



**Aerotech<sup>®</sup>**



Dust Free Nesting & Milling





**Aerotech**<sup>®</sup>







# The Industry Standard for Dust Free Machining

Aerotech® is the only patented dust evacuation device approved and recommended by the main OEMs in the Woodworking and Composites industries.

Aerotech® has been awarded 4 International Awards for its technological innovation.

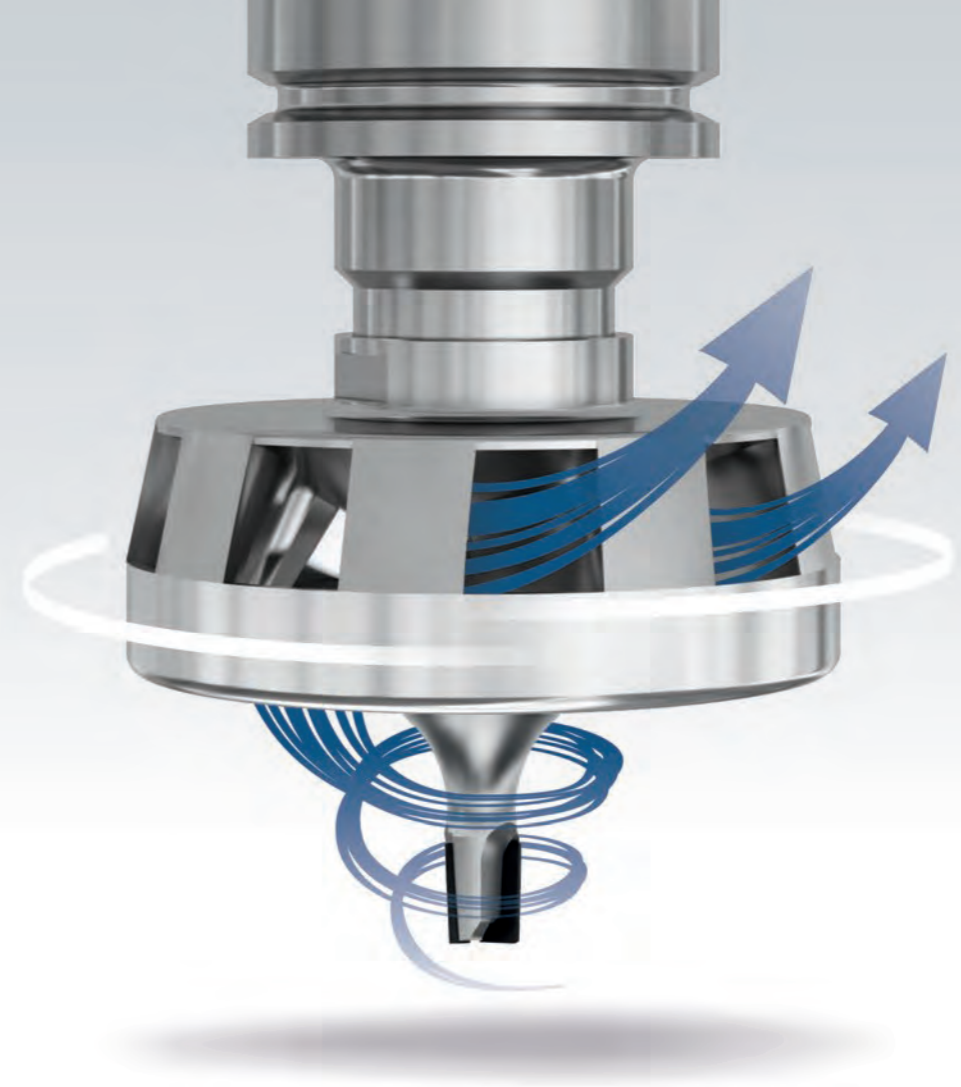
Aerotech® has been safety and efficiency tested and certified by leading European Universities and Institutes.



