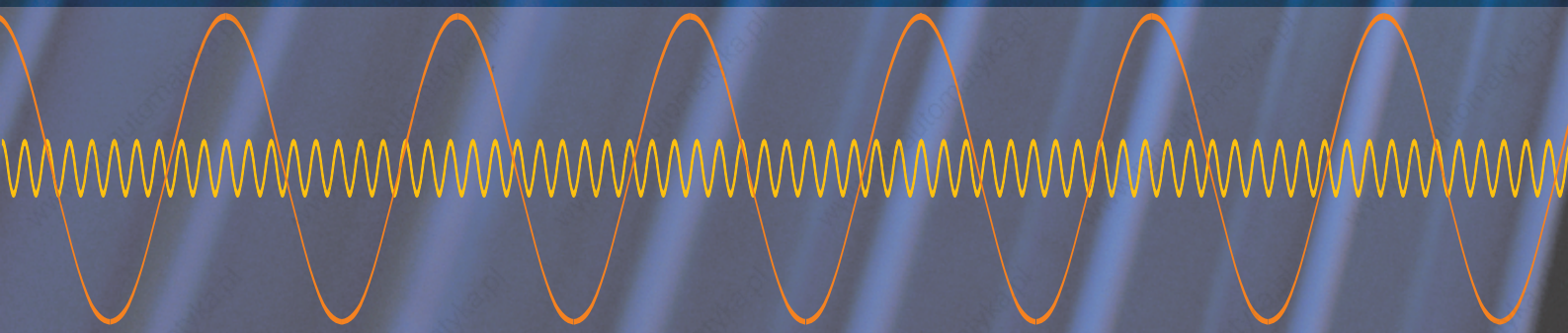


***Special Three-Phase  
Motors with HSK-C  
Tool Holder for Manual  
Quick Tool Change***



**Catalogue 21 E**



## High speed three-phase motors with HSK-C tool holder for manual tool change

protection type: IP54

### Motor description

- Special flat motor design for manual tool change
- Tool holder conforms to DIN 69893 - HSK form C
- Centering on the tooling side with face borings for guard attachment
- Compact design, self cooled with integral fan
- Thermal class „F“, high-quality vacuum impregnation
- Motor protection (optional): PTC thermistor
- Maintenance-free spindle bearing on tool side, pre loaded back to back arrangement
- Special design for high speeds, including models with hybrid spindle bearings on tool side

### Performance Guide

Motor Type	Tool Interface	Drawing	Power in kW at synchronous speed					
			50 Hz 3.000 min <sup>-1</sup>	100 Hz 6.000 min <sup>-1</sup>	150 Hz 9.000 min <sup>-1</sup>	200 Hz 12.000 min <sup>-1</sup>	250 Hz 15.000 min <sup>-1</sup>	300 Hz 18.000 min <sup>-1</sup>
KNS 51.14-2 D	HSK-C40	MS 4232	1,1	2,4	3,5	4,0	4,5	5,0
KNS 61.13-2 D	HSK-C50	MS 171-80	2,6	4,0	5,0	6,0	6,5	7,0
KCS 70.12-2 D	HSK-C63	MS 182-424	3,0	5,2	5,5	-	-	-
KCS 71.20-2 D	HSK-C63	MS 182-424	5,5	8,0	9,0	10,0	-	-
KCS 72.28-2 D	HSK-C63	MS 182-424	7,5	12,5	13,0	-	-	-
KNOS 71.20-2D	HSK-C63	MS 181-23	-	-	9,0	10,0	11,0	-
KS 81.26-2 D	HSK-C63	MS 630 A379	9,2	16,0	16,0	-	-	-
KS 111.31-2 D	HSK-C100	MS 630 C114	30,0	40,0	-	-	-	-

All specifications in this brochure have been carefully researched and reviewed.

We assume no responsibility or liability for any errors or misinterpretations.

