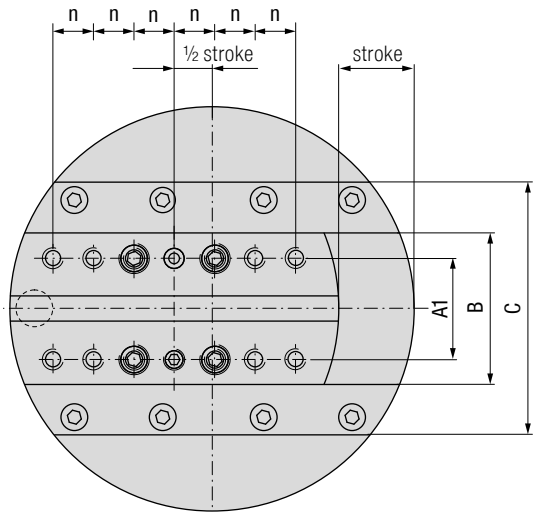
Index

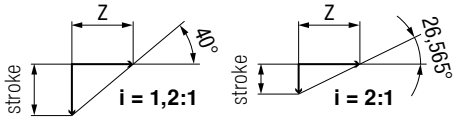
KOMdrive PKE-101 / PKE-101-QA

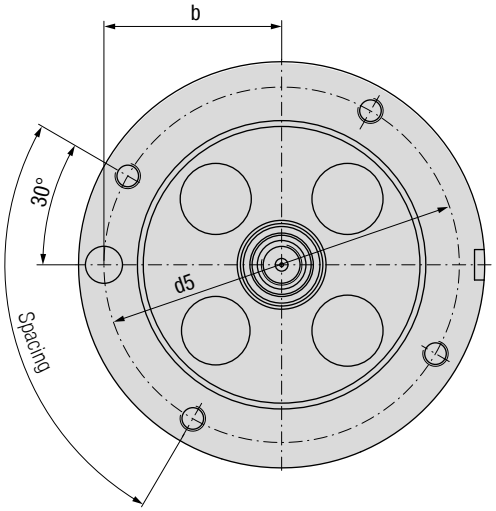
Facing head with single slide with mounting holes in slide

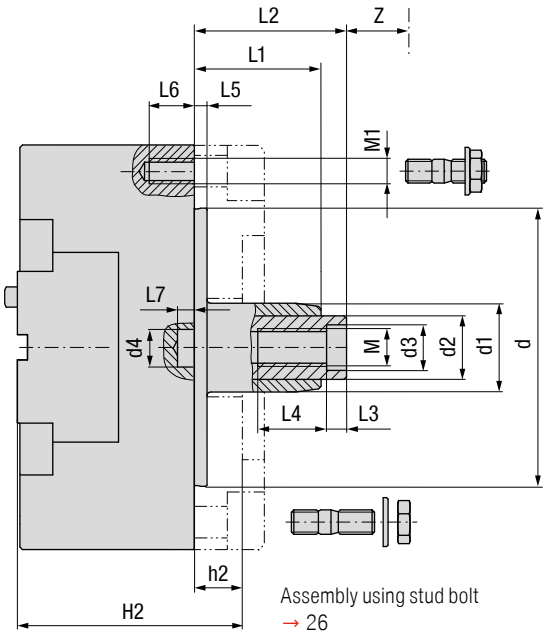
Adaptor with
ABS-N connection
→ 14











Assembly using stud bolt
→ 26
Adaptor flange for spindle
according to DIN 2079
→ 25

External dimensions

Description	KOMET No. Article No.	D_{h6} mm	Stroke mm	i Traduction	Pitch	Z mm	h mm	d_{h6} mm	d1 mm	d2 mm	$d3^{H7}$ mm	$d4^{+0,1}$ mm
PKE 80-12-101	**P01 00010**	80	12	1,2 : 1		14,3	42	50	25	16	12	10,3
PKE 100-17-101 QA	**P01 10011** 60 000 10017	100	17	1,2 : 1	40°	20,3	50	65	25	16	12	10,3
PKE 100-10-101 QA 2:1	**P01 10016** 60 000 10010		10	2 : 1	26,565°							
PKE 125-22-101 QA	**P01 20011** 60 000 12522	125	22	1,2 : 1	40°	26,2	58	90	30	20	14	14,6
PKE 125-13-101 QA 2:1	**P01 20016** 60 000 12513		13	2 : 1	26,565°							
PKE 160-30-101 QA	**P01 30011** 60 000 16030	160	30	1,2 : 1	40°	35,7	70	110	35	25	18	14,6
PKE 160-18-101 QA 2:1	**P01 30016** 60 000 16018		18	2 : 1	26,565°							
PKE 200-40-101 QA	**P01 40011**	200	40	1,2 : 1	40°	47,7	85	150	44	32	18	16,2
PKE 200-24-101 QA 2:1	**P01 40016**		24	2 : 1	26,565°							
PKE 250-50-101 QA	**P01 50011**	250	50	1,2 : 1	40°	59,6	100	180	46	32	18	19,4
PKE 250-30-101 QA 2:1	**P01 50016**		30	2 : 1	26,565°							

Slide dimensions

Size	B mm	C mm	A1 mm	$a1^{H8}$ mm	t1 mm	t2 mm	m	f_{m6} mm	n mm	No. of bolt holes
PKE 80	36	–	22	8	3	10	M6	6	12	8
PKE 100	40	72	26	8	3	10	M6	6	11	12
PKE 125	50	86	32	10	4	12	M8	8	13	12
PKE 160	60	100	40	10	4	12	M8	8	16	12
PKE 200	80	130	55	12	4	15	M10	10	20	12
PKE 250	100	150	70	12	4	18	M12	12	20	16

Mounting dimensions

Size	M	M1	L1 mm	L2±1 mm	L3 mm	L4 mm	L5 mm	L6 mm	L7 mm	b±0,1 mm	d5 mm	Spacing	H2 mm	h2 mm	Spindle size DIN 2079
PKE 80	M10×1L	M6	28	38	8	14	4	10	5	32	68	4×90° 3×120°	60	18	30
PKE 100	M10×1L	M8	30	40	8	14	4	12	5	42	84	4×90° 3×120°	65	15	30
PKE 125	M12×1,5L	M8	37	47	8	16	4	12	6	54	110	6×60°	75	17	40
PKE 160	M16×1,5L	M10	50	60	10	25	5	15	6	70	140	4×90°	90	20	40
PKE 200	M16×1,5L	M12	70	80	10	25	5	18	6	87,5	175	4×90°	110	25	50
PKE 250	M16×1,5L	M16	90	100	10	25	6	22	6	108	216	4×90°	125	25	50

Order example:
Facing head Ø 100 mm / stroke 17 mm / type 101 QA: Description PKE100-17-101QA / KOMET No. P01 10011 or Article-Nr. 60 000 10017

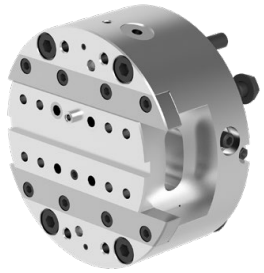
PKE size 320 / 400 / 500 on request.

Article no. 60.... available from stock

KOMdrive PKE-101-QA-IK-F-BR

Facing head with single slide with mounting holes in slide

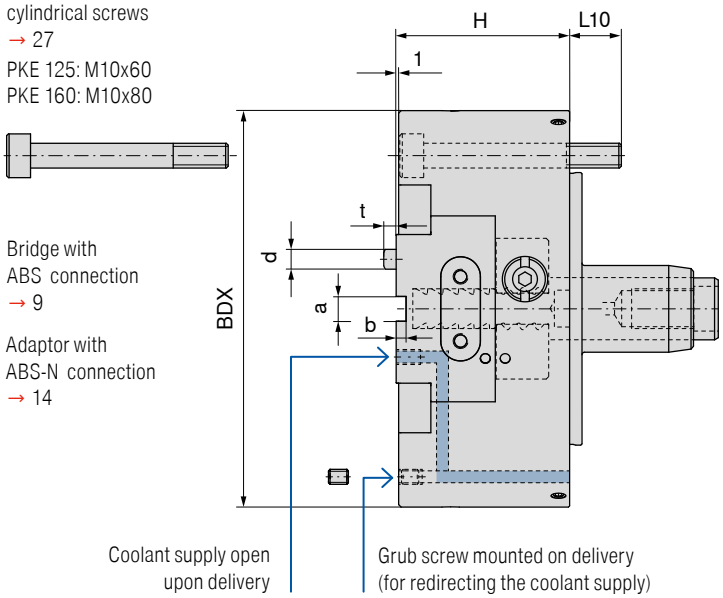
- ▲ with internal coolant supply
- ▲ additional mounting option on the housing, e.g. a bridge



Assembly using cylindrical screws
→ 27
PKE 125: M10x60
PKE 160: M10x80

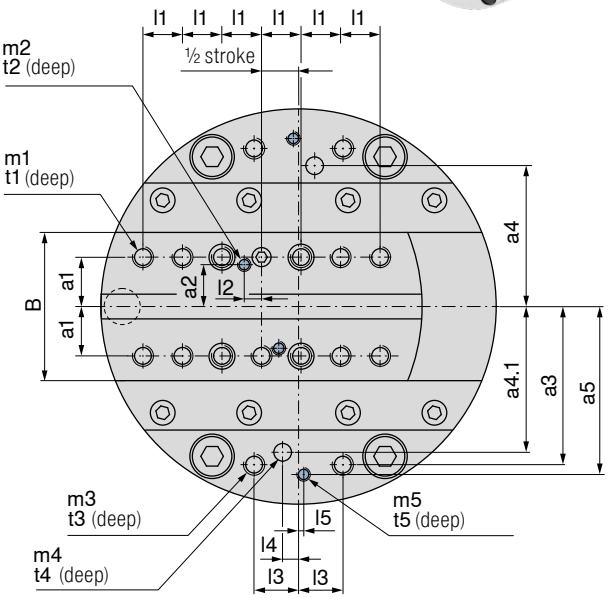
Bridge with ABS connection
→ 9

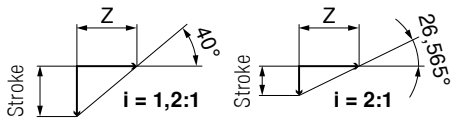
Adaptor with ABS-N connection
→ 14



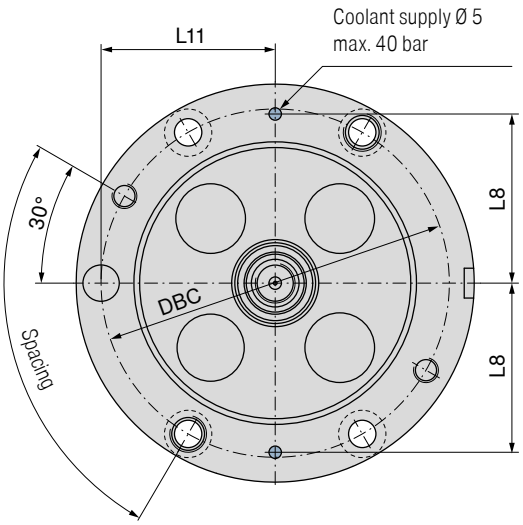
Coolant supply open upon delivery

Grub screw mounted on delivery (for redirecting the coolant supply)
PKE 125: M4x5
PKE 160: M5x8

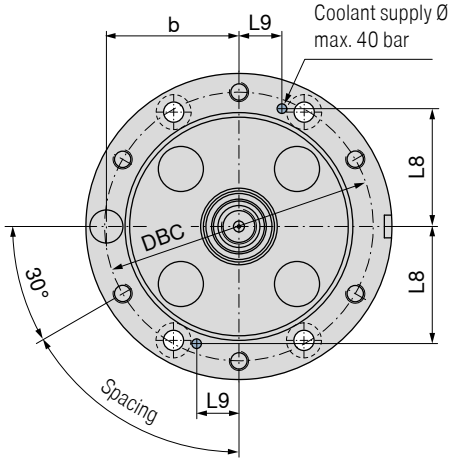


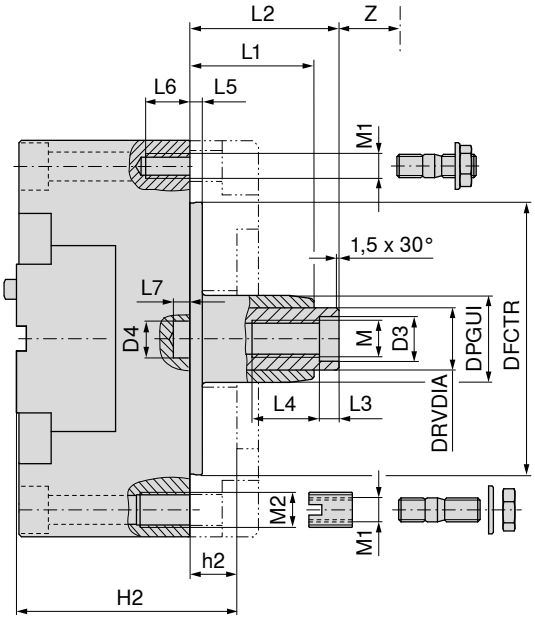


PKE 160



PKE 125





Assembly using stud bolt
→ 26

Assembly using threaded insert/ stud bolt (PKE 160)
→ 26

Adaptor flange for spindle according to DIN 2079 (without coolant supply)
→ 25

External dimensions

Description	Article No. KOMET No.	BDX$_{h6}$ mm	Stroke mm	i Traduction	Pitch	Z mm	H mm	DFCTR$_{h6}$ mm	DPGUI mm	DRVDIA mm	D3^{H7} mm	d4$^{+0,1}$ mm
PKE 125-22-101 QA.IK.F.BR	**60 001 22522** P01 20020	125	22	1,2 : 1	40°	26,2	58	90	30	20	14	14,6
PKE 125-13-101 QA.IK.F.BR	**60 001 22513** P01 20120		13	2 : 1	26,565°	26						
PKE 160-30-101 QA.IK.F.BR	**60 001 26030** P01 30020	160	30	1,2 : 1	40°	35,7	70	110	35	25	18	14,6
PKE 160-18-101 QA.IK.F.BR	**60 001 26018** P01 30120		18	2 : 1	26,565°	36						