Patent Aerotech EP 1940585 - Patent Faceplate EP 10173827

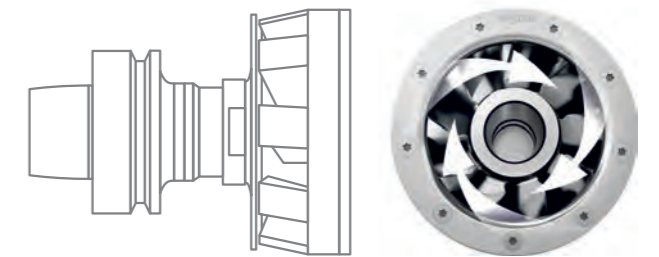


## Air Cooled Dry Cutting for Composites Industry



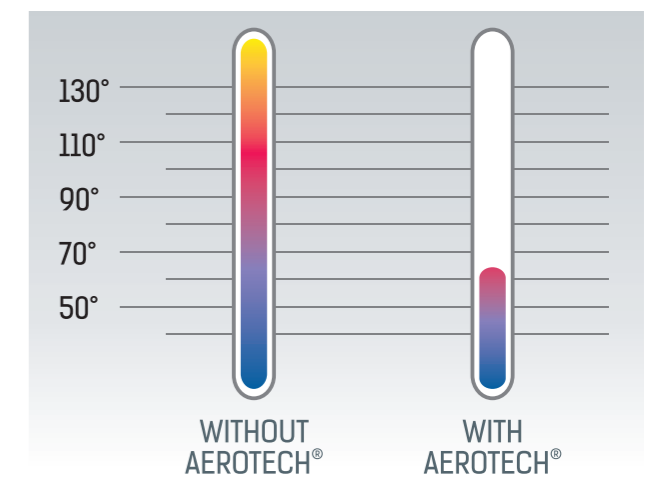
### Dust evacuation turbine

Aerotech® has a solid fan turbine that sucks in air at high velocity at the point of cut, removing hot dust and blowing it out into CNC machine extraction hood.



### Air cooled dry cutting

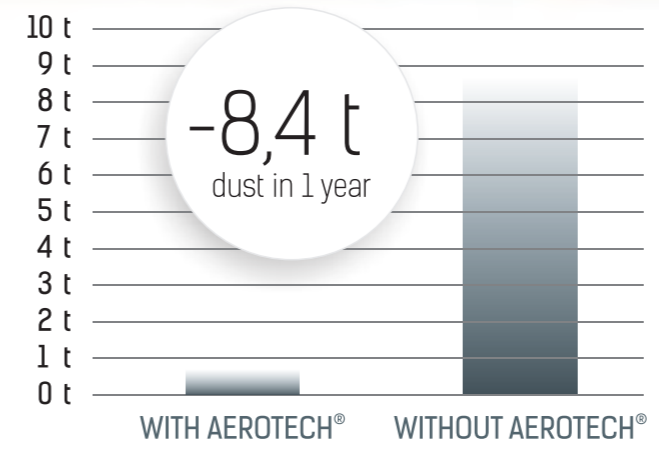
By effectively air cooling the material and cutter, Aerotech® significantly reduces machining temperatures, allowing the dry cutting of composite parts and providing an alternative to machining with coolants.







Less dust  
More savings  
Much healthier



### Higher productivity

- A single Aerotech® removes 8.4 tons more dust compared to standard tools. This means:
- less machine downtime
  - less costs for maintenance and service
  - more efficient automatic handling of parts
  - less damaged or scratched parts
  - more fast and clean edge banding process



### Health and safety

Aerotech® has improved the workplace of thousands of machine operators around the world, removing dust particles, cause of serious health issues.



### Energy saving

The high velocity air-flow is created with no additional energy, coming from the rotational motion of machine's electro-spindle; no need to use compressed air for dust evacuation.





## An Aerotech® for each need

To respond to the specific needs of each industry and manufacturer, Cruing has developed three versions of the Aerotech®: **Aerotech® System E**, **Aerotech® Hydro** and **Aerotech® Uni T**.



### Aerotech® System E



Full HSK clamping for exceptional axial and radial accuracy. Everything you need for **highest performance and production volume**.



### Aerotech® Hydro



The hydraulic clamping, for any g6 straight shank, provides security and precision for **high production**.



### Aerotech® Uni T



The precision collets, for a quick and easy change of the tools with different shank sizes, are ideal for your **regular production** requirements.



### Aerotech® Plus

Aerotech® is also available in **Plus version**, with frontal Faceplate grill.



Aerotech®  
(with standard flange)



Aerotech Plus®  
(with Faceplate)



The Faceplate grill (patent Homag) protects the Aerotech® and the electro-spindle against accidental **damages caused by off-cuts and large pieces of debris**.