Slide dimensions

Size	B mm	Slot a^{H8} mm	Slot b mm	Location hole a1 mm	Location hole l1 mm	Location hole m1	Location hole t1 mm	Coolant transfer a2 mm	Coolant transfer l2 mm	Coolant transfer m2 mm	Coolant transfer t2 mm	Positioning pin d$_{m6}$ mm	Positioning pin t mm	No. of bolt holes
PKE 125	50	10	4	16	13	M8	12	10,5	6,5	M4	5	8	5	12
PKE 160	60	10	4	20	16	M8	12	= a1	7	M5	6	8	5	12

Mounting dimensions – Bridge

Size	Location hole a3 mm	Location hole l3 mm	Location hole m3	Location hole t3 mm	Coolant transfer a5 mm	Coolant transfer l5 mm	Coolant transfer m5	Coolant transfer t5 mm	Positioning pin a4 mm	Positioning pin a4.1 mm	Positioning pin l4 mm	Positioning pin m4$^{\pm 0,05}$ mm	Positioning pin t4 mm
PKE 125	53	13,5	M6	10	47,85	3,77	M4	7	53	54,5	3	6,15	8
PKE 160	64	18	M8	16	68	0	M5	10	57	59	6,5	7,15	9

Mounting dimensions

Size	M	M1	M2	L1 mm	L2$^{\pm 1}$ mm	L3 mm	L4 mm	L5 mm	L6 mm	L7 mm	L8 mm	L9 mm	L10 mm	L11$^{\pm 0,1}$ mm	DBC mm	Spacing	H2 mm	h2 mm	Spindle size DIN 2079
PKE 125	M12×1,5L	M8	–	37	47	8	16	4	12	6	47	17	14,5	54	110	6×60°	75	17	40
PKE 160	M16×1,5L	M10	M14×1,5	50	60	10	25	5	15	6	68	–	22	70	140	4×90°	90	20	40

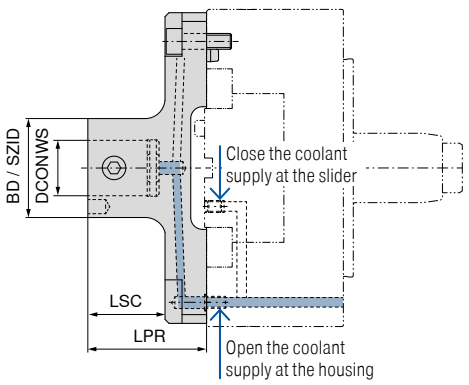
Order example:
Facing head Ø 125 mm / stroke 22 mm / type 101 QA.IK.F.BR: Description PKE 125-22-101 QA.IK.F.BR / KOMET No. P01 20020 or Article-Nr. 60 001 22522

Facing head **Article no. 60 001 ....** available from stock

Bridge with ABS connection

Description	Article No. KOMET No.	SZID	BD mm	DCONWS mm	LSC mm	LPR mm
BR.PKE 125-ABS40	60 006 12500 P80 24050	ABS40	40	20	29	45
BR.PKE 160-ABS50	60 006 16000 P80 35050	ABS50	50	28	39	60

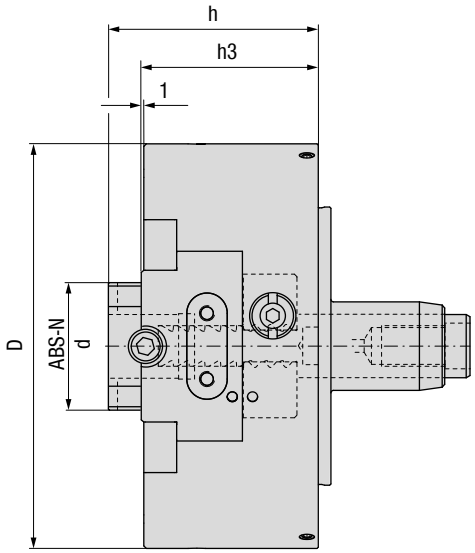
For redirecting the coolant supply, remove the grub screw on the housing and close the coolant holes on the slider.

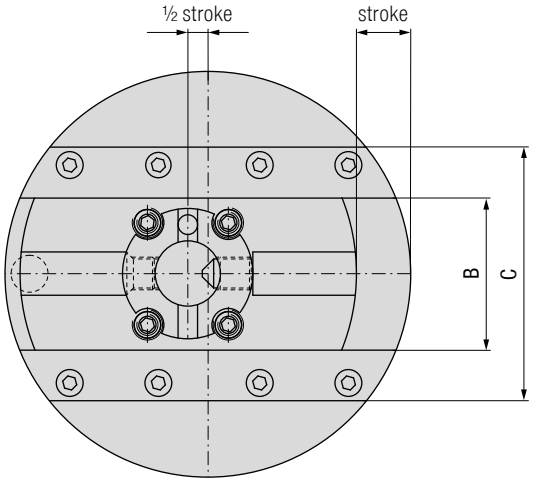


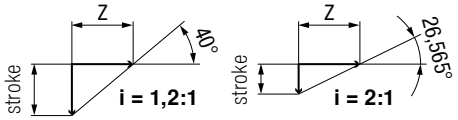
KOMdrive PKE-103 / PKE-103-QA

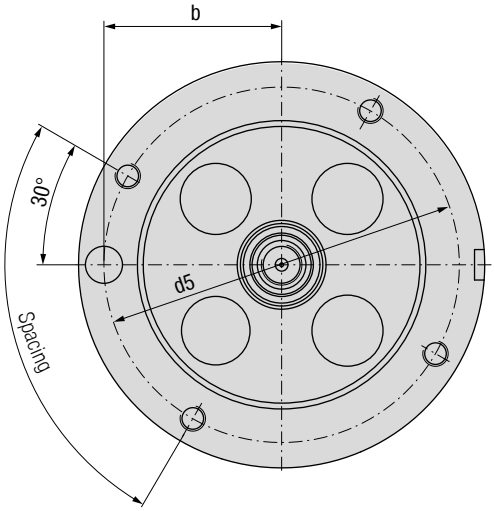
Facing head with single slide with integrated ABS-N connection

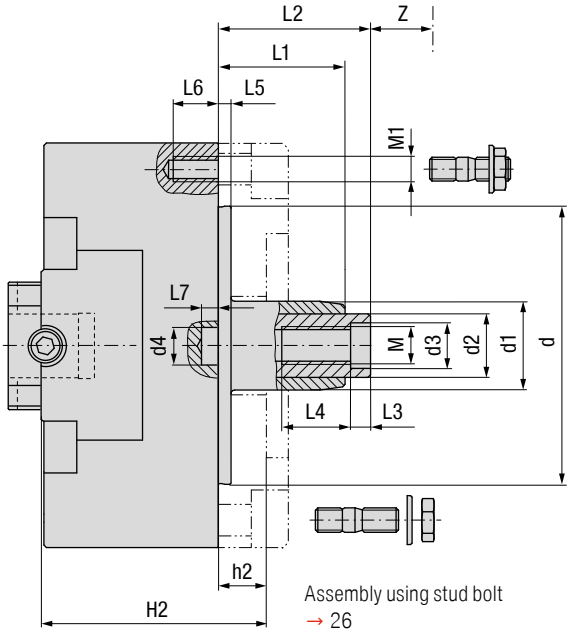
on request











Assembly using stud bolt
→ 26
Adaptor flange for spindle according to DIN 2079
→ 25

External dimensions

Description	KOMET No.	D_{h6} mm	Stroke mm	i Traduction	Pitch	Z mm	h mm	h3 mm	d_{h6} mm	d1 mm	d2 mm	$d3^{H7}$ mm	$d4^{+0,1}$ mm
PKE 80-6-103	**P01 00030**	80	6	1,2 : 1		7,2	52	42	50	25	16	12	10,3
PKE 100-10-103 QA	**P01 10031**	100	10	1,2 : 1	40°	11,9	60	50	65	25	16	12	10,3
PKE 100-6-103 QA 2:1	**P01 10036**		6	2 : 1	26,565°								
PKE 125-12-103 QA	**P01 20031**	125	12	1,2 : 1	40°	14,3	68	58	90	30	20	14	14,6
PKE 125-7-103 QA 2:1	**P01 20036**		7	2 : 1	26,565°								
PKE 160-15-103 QA	**P01 30031**	160	15	1,2 : 1	40°	17,9	85	70	110	35	25	18	14,6
PKE 160-9-103 QA 2:1	**P01 30036**		9	2 : 1	26,565°								
PKE 200-20-103 QA	**P01 40031**	200	20	1,2 : 1	40°	23,8	100	85	150	44	32	18	16,2
PKE 200-12-103 QA 2:1	**P01 40036**		12	2 : 1	26,565°								
PKE 250-30-103	**P01 50030**	250	30	2 : 1		35,7	120	100	180	46	32	18	19,4

Slide dimensions

Size	B mm	C mm	d ABS-N
PKE 80	36	–	32
PKE 100	40	72	32
PKE 125	50	86	40
PKE 160	60	100	50
PKE 200	80	130	63
PKE 250	100	150	80

Mounting dimensions

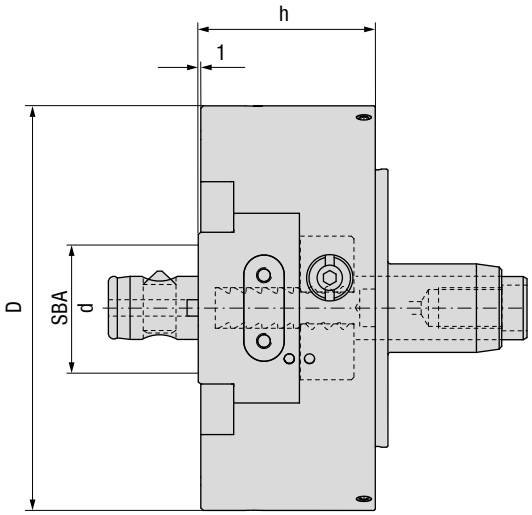
Size	M	M1	L1 mm	L2±1 mm	L3 mm	L4 mm	L5 mm	L6 mm	L7 mm	b±0,1 mm	d5 mm	Spacing	H2 mm	h2 mm	Spindle size DIN 2079
PKE 80	M10×1L	M6	28	38	8	14	4	10	5	32	68	4×90° 3×120°	70	18	30
PKE 100	M10×1L	M8	30	40	8	14	4	12	5	42	84	4×90° 3×120°	75	15	30
PKE 125	M12×1,5L	M8	37	47	8	16	4	12	6	54	110	6×60°	85	17	40
PKE 160	M16×1,5L	M10	50	60	10	25	5	15	6	70	140	4×90°	105	20	40
PKE 200	M16×1,5L	M12	70	80	10	25	5	18	6	87,5	175	4×90°	125	25	50
PKE 250	M16×1,5L	M16	90	100	10	25	6	22	6	108	216	4×90°	145	25	50

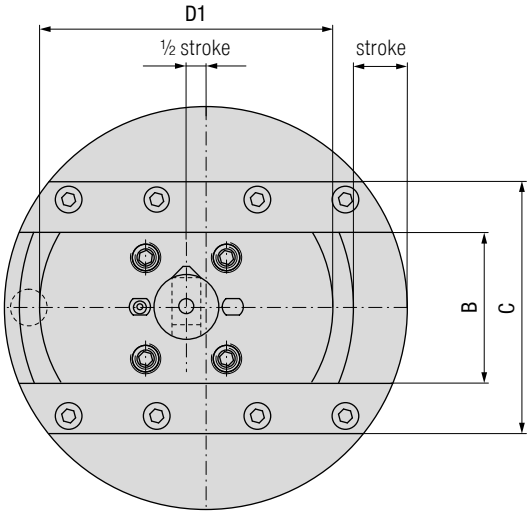
Order example:
Facing head Ø 250 mm / stroke 30 mm / type 103: Description PKE250-30-103 / KOMET No. P01 50030

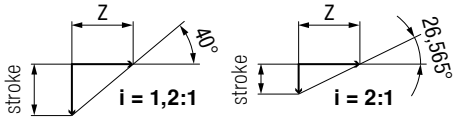
KOMdrive PKE-104 / PKE-104-QA

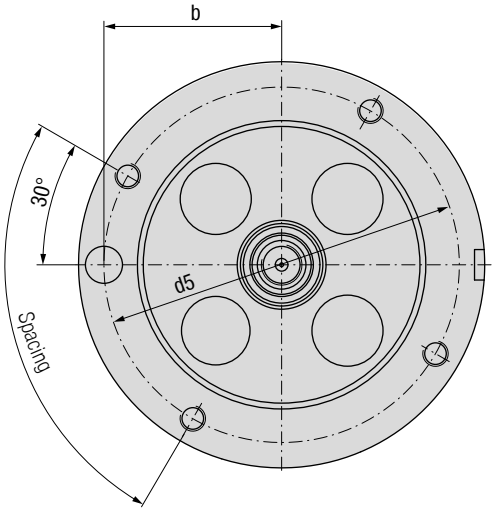
Facing head with single slide with integrated SBA connection