# AEROTECH® PROGRAMME

## Choose your Aerotech® for **Woodworking**

	NESTING CABINET PARTS WITH STRAIGHT TOOLS			NESTING MDF PARTS WITH PROFILED TOOLS		ROUTING	
	AEROTECH® PLUS			AEROTECH®		AEROTECH®	
	SYSTEM E AER-27F	HYDRO AER-55F	UNI T AER-35F	SYSTEM E AER-28A	HYDRO AER-41A	HYDRO AER-41A	UNI T AER-35A
							
CLAMPING SYSTEM	HSK20E	Hydraulic (with reduction sleeves)	Mechanical (with collets)	HSK20E	Hydraulic (with reduction sleeves)	Hydraulic (with reduction sleeves)	Mechanical (with collets)
TOOL INTERFACE	HSK20E cone	Cylindrical shank	Cylindrical shank	HSK20E cone	Cylindrical shank	Cylindrical shank	Cylindrical shank
PERFORMANCE	★★★★	★★★☆	★★★☆☆	★★★★	★★★☆☆	★★★☆☆	★★★☆☆
PRODUCTIVITY	★★★★	★★★★	★★★☆☆	★★★★	★★★★	★★★★	★★★☆☆
AEROTECH DIAMETER (mm)	95	95	105	105	105	105	105
FLANGE TYPE	Faceplate	Faceplate	Faceplate	Standard	Standard	Standard	Standard
MACHINE INTERFACE	HSK-F 63	HSK-F 63	HSK-F 63	HSK-F 63	HSK-F 63	HSK-F 63	HSK-F 63
TOOL DIAMETER (mm)	Max 25,5	Max 25,5	Max 16,0	Max 72,5	Max 72,5	Max 72,5	Max 16,0
RUN-OUT (mm)	<0,003	<0,003	0,005	<0,003	<0,003	<0,003	0,005
TORQUE (Nm)	Up to tool failure	180	100	Up to tool failure	250	250	100
PERMANENT BALANCE CLASS	G<2,5 at 25.000 rpm	G<2,5 at 25.000 rpm	G<2,5 at 25.000 rpm	G<2,5 at 25.000 rpm	G<2,5 at 25.000 rpm	G<2,5 at 25.000 rpm	G<2,5 at 25.000 rpm
PAGE	15	16	17	18	19	20	21

## Choose your Aerotech® for **Composites**

	AEROTECH®	
	SYSTEM AER-11A	SYSTEM AER-16A
		
CLAMPING SYSTEM	HSK20C	HSK20C
TOOL INTERFACE	HSK20C cone	HSK20C cone
PERFORMANCE	★★★★	★★★★
PRODUCTIVITY	★★★★	★★★★
AEROTECH DIAMETER (mm)	95	95
FLANGE TYPE	Standard	Standard
MACHINE INTERFACE	HSK-F 63	HSK-A 63
TOOL DIAMETER (mm)	Max 62,5	Max 62,5
RUN-OUT (mm)	<0,003	<0,003
TORQUE (Nm)	250	250
PERMANENT BALANCE CLASS	G<2,5 at 25.000 rpm	G<2,5 at 25.000 rpm
PAGE	22	23



Visit [cruing.com](http://cruing.com) for the whole product range and to choose the best Aerotech for your needs

Aerotech® System E Plus AER-27F



**TECHNICAL FEATURES**

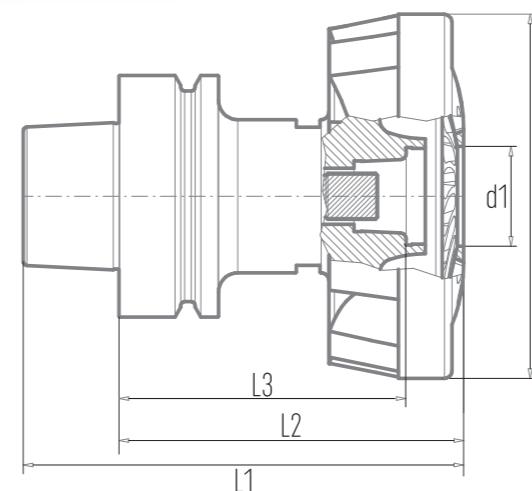
Machine interface:	HSK-F 63
Clamping system:	HSK20E
Max. tool diameter:	25.5 mm
Run-out:	< 0.003 mm x 2.5 D
Torque:	Up to tool failure
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	95 mm
Weight:	1.9 kg (without tool)
Flange:	Faceplate grill

**APPLICATION**

- For Nesting with HSK20E straight inserts

**ADVANTAGES**

- The HSK clamping system is widely regarded as a superior tooling assembly for the highest performance and production
- High speed machining and faster electro-spindle rotation
- Cutters with HSK cone are lighter, shorter and stiffer compared to conventional tools
- Exceptional axial and radial accuracy
- Grinding flexibility with HSK-F 63 tool-holder and straight shank adapter
- The Faceplate grill deflects large pieces of debris and off-cuts



D	d1	L1	L2	L3
95	26	115	90	75

**ACCESSORIES** (see details at page 24)



Tool-holder for HSK20E inserts



Adapter for HSK20E inserts



Mounting plate



Aerotech® Hydro Plus AER-55F



TECHNICAL FEATURES

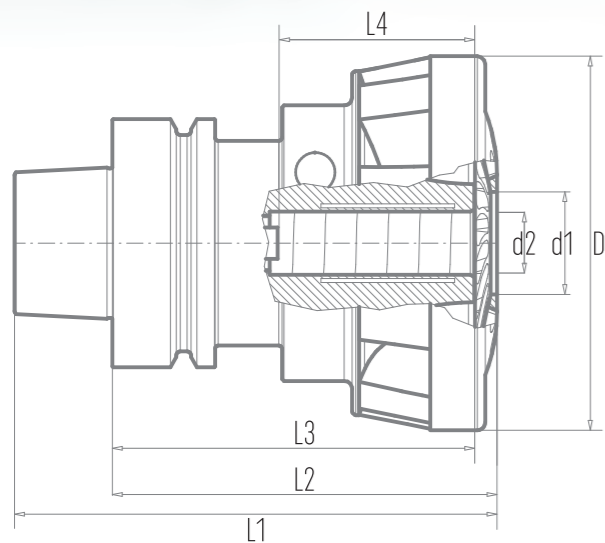
Machine interface:	HSK-F 63
Clamping system:	Hydraulic (with reduction sleeves)
Max. tool diameter:	25,5 mm
Run-out:	< 0.003 mm x 2.5 D
Torque:	185 Nm
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	95 mm
Weight:	2.3 kg (without tool)
Flange:	Faceplate grill

APPLICATION

- For Nesting with straight tools

ADVANTAGES

- The hydraulic clamping system offers security, precision and high production levels
- Ideal for applications demanding high quality at high speed
- The Faceplate grill deflects large pieces of debris and off-cuts
- Reduction sleeves to adapt tools with different shank size



D	d1	d2	L1	L2	L3	L4
95	26	16	123	98	92	40-50

ACCESSORIES (see details at page 25)



Reduction sleeves

Aerotech® Uni T Plus AER-35F



TECHNICAL FEATURES

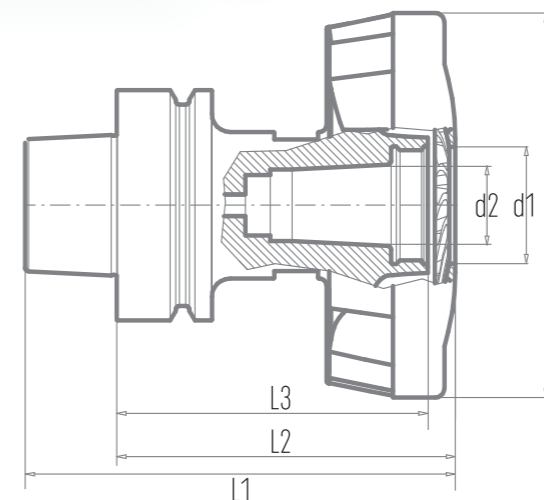
Machine interface:	HSK-F 63
Clamping system:	Mechanical (with precision collets)
Max. tool diameter:	16 mm
Run-out:	0.005 mm x 2.5 D
Torque:	100 Nm
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	105 mm
Weight:	2.1 kg (without tool)
Flange:	Faceplate grill

APPLICATION

- For Nesting with straight tools

ADVANTAGES

- For regular production requirements
- The precision collets allow the easy and quick change of any tool with different shank sizes



D	d1	d2	L1	L2	L3
105	32	16	117	92	85

ACCESSORIES (see details at page 26)



Collets



Locking device (required)

## Aerotech® System E AER-28A



### TECHNICAL FEATURES

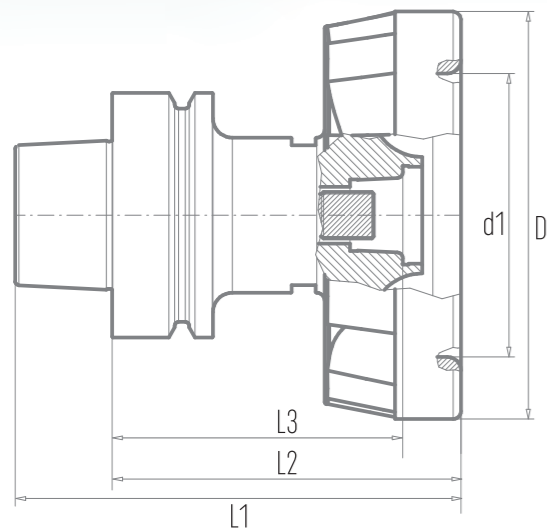
Machine interface:	HSK-F 63
Clamping system:	HSK20E
Max. tool diameter:	72.5 mm
Run-out:	< 0.003 mm x 2.5 D
Torque:	Up to tool failure
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	105 mm
Weight:	2.1 kg (without tool)
Flange:	Standard