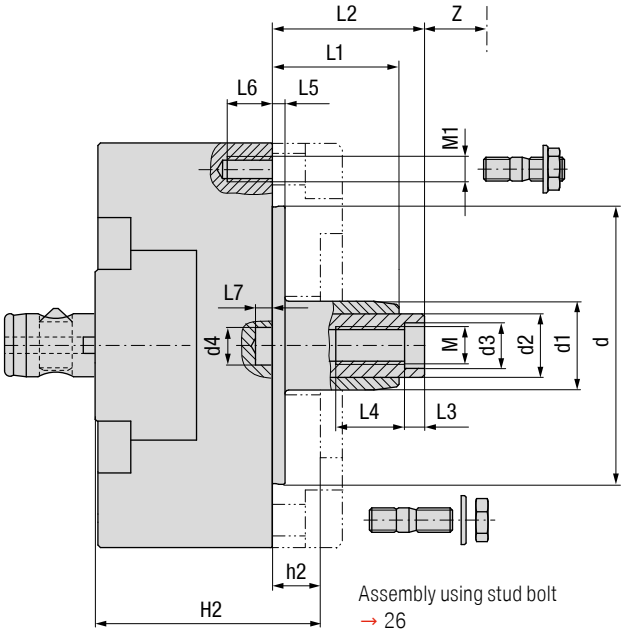
on request











Assembly using stud bolt
→ 26
Adaptor flange for spindle according to DIN 2079
→ 25

External dimensions

Description	KOMET No.	D_{h6} mm	Stroke mm	i Traduction	Pitch	Z mm	h mm	d_{h6} mm	d1 mm	d2 mm	$d3^{H7}$ mm	$d4^{+0,1}$ mm
PKE 80-12-104	**P01 00040**	80	12	1,2 : 1		14,3	42	50	25	16	12	10,3
PKE 100-15-104 QA	**P01 10041**	100	15	1,2 : 1	40°	17,9	50	65	25	16	12	10,3
PKE 100-9-104 QA 2:1	**P01 10046**		9	2 : 1	26,565°							
PKE 125-20-104 QA	**P01 20041**	125	20	1,2 : 1	40°	23,8	58	90	30	20	14	14,6
PKE 125-12-104 QA 2:1	**P01 20046**		12	2 : 1	26,565°							
PKE 160-25-104 QA	**P01 30041**	160	25	1,2 : 1	40°	29,8	70	110	35	25	18	14,6
PKE 160-15-104 QA 2:1	**P01 30046**		15	2 : 1	26,565°							
PKE 200-30-104 QA	**P01 40041**	200	30	1,2 : 1	40°	35,7	85	150	44	32	18	16,2
PKE 200-18-104 QA 2:1	**P01 40046**		18	2 : 1	26,565°							
PKE 250-40-104	**P01 50040**	250	40	2 : 1		47,7	100	180	46	32	18	19,4
PKE 320-55-104	**P01 60040**	320	55	2 : 1		65,6	124	220	63	40	22	24,2

Slide dimensions

Size	B mm	C mm	D1 mm	d SBA
PKE 80	36	–	60	32
PKE 100	40	72	75	40
PKE 125	50	86	95	50
PKE 160	60	100	115	63
PKE 200	80	130	140	80
PKE 250	100	150	170	100
PKE 320	110	178	200	100

Mounting dimensions

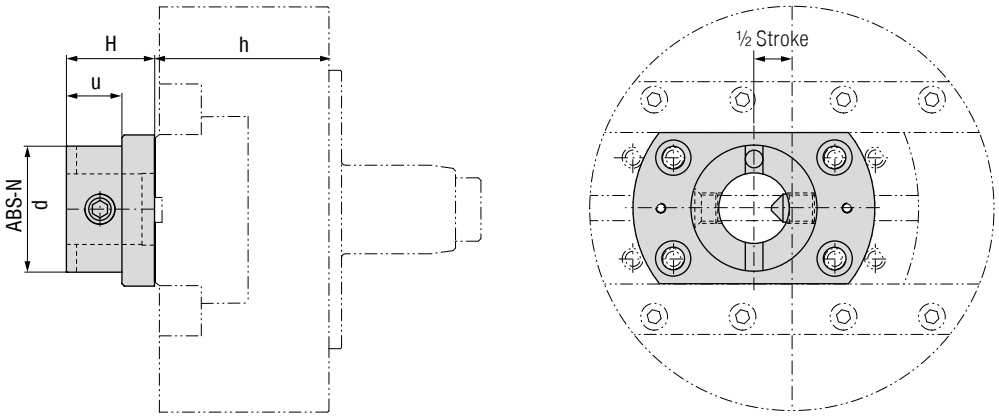
Size	M	M1	L1 mm	L2±1 mm	L3 mm	L4 mm	L5 mm	L6 mm	L7 mm	b±0,1 mm	d5 mm	Spacing	H2 mm	h2 mm	Spindle size DIN 2079
PKE 80	M10×1L	M6	28	38	8	14	4	10	5	32	68	4×90° 3×120°	60	18	30
PKE 100	M10×1L	M8	30	40	8	14	4	12	5	42	84	4×90° 3×120°	65	15	30
PKE 125	M12×1,5L	M8	37	47	8	16	4	12	6	54	110	6×60°	75	17	40
PKE 160	M16×1,5L	M10	50	60	10	25	5	15	6	70	140	4×90°	90	20	40
PKE 200	M16×1,5L	M12	70	80	10	25	5	18	6	87,5	175	4×90°	110	25	50
PKE 250	M16×1,5L	M16	90	100	10	25	6	22	6	108	216	4×90°	125	25	50
PKE 320	M20×1,5L	M16	106	116	10	30	6	22	8	137,5	275	6×60°	150	26	60

Order example:
Facing head Ø 250 mm / stroke 40 mm / type 104: Description PKE250-40-104 / KOMET No. P01 50040

KOMdrive PKE-101 / PKE-101-QA

Adaptor with ABS-N connection

without internal coolant supply

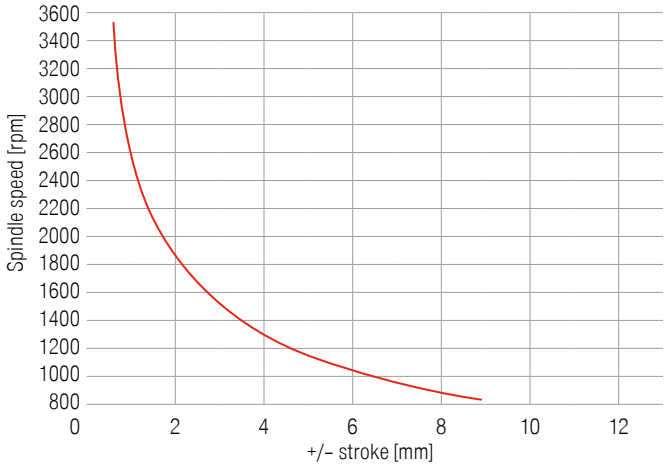


ABS-N Adaptor					
Size	**KOMET No.**	**d** ABS-N	**H** mm	**u** mm	**h** mm
PKE 80-...-101	**P80 03010**	32	25	15	42
PKE100-...-101	**P80 13010**	32	25	15	50
PKE125-...-101	**P80 24010**	40	30	17	58
PKE160-...-101	**P80 35010**	50	35	22	70
PKE200-...-101	**P80 46010**	63	40	24	85
PKE250-...-101	**P80 57010**	80	45	25	100
PKE320-...-101	**P80 68010**	100	60	40	124

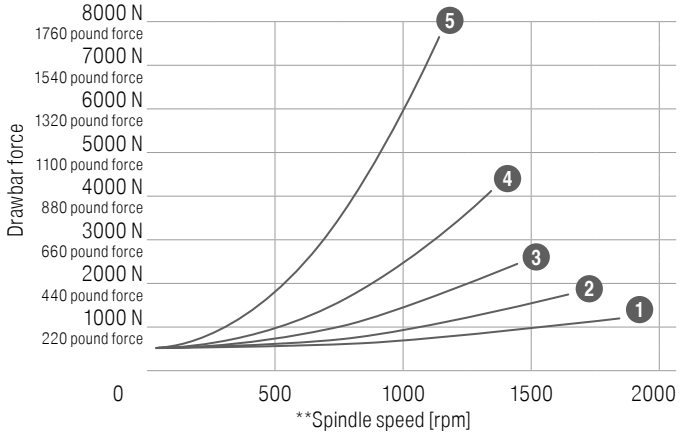
KOMdrive PKE-... / PKE-...-QA

Technical notes

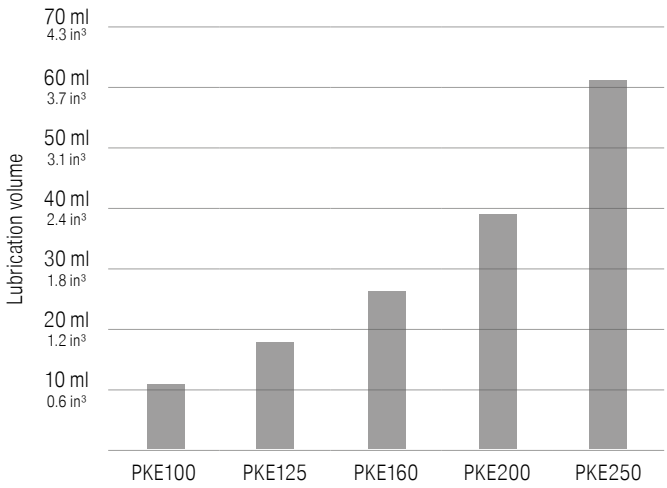
Stroke/spindle speed diagram
***max. weight of front tool



Drawbar force
Full max. stroke
The diagram serves as a guideline. A specific calculation can be produced with consideration to all parameters.



Lubrication requirements
Slide movement: 150 m / 6,000 in. (corresponds to one shift, 8 h)



The maximum spindle speed is estimated as follows:

$$r.p.m._{max} = \frac{2500}{\sqrt{stroke^*}}$$

* stroke in mm from /to rotational axis

** Spindle speed [rpm]
Drawbar forces shown are valid for maximum weight of front tool.

***max. weight of front tool

1	PKE100	1,2 kg	2.6 lbs
2	PKE125	2,0 kg	4.4 lbs
3	PKE160	3,2 kg	7.1 lbs
4	PKE200	5,5 kg	12.1 lbs
5	PKE250	12,0 kg	26.5 lbs

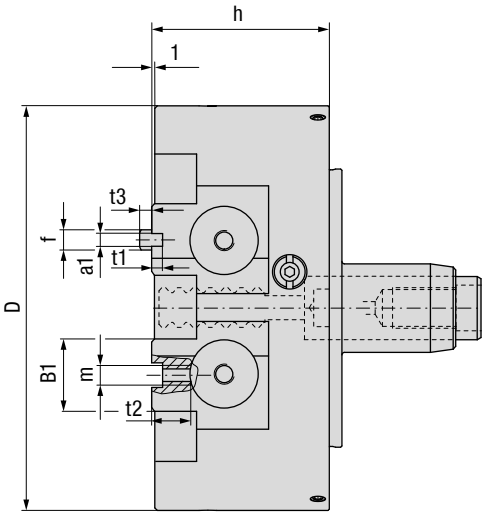
Lubrication volume required for one shift
The values specified are guide values and must, where required, be adjusted to the application conditions such as rotation speed, stroke and environmental influences such as coolant, dirt, etc.

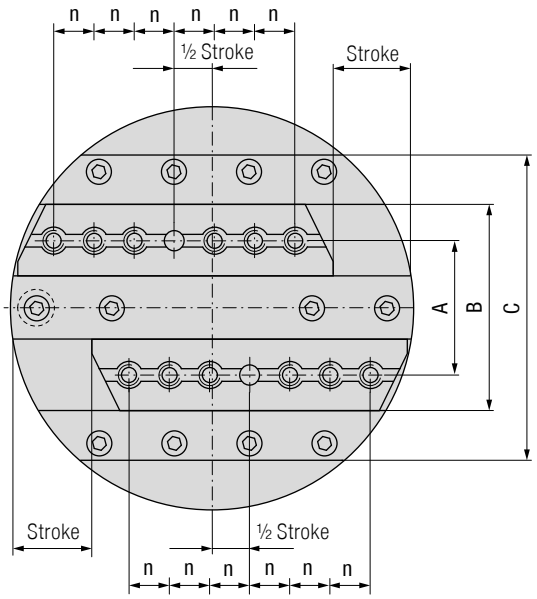
Lubricants
We recommend Mobilux EP004 liquid grease for all speed ranges.
Furthermore, it is also possible to use slideway oils according to DIN 51502 with the identifier CG-L68 or CG-L220 (CG-L220 is preferred for speeds from 700 rpm).
The relevant commercial names of the mineral oil companies for slide-way oils can be ascertained from the machine lubrication instructions.
These lubrication instructions apply to all generating tools supplied by KOMET.