### APPLICATION

- For Nesting with HSK20E profiled and straight inserts

### ADVANTAGES

- HSK clamping system is widely regarded as a superior tooling assembly for high performance
- High speed machining and faster electro-spindle rotation
- Cutters with HSK cone are lighter, shorter and stiffer compared to conventional tools
- Exceptional axial and radial accuracy
- Grinding flexibility with HSK-F 63 tool-holder and straight shank adapter



D	d1	L1	L2	L3
105	73	115	90	75

ACCESSORIES (see details at page 24)



Tool-holder for HSK20E inserts



Adapter for HSK20E inserts



Mounting plate

## Aerotech® Hydro AER-41A



### TECHNICAL FEATURES

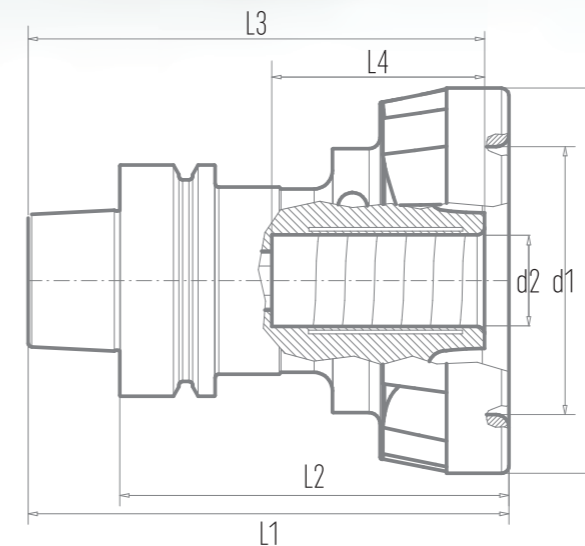
Machine interface:	HSK-F 63
Clamping system:	Hydraulic (with reduction sleeves)
Max. tool diameter:	72.5 mm
Run-out:	< 0.003 mm x 2.5 D
Torque:	250 Nm
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	105 mm
Weight:	2.5 kg (without tool)
Flange:	Standard

### APPLICATION

- For Nesting & Routing with profiled and straight tools

### ADVANTAGES

- The hydraulic clamping system offers security, precision and high production levels
- Ideal for applications demanding high quality at high speed
- Reduction sleeves to adapt tools with different shank size



D	d1	d2	L1	L2	L3	L4
105	73	25	131	106	99	48-58

ACCESSORIES (see details at page 25)



Reduction sleeves

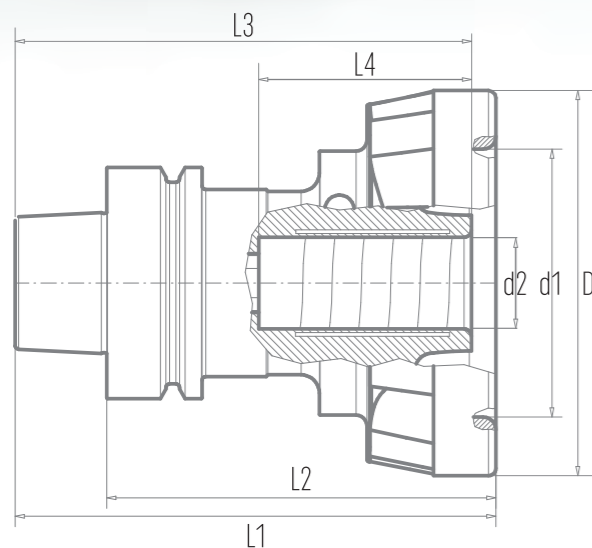


Aerotech® Hydro AER-41A



**TECHNICAL FEATURES**

Machine interface:	HSK-F 63
Clamping system:	Hydraulic (with reduction sleeves)
Max. tool diameter:	72.5 mm
Run-out:	< 0.003 mm x 2.5 D
Torque:	250 Nm
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	105 mm
Weight:	2.5 kg (without tool)
Flange:	Standard



D	d1	d2	L1	L2	L3	L4
105	73	25	131	106	99	48-58

ACCESSORIES (see details at page 25)



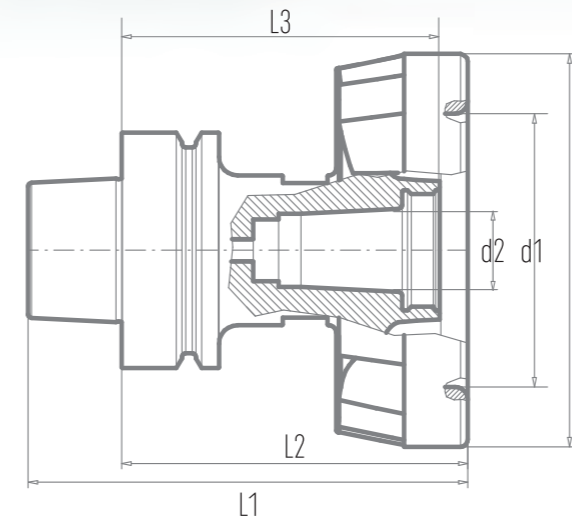
Reduction sleeves

Aerotech® Uni T AER-35A



**TECHNICAL FEATURES**

Machine interface:	HSK-F 63
Clamping system:	Mechanical (with precision collets)
Max. tool diameter:	16 mm
Run-out:	0.005 mm x 2.5 D
Torque:	100 Nm
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	105 mm
Weight:	2.1 kg (without tool)
Flange:	Standard



D	d1	d2	L1	L2	L3
105	73	16	117	92	85

**APPLICATION**

- For Routing with straight tools

**ADVANTAGES**

- For regular production requirements
- The precision collets allow the easy and quick change of any tool with different shank sizes

ACCESSORIES (see details at page 26)



Collets



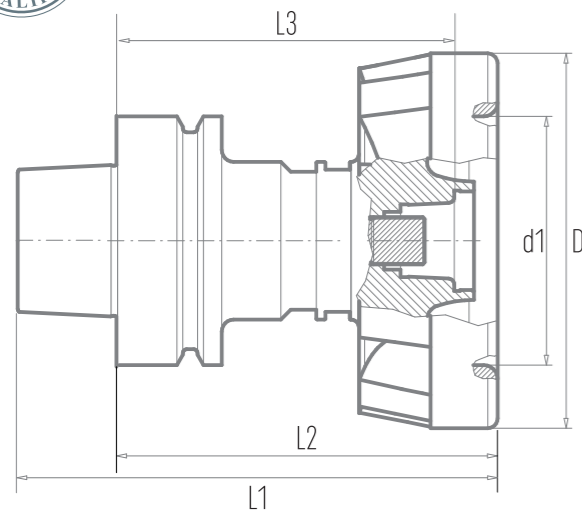
Locking device (required)

Aerotech® System AER-11A



TECHNICAL FEATURES

Machine interface:	HSK-F 63
Clamping system:	HSK20C
Max. tool diameter:	62.5 mm
Run-out:	< 0.003 mm x 2.5 D
Torque:	250 Nm
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	95 mm
Weight:	1.9 kg (without tool)
Flange:	Standard



D	d1	L1	L2	L3
95	63	121	96	85

ACCESSORIES (see details at page 26)



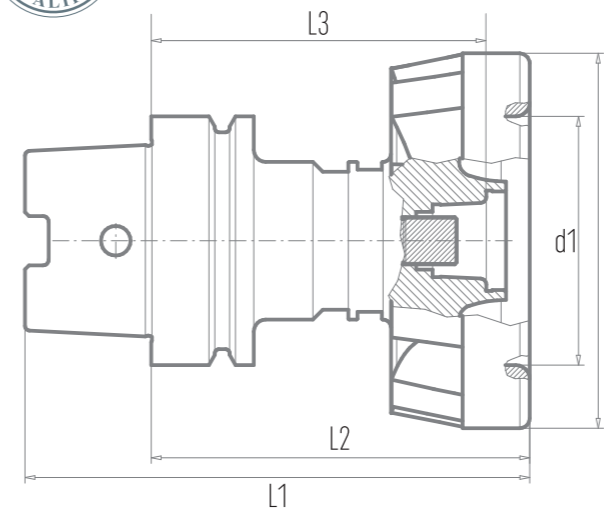
Mounting plate

Aerotech® System AER-16A



TECHNICAL FEATURES

Machine interface:	HSK-A 63
Clamping system:	HSK20C
Max. tool diameter:	62.5 mm
Run-out:	< 0.003 mm x 2.5 D
Torque:	250 Nm
Rpm:	max. 24.000
Balance class:	G<2.5 at 25.000 rpm
Aerotech diameter:	95 mm
Weight:	1.9 kg (without tool)
Flange:	Standard