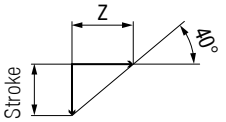
KOMdrive PKD-101

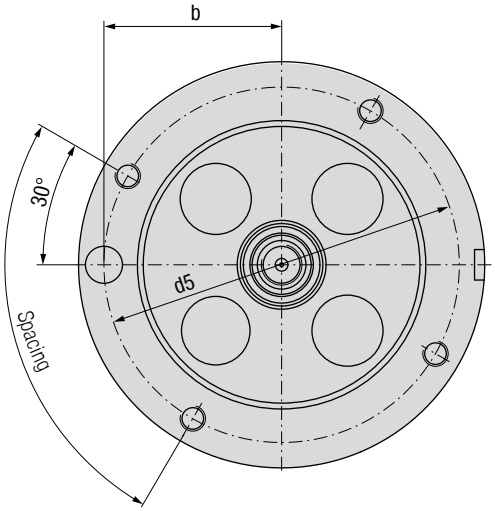
Facing head with double slide with mounting holes in slides

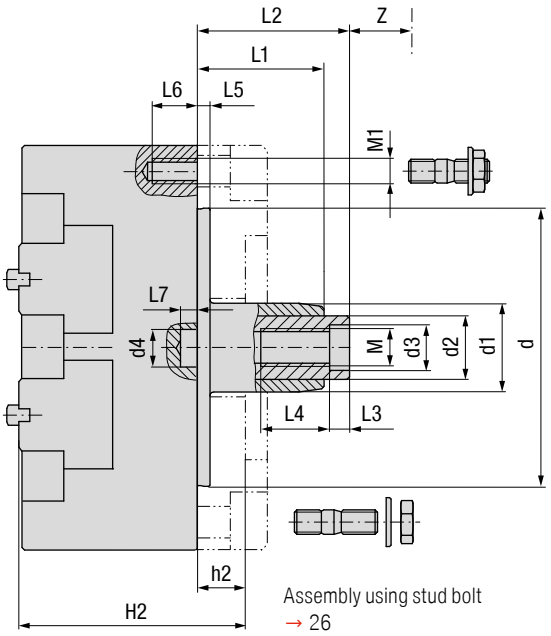
Adaptor with
ABS-N connection
→ 18











Assembly using stud bolt
→ 26
Adaptor flange for spindle
according to DIN 2079
→ 25

External dimensions

Description	KOMET No. Article No.	D_{h6} mm	Stroke mm	Z mm	h mm	d_{h6} mm	d1 mm	d2 mm	$d3^{H7}$ mm	$d4^{+0,1}$ mm
PKD 80-12-101	**P05 00010** 60 002 08012	80	12	14,3	42	50	25	16	12	10,3
PKD 100-17-101	**P05 10010** 60 002 10017	100	17	20,3	50	65	25	16	12	10,3
PKD 125-22-101	**P05 20010** 60 002 12522	125	22	26,2	58	90	30	20	14	14,6
PKD 160-30-101	**P05 30010** 60 002 16030	160	30	35,7	70	110	35	25	18	14,6
PKD 200-40-101	**P05 40010**	200	40	47,7	85	150	44	32	18	16,2
PKD 250-50-101	**P05 50010**	250	50	59,6	100	180	46	32	18	19,4
PKD 320-63-101	**P05 60010**	320	63	75,1	124	220	63	40	22	24,2

Slide dimensions

Size	B mm	B1 mm	C mm	A mm	$a1^{H8}$ mm	t1 mm	t2 mm	m	f_{m6} mm	n mm	No. of bolt holes
PKD 80	46	15	–	30	6	3	10	M6	6	12	4
PKD 100	56	20	–	36	8	3	15	M8	8	10	6
PKD 125	72	26	–	46	8	3	15	M8	8	12	6
PKD 160	84	30	124	56	8	3	16	M10	10	15	6
PKD 200	102	36	148	64	8	3	16	M10	10	20	6
PKD 250	136	50	186	78	10	4	18	M12	12	20	8
PKD 320	166	60	226	106	12	4	25	M16	16	25	8

Mounting dimensions

Size	M	M1	L1 mm	L2±1 mm	L3 mm	L4 mm	L5 mm	L6 mm	L7 mm	b±0,1 mm	d5 mm	Spacing	H2 mm	h2 mm	Spindle size DIN 2079
PKD 80	M10×1L	M6	28	38	8	14	4	10	5	32	68	4×90° 3×120°	–	–	30
PKD 100	M10×1L	M8	30	40	8	14	4	12	5	42	84	4×90° 3×120°	65	15	30
PKD 125	M12×1,5L	M8	37	47	8	16	4	12	6	54	110	6×60°	75	17	40
PKD 160	M16×1,5L	M10	50	60	10	25	5	15	6	70	140	4×90°	90	20	40
PKD 200	M16×1,5L	M12	70	80	10	25	5	18	6	87,5	175	4×90°	110	25	50
PKD 250	M16×1,5L	M16	90	100	10	25	6	22	6	108	216	4×90°	125	25	50
PKD 320	M20×1,5L	M16	106	116	10	30	6	22	8	137,5	275	6×60°	150	26	60

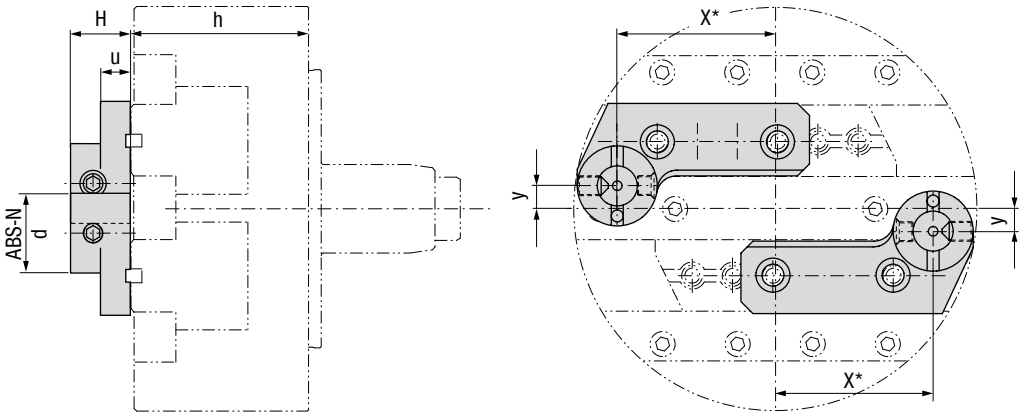
Order example:
Facing head Ø 160 mm / stroke 30 mm / type 101: Description PKD 160-30-101 / KOMET No. P05 30010 or Article-Nr. 60 002 16030

Article no. 60.... available from stock

KOMdrive PKD-101

Adaptor with ABS-N connection

* ABS-N adapters have two key ways for radial positioning

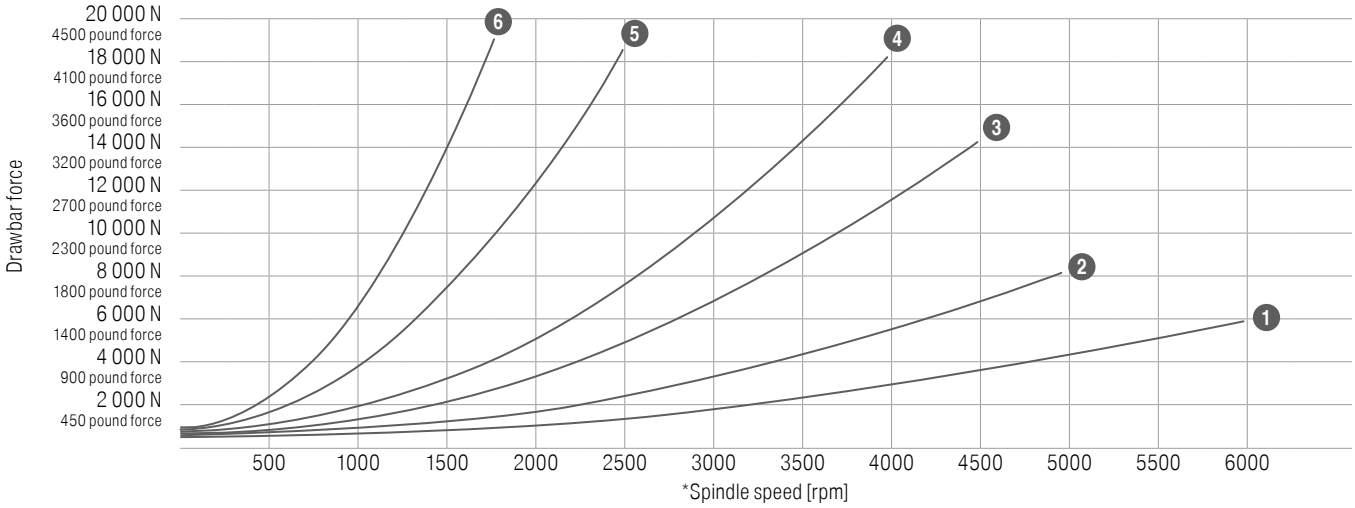


ABS-N Adaptor								
Size	**KOMET No.**	**d** ABS-N	**H** mm	**u** mm	**h** mm	**X*** mm		**y** mm
PKD 80-...-101	–							
PKD100-...-101	**P80 12050**	25	25	12	50	35	–	7
PKD125-...-101	**P80 22050**	25	25	12	58	47	35	7
PKD160-...-101	**P80 33050**	32	25	10	70	60	45	8
PKD200-...-101	**P80 44050**	40	30	15	85	80	60	10
PKD250-...-101	**P80 55050**	50	35	15	100	100	80	12
PKD320-...-101	**P80 66050**	63	40	15	124	125	100	14

KOMdrive PKD-...

Technical notes

Drawbar force
stroke = start position
The diagram serves as a guideline. A specific calculation can be produced with consideration to all parameters.

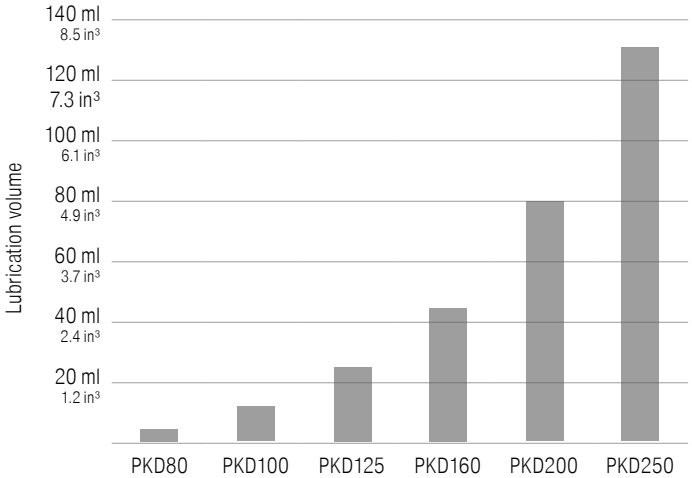


* Spindle speed [rpm]
Drawbar forces shown are valid for maximum weight of front tool.

max. weight of front tool

1	PKD 80	2× 0,2 kg	2× 0.4 lbs
2	PKD100	2× 0,3 kg	2× 0.7 lbs
3	PKD125	2× 0,45 kg	2× 1.0 lbs
4	PKD160	2× 0,6 kg	2× 1.3 lbs
5	PKD200	2× 0,8 kg	2× 1.8 lbs
6	PKD250	2×1,0 kg	2× 2.2 lbs

Lubrication requirements
Slide movement: 150 m / 6,000 in. (corresponds to one shift, 8 h)



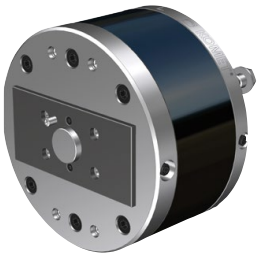
Lubrication volume required for one shift
The values specified are guide values and must, where required, be adjusted to the application conditions such as rotation speed, stroke and environmental influences such as coolant, dirt, etc.

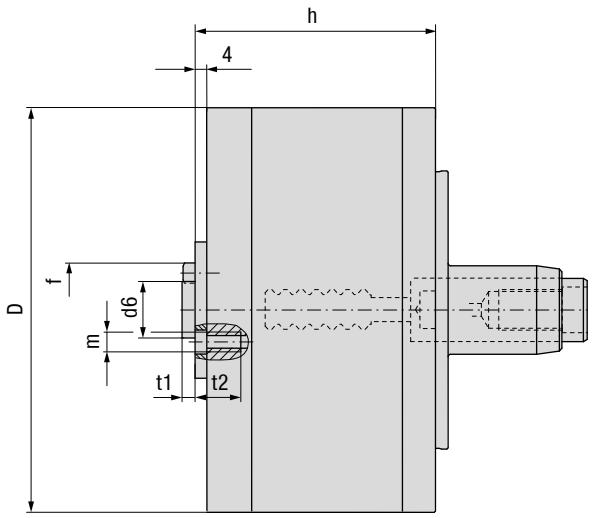
Lubricants
We recommend Mobilux EP004 liquid grease for all speed ranges.
Furthermore, it is also possible to use slideway oils according to DIN 51502 with the identifier CG-L68 or CG-L220 (CG-L220 is preferred for speeds from 700 rpm).
The relevant commercial names of the mineral oil companies for slide-way oils can be ascertained from the machine lubrication instructions.
These lubrication instructions apply to all generating tools supplied by KOMET.

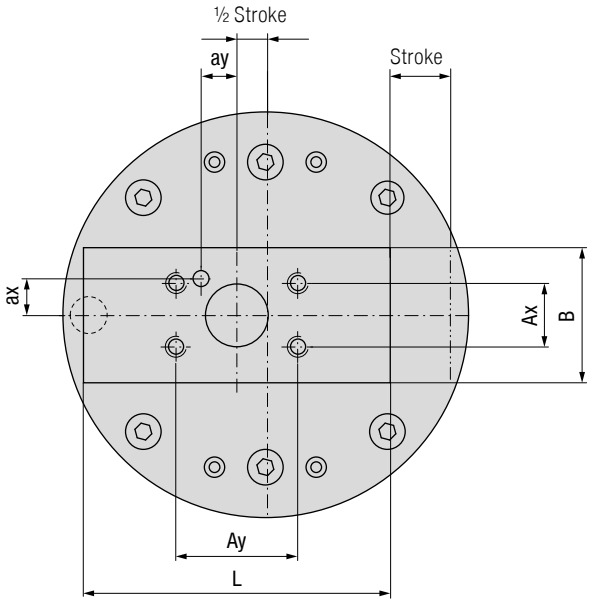
KOMdrive PKU-101

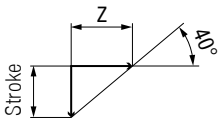
Facing head with counterweighted with mounting holes in slide

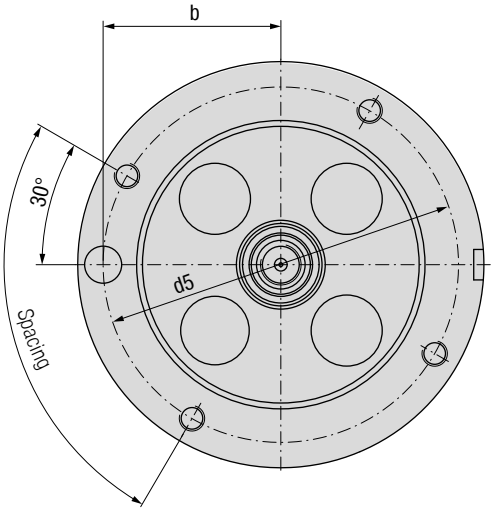
on request

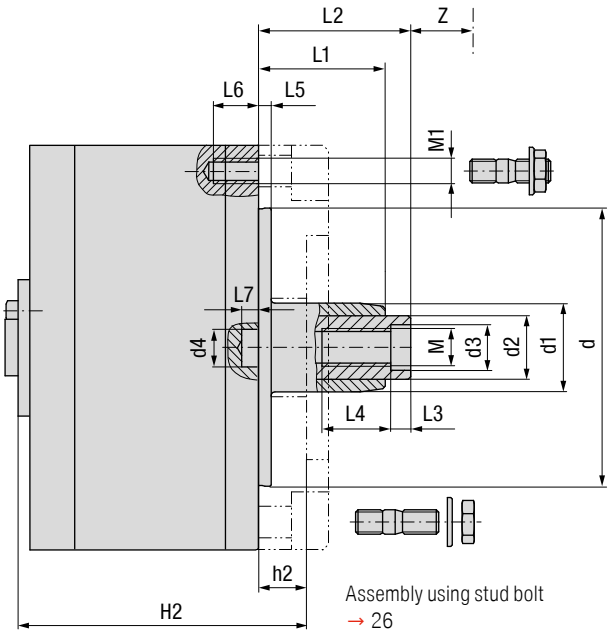












Assembly using stud bolt
→ 26
Adaptor flange for spindle according to DIN 2079
→ 25

External dimensions

Description	KOMET No.	D_{h6} mm	Stroke mm	Z mm	h mm	d_{h6} mm	d1 mm	d2 mm	$d3^{H7}$ mm	$d4^{+0,1}$ mm
PKU 100-10-101	**P20 10110**	100	10	11,9	66	65	25	16	12	10,3
PKU 125-6-101	**P20 20010**	125	6	7,2	73	90	30	20	14	14,6
PKU 125-15-101	**P20 20110**		15	17,9						
PKU 160-8-101	**P20 30010**	160	8	9,5	95	110	35	25	18	14,6
PKU 160-22-101	**P20 30110**		22	26,2						
PKU 200-10-101	**P20 40010**	200	10	11,9	115	150	44	32	18	16,2
PKU 200-30-101	**P20 40110**		30	35,7						
PKU 250-12-101	**P20 50010**	250	12	14,3	140	180	46	32	18	19,4
PKU 250-40-101	**P20 50110**		40	47,7						
PKU 320-15-101	**P20 60010**	320	15	17,9	174	220	63	40	22	24,2
PKU 320-50-101	**P20 60110**		50	59,6						

Slide dimensions / Front tool

Size	B mm	L mm	Ax mm	Ay mm	ax±0,02 mm	ay±0,02 mm	$d6_{h6}$ mm	t1 mm	t2 mm	m	f_{m6} mm	kg min – max	lbs min – max
PKU 100-10-101	42	80	18	33	11	7	16	5	9	M6	5	0,22 – 0,4	0.5 – 0.9
PKU 125-6-101	52	88	28	50	14	15	20	5	16	M8	6	0,55 – 1,05	1.2 – 2.3
PKU 125-15-101	46	92	22	42	11	12	20	5	13	M6	5	0,53 – 0,9	1.2 – 2.0
PKU 160-8-101	66	106	32	60	16	18	25	5	19	M10	6	0,46 – 1,5	1.0 – 3.3
PKU 160-22-101	56	120	28	50	14	15	25	5	16	M8	6	0,47 – 1,2	1.0 – 2.6
PKU 200-10-101	78	130	40	80	20	25	30	5	18	M12	8	1,25 – 3,5	2.8 – 7.7
PKU 200-30-101	68	150	32	60	16	18	30	5	18	M10	6	1,15 – 2,7	2.5 – 6.0
PKU 250-12-101	93	156	50	90	25	30	32	5	18	M12	10	1,51 – 5,3	3.3 – 11.7
PKU 250-40-101	78	190	40	80	20	25	32	5	18	M12	8	1,23 – 3,8	2.7 – 6.0
PKU 320-15-101	108	194	60	120	30	40	40	5	28	M16	12	0 – 7,2	0 – 15.9
PKU 320-50-101	92	234	50	90	25	30	40	5	22	M12	10	0 – 5,4	0 – 11.9

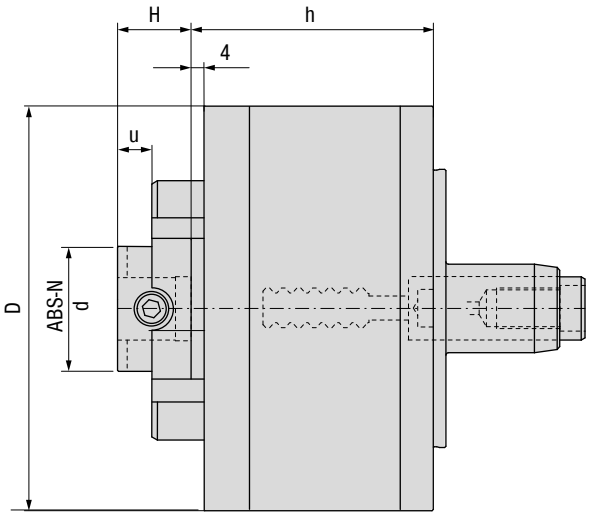
Mounting dimensions

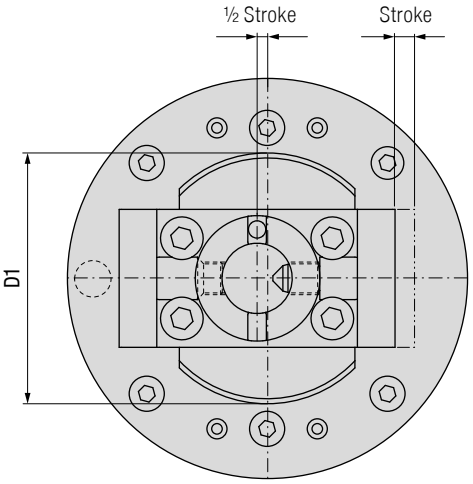
Size	M	M1	L1 mm	L2±1 mm	L3 mm	L4 mm	L5 mm	L6 mm	L7 mm	b±0,1 mm	d5 mm	Spacing	H2 mm	h2 mm	Spindle size DIN 2079
PKU 100	M10×1L	M8	30	40	8	14	4	12	5	42	84	4×90° 3×120°	81	15	30
PKU 125	M12×1,5L	M8	37	47	8	16	4	12	6	54	110	6×60°	90	17	40
PKU 160	M16×1,5L	M10	50	60	10	25	5	15	6	70	140	4×90°	115	20	40
PKU 200	M16×1,5L	M12	70	80	10	25	5	18	6	87,5	175	4×90°	140	25	50
PKU 250	M16×1,5L	M16	90	100	10	25	6	22	6	108	216	4×90°	165	25	50
PKU 320	M20×1,5L	M16	106	116	10	30	6	22	8	137,5	275	6×60°	200	26	60

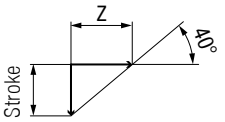
Order example:
Facing head Ø 250 mm / stroke 40 mm / type 101: Description PKU 250-40-101 / KOMET No. P20 50110

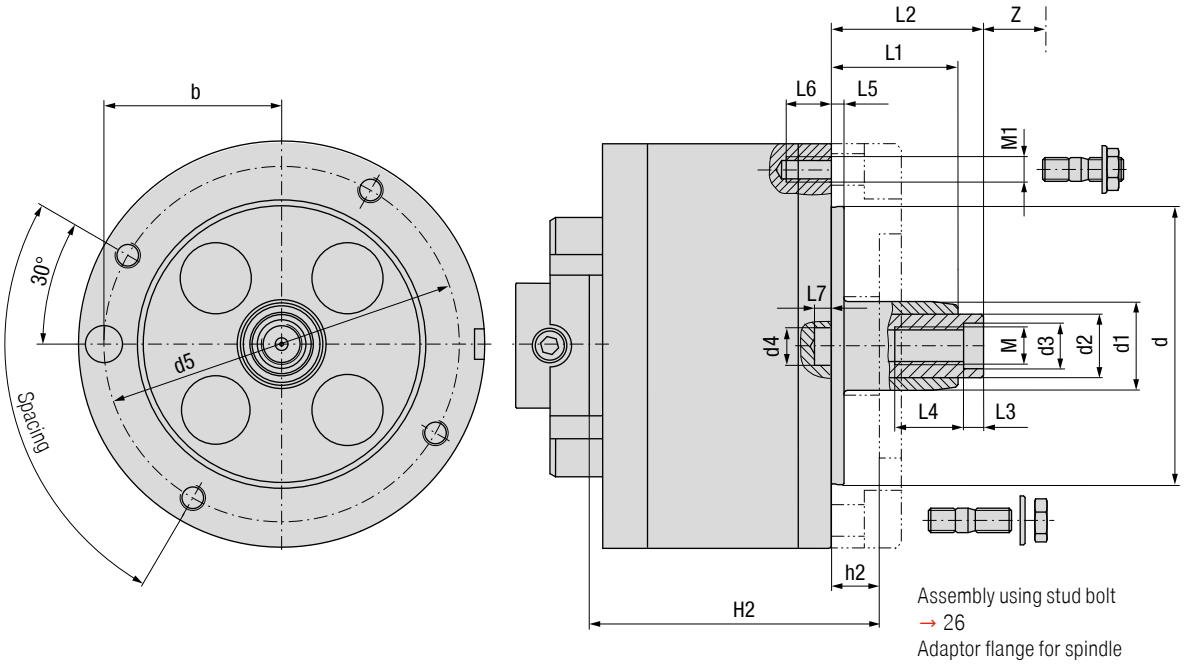
KOMdrive PKU-103

Facing head with counterweighted with integrated ABS-N connection









Assembly using stud bolt
→ 26
Adaptor flange for spindle according to DIN 2079
→ 25

External dimensions

Description	KOMET No.	D_{h6} mm	Stroke mm	Z mm	h mm	D1 mm	d_{h6} mm	d1 mm	d2 mm	$d3^{H7}$ mm	$d4^{+0,1}$ mm
PKU 100-10-103	**P20 10130**	100	10	11,9	61	64	65	25	16	12	10,3
PKU 125-6-103	**P20 20030**	125	6	7,2	73	85	90	30	20	14	14,6
PKU 125-15-103	**P20 20130**		15	17,9							
PKU 160-8-103	**P20 30030**	160	8	9,5	95	100	110	35	25	18	14,6
PKU 160-22-103	**P20 30130**		22	26,2							
PKU 200-10-103	**P20 40030**	200	10	11,9	115	125	150	44	32	18	16,2
PKU 200-30-103	**P20 40130**		30	35,7							
PKU 250-12-103	**P20 50030**	250	12	14,3	140	150	180	46	32	18	19,4
PKU 250-40-103	**P20 50130**		40	47,7							
PKU 320-15-103	**P20 60030**	320	15	17,9	174	180	220	63	40	22	24,2
PKU 320-50-103	**P20 60130**		50	59,6							

Slide dimensions / Front tool

Size	d ABS-N	H mm	u mm	kg min – max	lbs min – max
PKU 100-10-103	32	24	20	0,09 – 0,29	0.2 – 0.6
PKU 125-6-103	40	25	12	0,2 – 0,8	0.4 – 1.8
PKU 125-15-103	32	20	10	0,34 – 0,8	0.7 – 1.8
PKU 160-8-103	50	30	14	0 – 1,0	0 – 2.2
PKU 160-22-103	40	25	12	0,21 – 0,9	0.5 – 2.0
PKU 200-10-103	63	35	16	0,32 – 2,5	0.7 – 5.5
PKU 200-30-103	50	30	14	0,7 – 2,2	1.5 – 4.9
PKU 250-12-103	80	40	20	0 – 3,7	0 – 8.2
PKU 250-40-103	63	35	16	0,27 – 2,9	0.6 – 6.4
PKU 320-15-103	100	55	30	0 – 4,17	0 – 9.2
PKU 320-50-103	80	40	20	0 – 3,9	0 – 8.6