D	d1	L1	L2	L3
95	63	128	96	85

ACCESSORIES (see details at page 26)



Mounting plate

APPLICATION

- For Nesting & Milling of CFRP, Composites and carbon fibre

ADVANTAGES

- HSK clamping system is widely regarded as a superior tooling assembly for high performance
- High speed machining and faster electro-spindle rotation
- Cutters with HSK cone are lighter, shorter and stiffer compared to conventional tools
- Exceptional axial and radial accuracy
- High quality surface finish with lower Ra values and no delamination



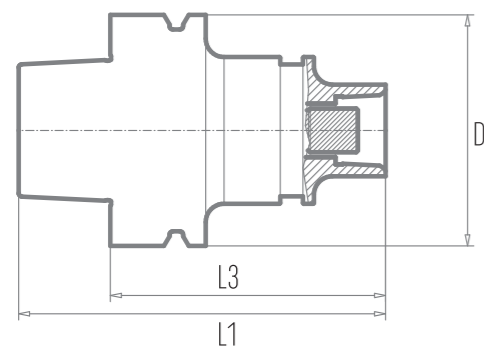
Aerotech® System E



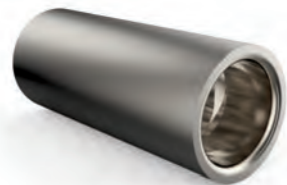
**Tool-holder for HSK20E inserts**

art. code AERE03

- HSK-F 63 precision tool-holder for HSK20E inserts
- Allows to service HSK20E inserts at any service centre



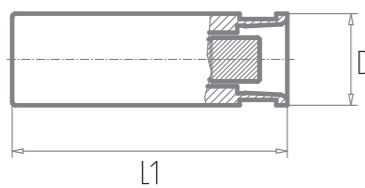
D	L1	L3
63	100	75



**Adapter for HSK20E inserts**

art. code AERE04

- Straight shank precision adapter (Ø 25 mm) for HSK20E inserts
- Allows to service HSK20E inserts at any service centre



D	L1
25	75

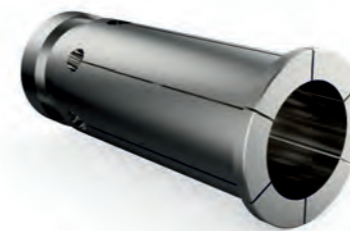


**Mounting plate**

art. code AER-KITE

- Mounting plate for installing and removing HSK20E inserts (s8 T-wrench is included in art. AER-KITE)

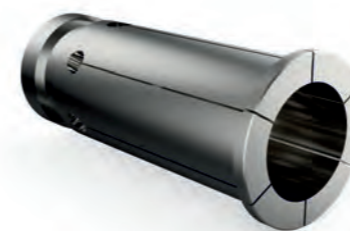
Aerotech® Hydro



**Reduction sleeves for Aerotech Hydro AER-41A**

art. code	Tool shank Ø
RE25-0600	6,00 mm
RE25-0635	6,35 mm (1/4")
RE25-0800	8,00 mm
RE25-0952	9,525 mm (3/8")
RE25-1000	10,00 mm
RE25-1200	12,00 mm
RE25-1270	12,7 mm (1/2")
RE25-1400	14,00 mm
RE25-1587	15,875 mm (5/8")
RE25-1600	16,00 mm
RE25-1905	19,05 mm (3/4")
RE25-2000	20,00 mm

- Reduction sleeves for cylindrical straight shanks (for clamping bore Ø 25 mm)

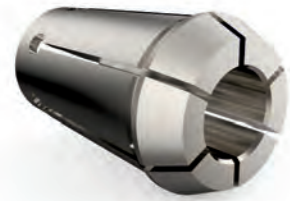


**Reduction sleeves for Aerotech Hydro Plus AER-55F**

art. code	Tool shank Ø
RE16-0600	6,00 mm
RE16-0635	6,35 mm (1/4")
RE16-0800	8,00 mm
RE16-0952	9,525 mm (3/8")
RE16-1000	10,00 mm
RE16-1200	12,00 mm
RE16-1270	12,7 mm (1/2")

- Reduction sleeves for cylindrical straight shanks (for clamping bore Ø 16 mm)