Mounting dimensions

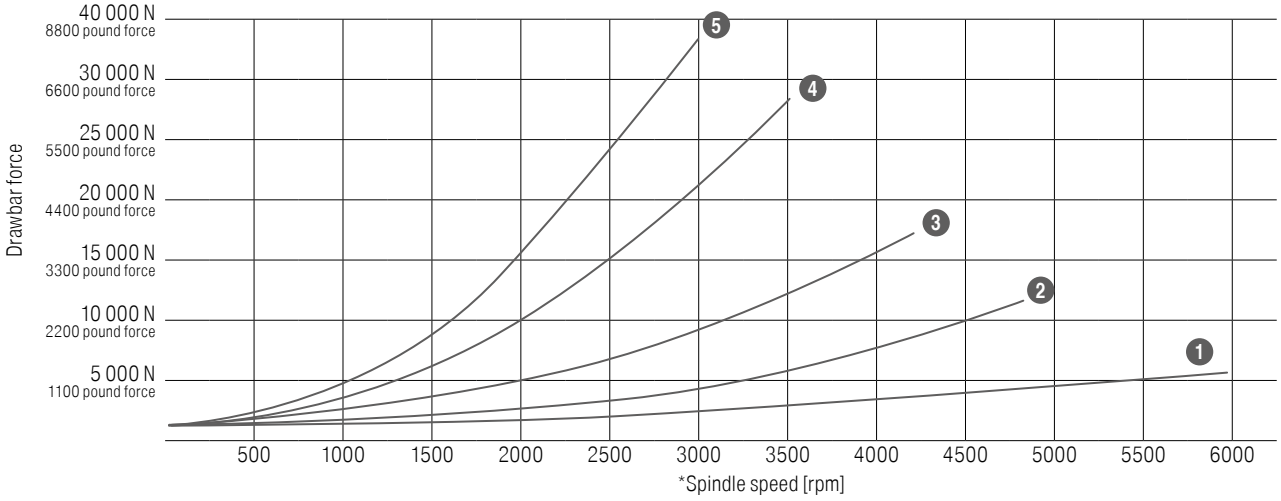
Size	M	M1	L1 mm	L2±1 mm	L3 mm	L4 mm	L5 mm	L6 mm	L7 mm	b±0,1 mm	d5 mm	Spacing	H2 mm	h2 mm	Spindle size DIN 2079
PKU 100	M10×1L	M8	30	40	8	14	4	12	5	42	84	4×90° 3×120°	81	15	30
PKU 125	M12×1,5L	M8	37	47	8	16	4	12	6	54	110	6×60°	90	17	40
PKU 160	M16×1,5L	M10	50	60	10	25	5	15	6	70	140	4×90°	115	20	40
PKU 200	M16×1,5L	M12	70	80	10	25	5	18	6	87,5	175	4×90°	140	25	50
PKU 250	M16×1,5L	M16	90	100	10	25	6	22	6	108	216	4×90°	165	25	50
PKU 320	M20×1,5L	M16	106	116	10	30	6	22	8	137,5	275	6×60°	200	26	60

Order example:
Facing head Ø 250 mm / stroke 40 mm / type 103: Description PKU 250-40-103 / KOMET No. P20 50130

KOMdrive PKU-...

Technical notes

Drawbar force
stroke = start and end position
The diagram serves as a guideline. A specific calculation can be produced with consideration to all parameters.

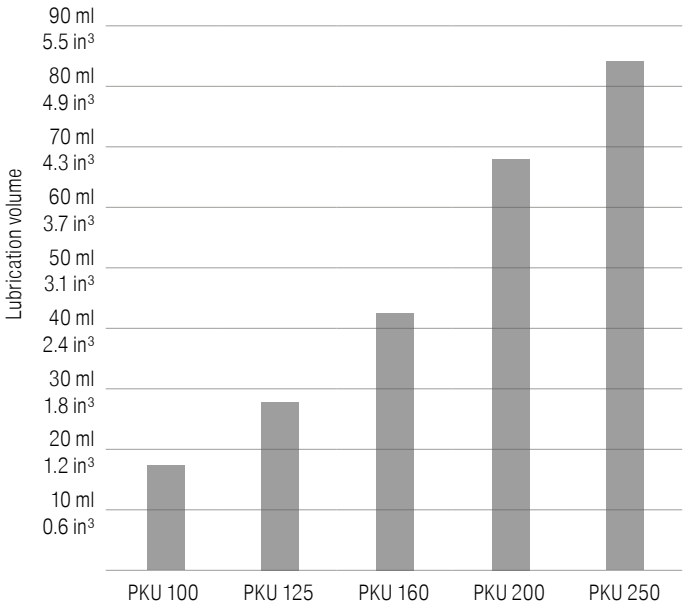


* Spindle speed [rpm]
Drawbar forces shown are valid for maximum weight of front tool.

max. weight of front tool

1	PKU 100	0,4 kg	0.9 lbs
2	PKU 125	0,6 kg	1.3 lbs
3	PKU 160	0,9 kg	2.0 lbs
4	PKU 200	2,0 kg	4.4 lbs
5	PKU 250	2,8 kg	6.17 lbs

Lubrication requirements
Slide movement: 150 m / 6,000 in. (corresponds to one shift, 8 h)

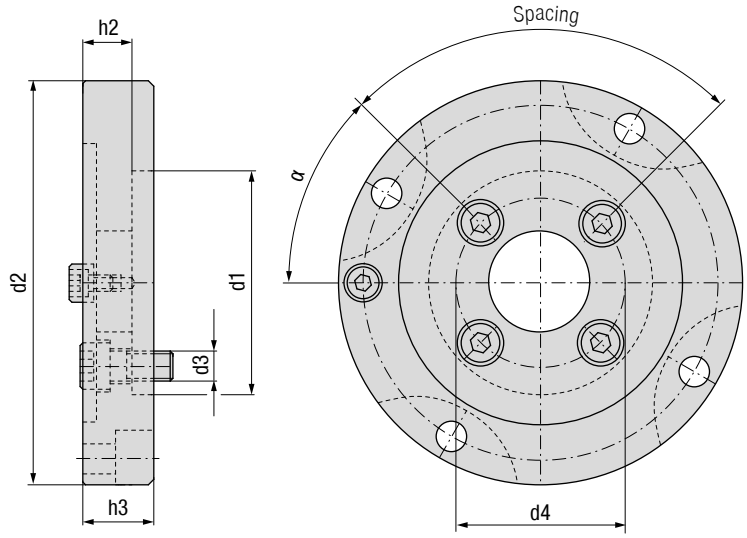


Lubrication volume required for one shift
The values specified are guide values and must, where required, be adjusted to the application conditions such as rotation speed, stroke and environmental influences such as coolant, dirt, etc.

Lubricants
We recommend Mobilux EP004 liquid grease for all speed ranges.
Furthermore, it is also possible to use slideway oils according to DIN 51502 with the identifier CG-L68 or CG-L220 (CG-L220 is preferred for speeds from 700 rpm).
The relevant commercial names of the mineral oil companies for slide-way oils can be ascertained from the machine lubrication instructions.
These lubrication instructions apply to all generating tools supplied by KOMET.

KOMdrive PKE / PKD / PKU

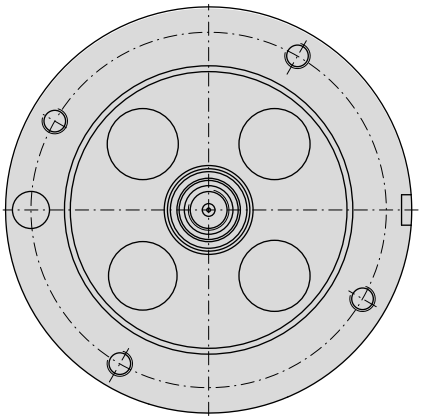
Adaptor flange for spindle according to DIN 2079

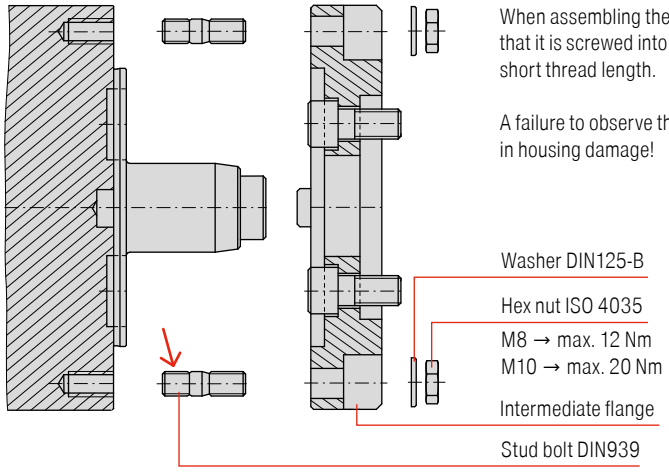


Mounting dimensions, spindle										
Size	**KOMET No.**	**d1^{H6}** mm	**d2** mm	**h3** mm	**h2** mm	**α**	**d3** mm	**d4±0,2** mm	Spacing	Spindle size DIN 2079
... 80-...	**P00 00300**	69,832	80	26	18	15°	10	54	4×90°	30
... 100-...	**P00 10300**	69,832	100	23	15	15°	10	54	4×90°	30
... 125-...	**P00 20400**	88,882	125	25	17	45°	12	66,7	4×90°	40
... 160-...	**P00 30400**	88,882	160	28	20	45°	12	66,7	4×90°	40
... 200-...	**P00 40500**	128,57	200	35	25	45°	16	101,6	4×90°	50
... 250-...	**P00 50500**	128,57	250	35	25	45°	16	101,6	4×90°	50
... 320-...	**P00 60600**	221,44	320	41	26	45°	20	177,8	4×90°	60

Assembly variants

Assembly using stud bolt per DIN 939

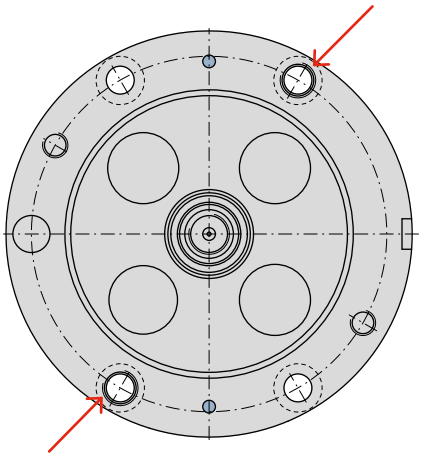


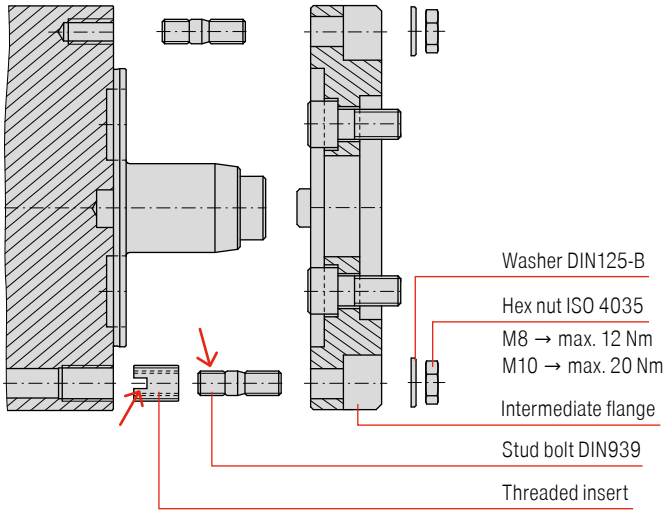


When assembling the stud bolt, make sure that it is screwed into the housing with the short thread length.

A failure to observe this instruction will result in housing damage!

Assembly using threaded insert/stud bolt with PKE 160-..-101-QA-IK-F





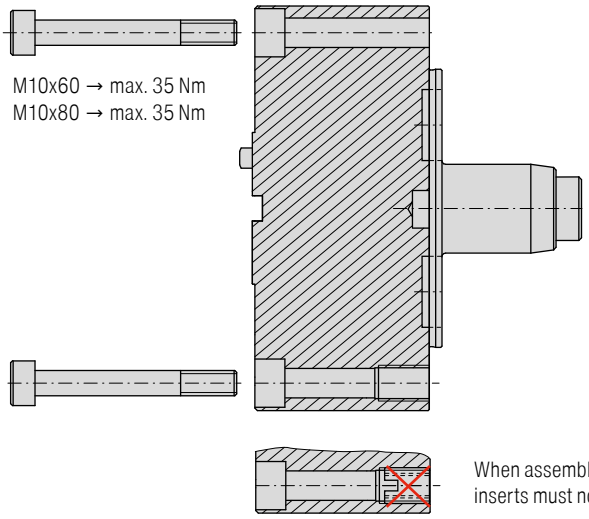
When assembling the stud bolt provided, it is necessary to install threaded inserts in two holes.
The threads are adapted to the correct size through usage of the threaded inserts provided.

Threaded insert assembly:
Observe direction (position of the slot). Screw in the threaded insert until slightly recessed or flush in accordance with the assembly instructions, and secure with medium-tight screw lock.
Use the specified tools or other suitable auxiliary aids to screw in the threaded inserts.

Stud bolt assembly:
When assembling the stud bolt, make sure that it is screwed into the threaded insert with the short thread length.
A failure to observe this instruction will result in housing damage!

Assembly variants

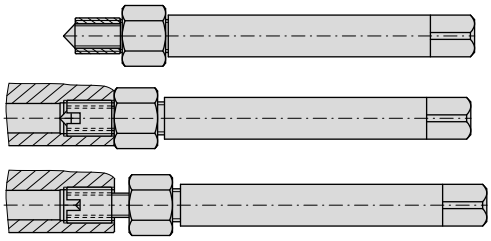
Assembly using cylinder head screws per ISO 4762



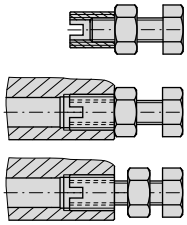
When assembling with cylinder head screws, the optional threaded inserts must not be fitted; remove if necessary.

Auxiliary aids for assembly/removal of the threaded insert

Screw in using hand tool:



Makeshift screwing in with screw/nut:



Screwing in by hand usually takes place with the hand tool via the internal thread of the threaded insert:

Screw on the threaded sleeve, note the slot position! Make sure that the screw does not point into the cutting edge geometry after locking with the nut.

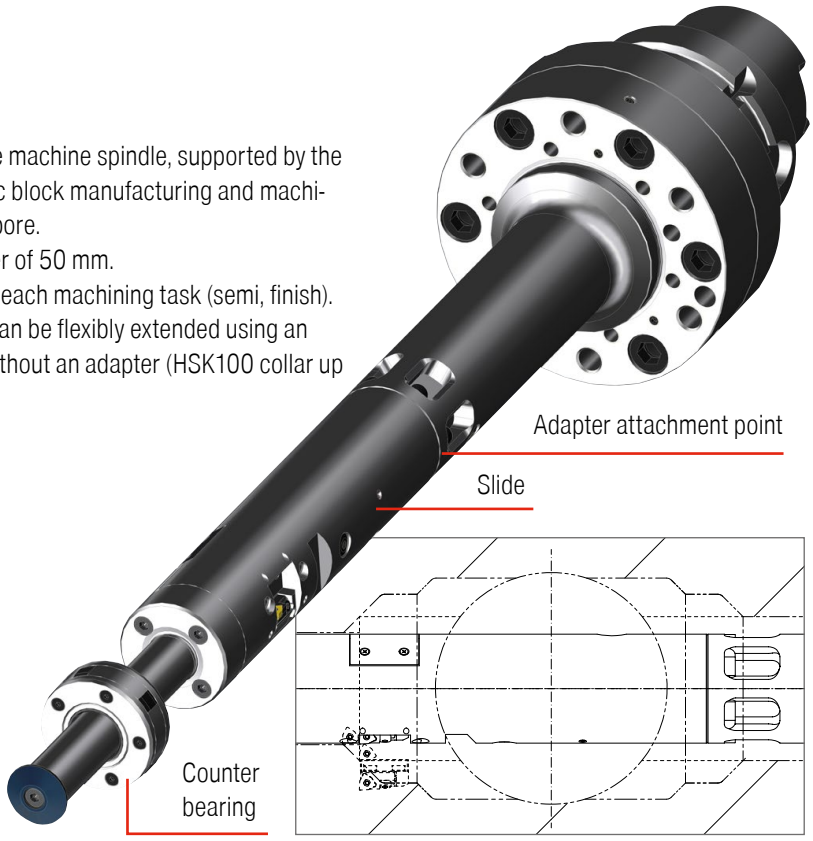
Screw in the threaded insert up to approx. 0.1-0.2 mm below the tool surface (in case of makeshift assembly using screw and nut, screw in the threaded insert until flush as a minimum). Ensure vertical assembly.

Counter-lock the nut, otherwise the threaded insert will be unscrewed again.
Then unscrew the hand tool or screw/nut.

Workpiece: hydraulic block

Machining with rotary-driven slide boring bar

The modular slide boring bar is rotary-driven by the machine spindle, supported by the counter bearing. The boring bar is used in hydraulic block manufacturing and machines the transition from the main bore to the cross bore.
The slide stroke is 18 mm with an external diameter of 50 mm.
The indexable insert holders can be replaced after each machining task (semi, finish).
The modular structure means that the boring bar can be flexibly extended using an adapter. The boring bar has a length of 458 mm without an adapter (HSK100 collar up to cutting edge) and 790 mm with an adapter.



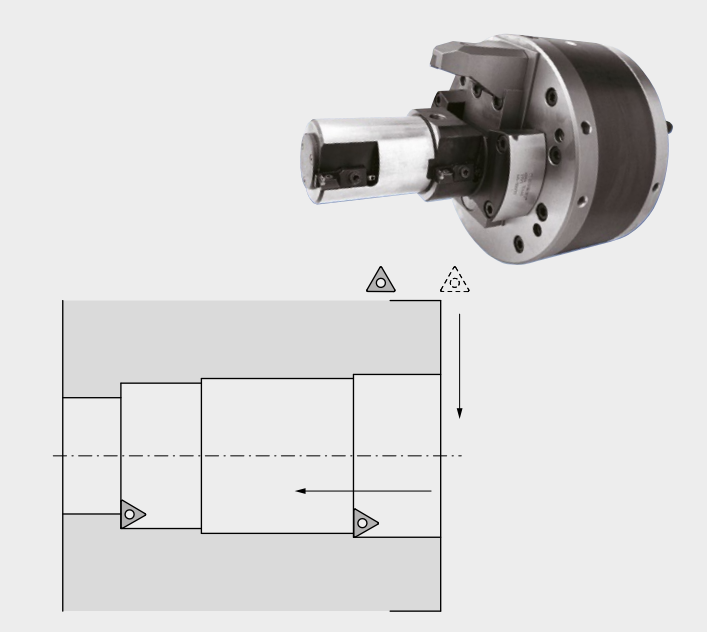
Functional sequence:
- Insertion when stationary and counter-bearing positioned
- Retraction to the middle of the cross bore
- Spindle set to machining speed
- Transition removed (forwards and back)
- Boring bar moved to middle of cross bore
- Spindle stopped
- When stationary, removed from bore
- The counter bearing is pulled out of the bearing hole

Cutting data:

n = 260 min^{-1}	f = 0,20 mm/rev
v_c = 116 – 130 m/min	f_z = 0,10 mm/rev
v_f = 52 mm/min	

Workpiece: gear case

Machining:
- finishbore bearing Ø 80^{H7} / Ø 100^{H7} (Ø 3.149"+0.00125" and Ø 3.937"+0.0014") with bridge mounted tools
- retract after boring
- face turn with slide



Cutting data:

Ø 80 / 100 mm	Ø 3.149" / 3.937"
v_c = 400 m/min	1,300 sfm
n = 1591 min^{-1}	1,591 rpm
f = 0,11 mm/rev	0.0044 ipr
v_f = 175 mm/min	6.89 ipm

Workpiece: engine block

Machining: Cylinder bore in engine blocks / coolant-precision drilling system

The tool is loaded with 40 bar (ICS), the cutting edges extend. The pressure is increased on the bottom of the hole, the cutting edges retract.
The tool can be moved out of the fitted position in rapid mode G0 with no contour distortion.
The cutting edge adjustment is performed via the machine control system/spindle.

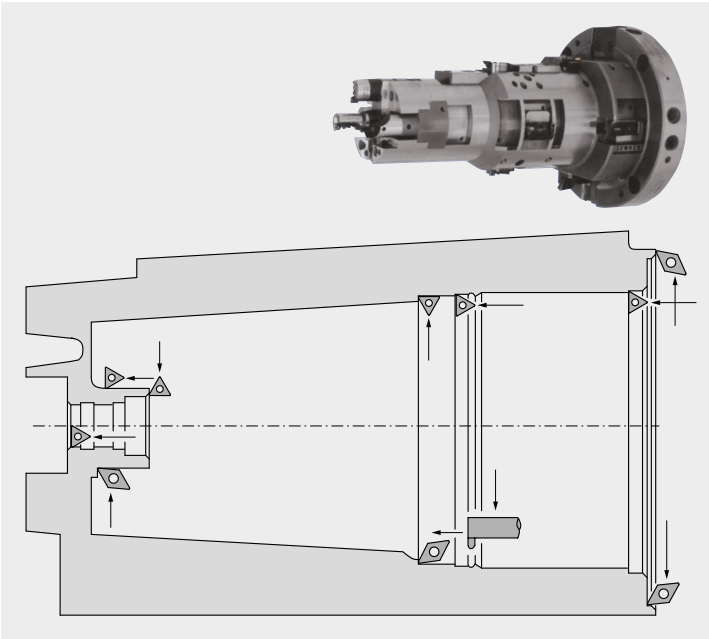
Material 3.3206 (AlSi7MgCu0,5)

Cutting data:

v_c = 500 m/min	n = 1887 min^{-1}
v_f = 1415 mm/min	f = 0,75 mm/rev
a_p = 0,35 mm im Radius	**Surface R_z 25,8**

- **Central cutting edge adjustment**
- **Lifting of the cutting edge above ICS 40 bar**

Workpiece: gear case



Machining:
- bore Ø 25/220/227 mm (Ø 0.984”/8.661”/8.937”) and turn Ø 46 mm (Ø 1.811”) with fixed tools
- operate slide to face turn Ø 226 / 206 mm (Ø 8.897”/8.110”)
- face turn Ø 220 mm (Ø 8.661”) and Ø 46 mm (Ø 1.811”)
- groove bottom of gear case with grooving insert

Cutting data:

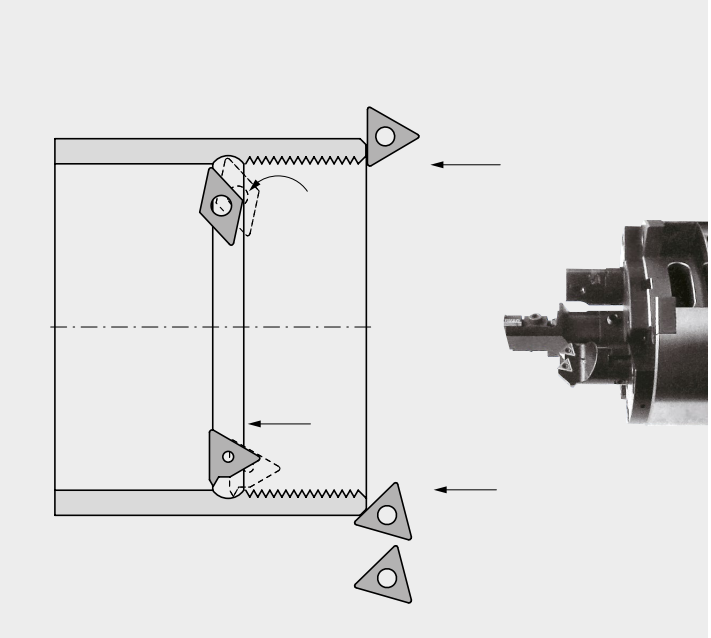
Ø 25 – 227 mm	Ø 0.984“ to Ø 8.937“
v_c = 161 – 1450 m/min	500 – 4800 sfm
n = 2000 min^{-1}	2,000 rpm
f = 0,1 mm/rev	0.004 ipr
v_f = 200 mm/min	7.87 ipm

Workpiece: Tube end machining

Machining:
- chamfer bore
- bore inner contour including undercut
- chamfer outer diameter and plungecut the face
- cut thread in multiple passes
- centrally located front tool is exchangeable for machining different tube diameters

Cutting data:

Ø 94 mm	Ø 3.700“
v_c = 220 m/min	725 sfm
n = 1350 min^{-1}	1,350 rpm
f = 0,12 mm/rev	1,35053 ipr
v_f = 162 mm/min	6.75 ipm

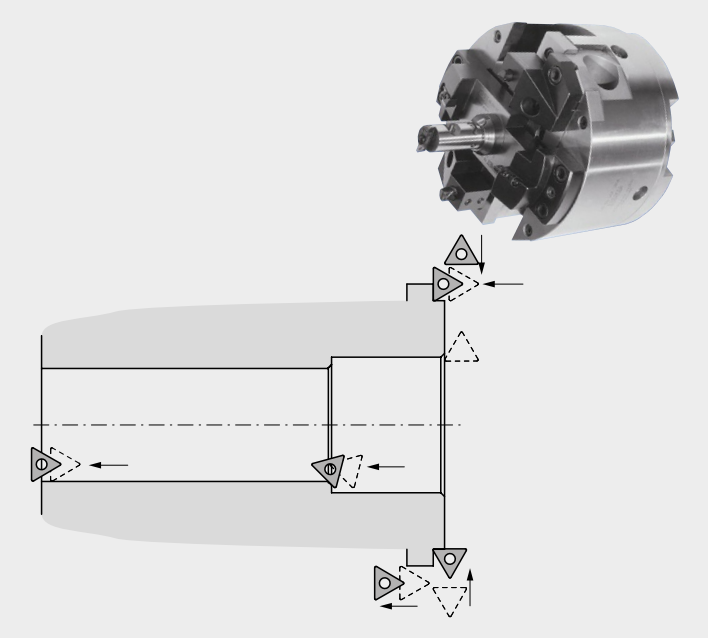


Workpiece: bearing housing

Machining:
- bore Ø 40 mm (Ø 1.575”) and chamfer 1×45°; Turn outer Ø 95 mm (Ø 3.740”) and step Ø 86 mm (Ø 3.386”)
- lift of cutting edges
- turn both faces