## Aerotech® Uni T



### Collets

art. code	Tool shank Ø
COUN-0600	6,00 mm
COUN-0635	6,35 mm (1/4")
COUN-0800	8,00 mm
COUN-0952	9,525 mm (3/8")
COUN-1000	10,00 mm
COUN-1200	12,00 mm
COUN-1270	12,7 mm (1/2")
COUN-1400	14,00 mm
COUN-1587	15,875 mm (5/8")
COUN-1600	16,00 mm

- Precision collets from 6 to 16 mm



### Locking device

art. code AERU02

- Locking device for collet clamping system (max. tool diameter 16 mm / total internal length 75 mm)
- Required for installing the cutters

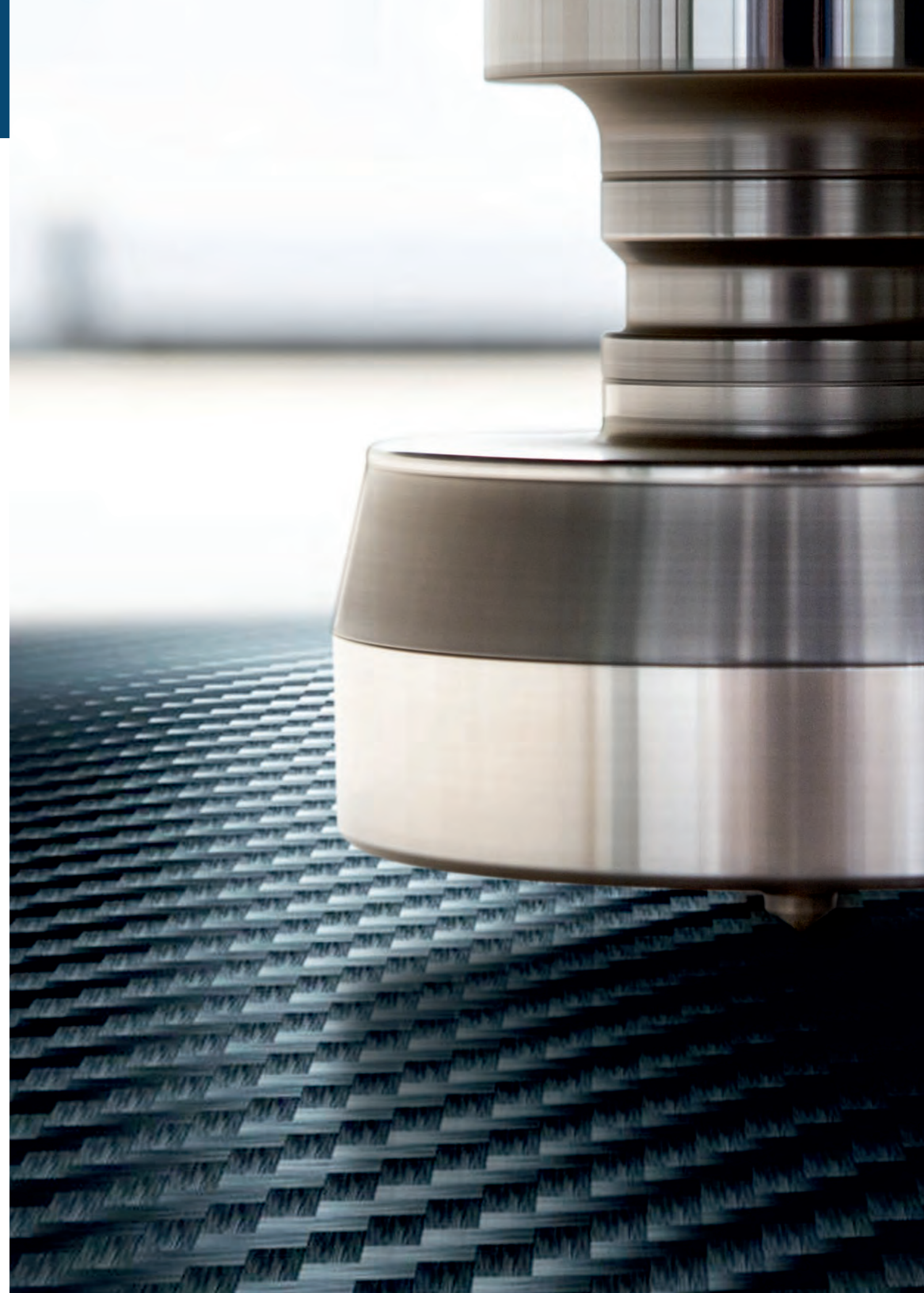
## Aerotech® System (Composites)



### Mounting plate

art. code AER-KIT

- Mounting plate for installing and removing HSK20C inserts (s5 T-wrench is included in art. AER-KIT)







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