Cutting data:

Ø 50 mm / 1.575“	$Ø_2$ 110 mm / 2 4.331“
v_c = 180 m/min	600 sfm
n_1 = 1150 min^{-1}	1,550 rpm
n_2 = 520 min^{-1}	520 rpm
f = 0,15 mm/rev	0.006 ipr
v_{f1} = 172 mm/min	6.77 ipm
v_{f2} = 80 mm/min	3.15 ipm

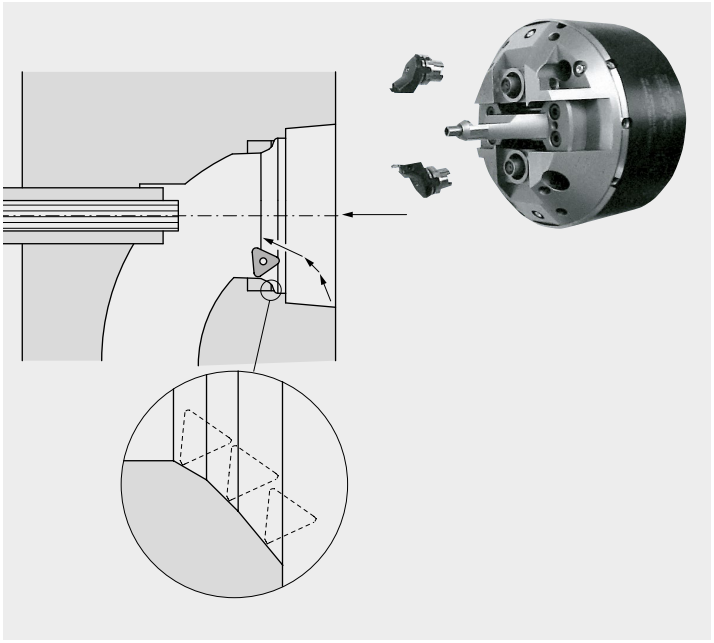


Workpiece: cylinder head / valve seat

Machining:
- ▲ generate 120° outer relief angle through coordinated axial movement of the machine spindle and drawbar
- ▲ machine valve sealface 90°$^{-30'}$ through drawbar actuation
- ▲ generate 60° inner relief angle
- ▲ ream valve guide bushing

Cutting data:

Ø 38,6 - 23 mm	Ø 1.520“ to 0.906“
v_c = 242 – 144 m/min	800 – 475 sfm
n = 2000 min^{-1}	2,000 rpm
f = 0,08 mm/rev	0.003 ipr
v_f = 160 mm/min	6.30 ipm

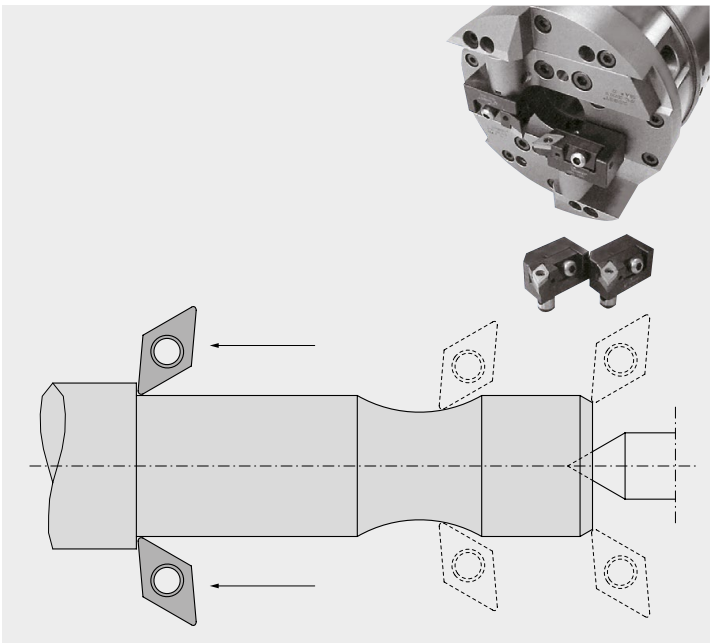


Workpiece: shaft machining

Machining:
Turn contour with double slide generating heading furnished with central throughbore (also available with rotating center support)

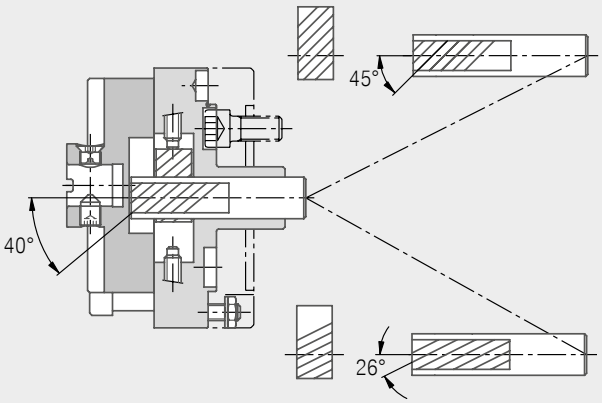
Cutting data:

Ø 37 - 12 mm	Ø 1.457“ to Ø 0.472“
v_c = 260 – 34 m/min	850 sfm
n = 2240 min^{-1}	2,240 rpm
f = 0,1 mm/rev	0.004 ipr
v_f = 224 mm/min	8.82 ipm

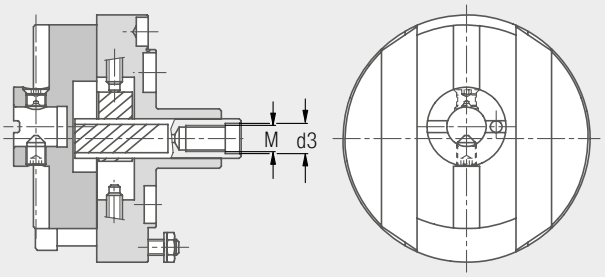


Modified facing heads

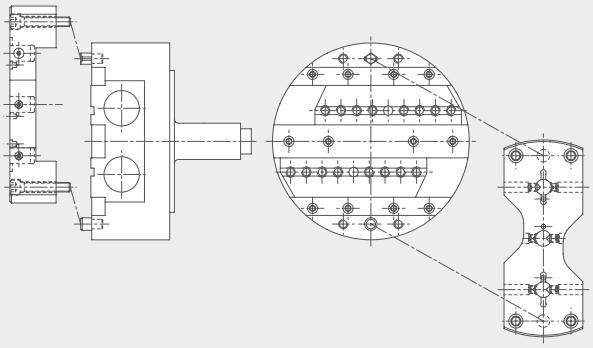
Modification 1
Rack angle for various transmission ratios. All facing heads are also available with transmission ratios of 1:1 and 1:2.



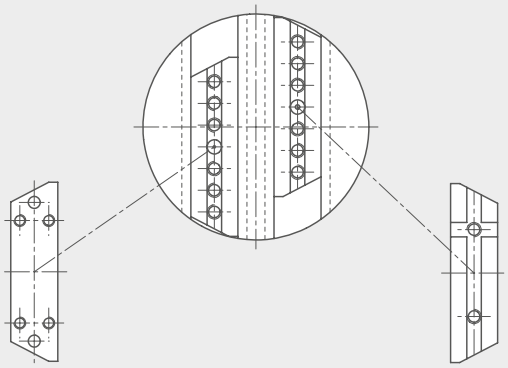
Modification 2
Drawbar connection with different locating diameter and thread. Capable to connect with existing machines.



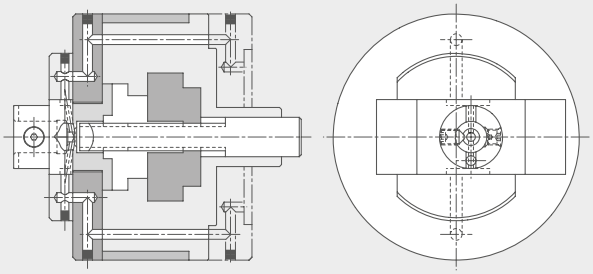
Modification 3
Additional mounting holes to install bridge. Installation of fixed tools to combine boring and facing operations.



Modification 4
Modified mounting hole pattern in slides allows the installation of existing cutting tools.



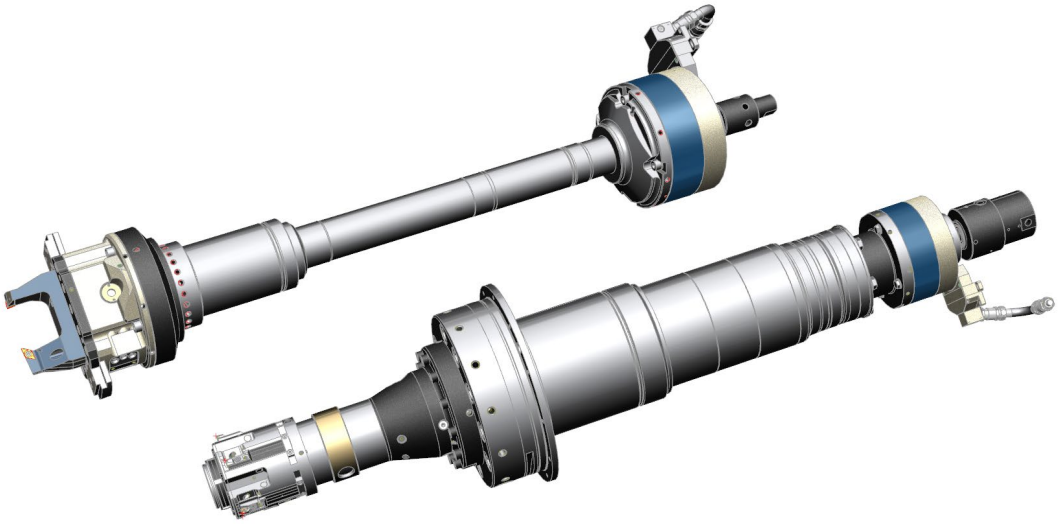
Modification 5
Coolant supply through the face of the spindle. Improved chip control and chip removal in drilling and boring operations.



Below is a listing of modifications to standard facing heads which are available upon request. Replacement parts such as drawbars, gear racks and slides are stocked as semifinished components.

KOMtronic SMS / UAC / UAD

Facing heads with integrated measuring system and KOMtronic U-axis systems for spindle integration



Produce turning contours economically when working with a stationary workpiece

Based on decades of experience producing facing heads for special purpose machines, CERATIZIT is expanding its product range to include KOMtronic systems for spindle integration for different installation and usage requirements for facing heads.

- **Facing heads with direct encoder on the slide**
- **KOMtronic systems for spindle integration with own drive**

KOMlife

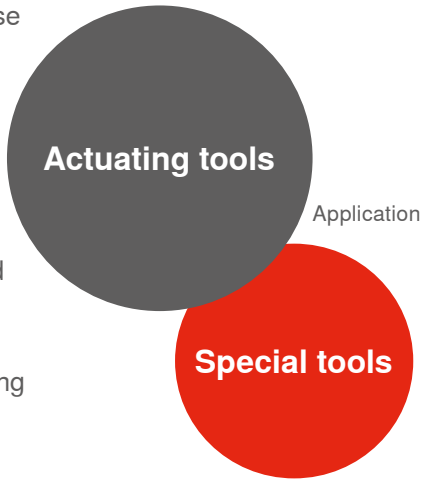
Autonomous acquisition of production data accurate to the second

KOMET

Autonomous acquisition and processing of production data directly on the respective tool

Advantages Benefits

- **Planned, preventative maintenance**
  Regular, advance maintenance planning can increase tool service life and ensure workpiece quality at all times.
- **Digital production data acquisition**
  Through a patented, dynamic QR code and the KOMlife app.
- **Assessment of tool use**
  Conclusions can be drawn about the status and load of the cutting edge by gathering data on tool use.
- **Not dependent on tool manufacturer**
  KOMlife can be easily integrated into new and existing linear and rotating systems, irrespective of the tool manufacturer.

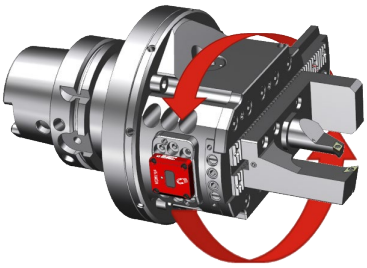


Technical data

Lithium battery	CR2032
Battery life	Approx. 2 years
Min. acceleration	1,5 g
Min. tool diameter	50 mm

cutting.tools/int/en/komlife

KOMlife deactivated

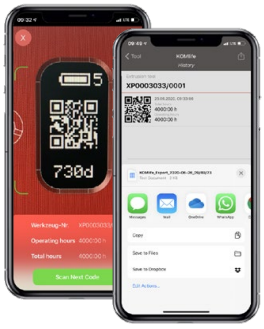


Tool rotates

KOMlife activated

Maintenance interval reached

QR code screen



Digital display of production data

Try me out with the KOMlife app!

Ergonomic display unit

- Number of operating hours
- Current status of the maintenance interval
- Dimensions: 30 x 30 x 11 mm

Can be used with various tool systems

- With linear or rotary acceleration greater than 1.5 g
- Required installation space: 30.1 x 30.1 x 10 mm

Customer-specific adaptation

- Adjustable maintenance interval depending on the application
- Visualisation of the necessary tool maintenance with a red, flashing LED

Patented, dynamic QR code

- Digital acquisition and export of production data via smartphone and KOMlife app
- Display of serial number and production data

Free KOMlife app in the App Store for iOS devices

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