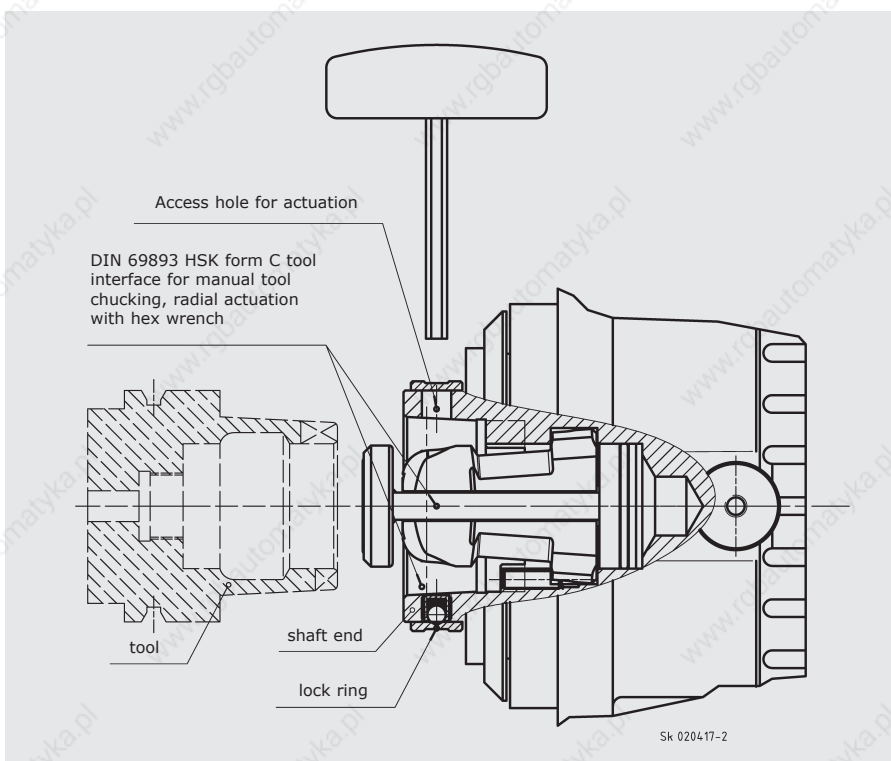
We reserve the right to make technical changes without notice.

## Manual HSK Interface DIN 69893 - HSK - C

### Features

Tool chucking is by means of a chuck in the shaft end; its clamping jaws engage matching clamping surfaces in the hollow shaft cone and in the shaft end. The chuck is actuated through a lateral access hole by means of a hex

wrench. For this reason, the hollow shaft cone in the tool must have a lateral access hole (DIN 69893 HSK form C). The hole is closed by a lock ring on the shaft to keep dirt out.



- Standardized interface
- Existing shaft tools can be used with adapter
- High radial and axial stiffness
- High retention force, increases further with rotational speed
- Good radial and axial precision
- Precisely defined and reproducible cutting edge position
- tool change with short mounting travel

### Advantages

Interface	HSK-C40	HSK-C50	HSK-C63	HSK-C100
Wrench size	SW3	SW4	SW5	SW8
Recommended tightening torque	6,0 Nm	10,0 Nm	15,0 Nm	50,0 Nm
max. retention force	20 kN	31 kN	40 kN	60 kN

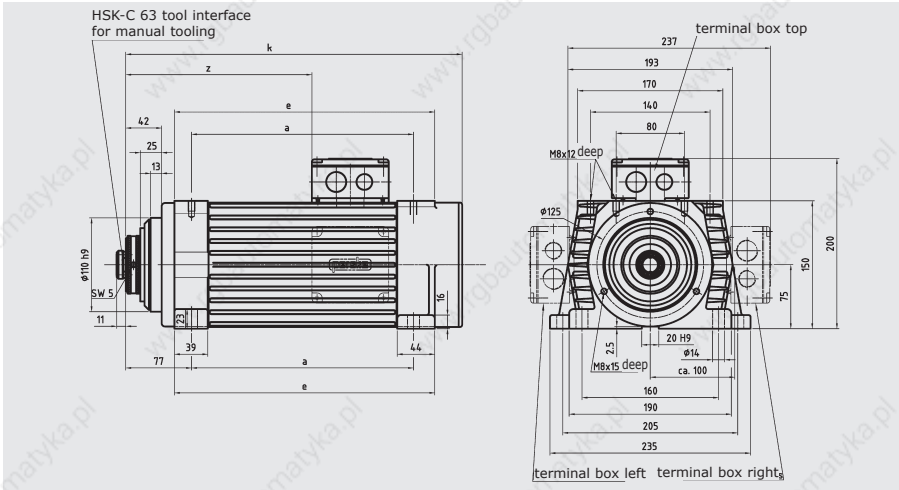
### Technical Data\*

\* Chuck manufacturer's specifications



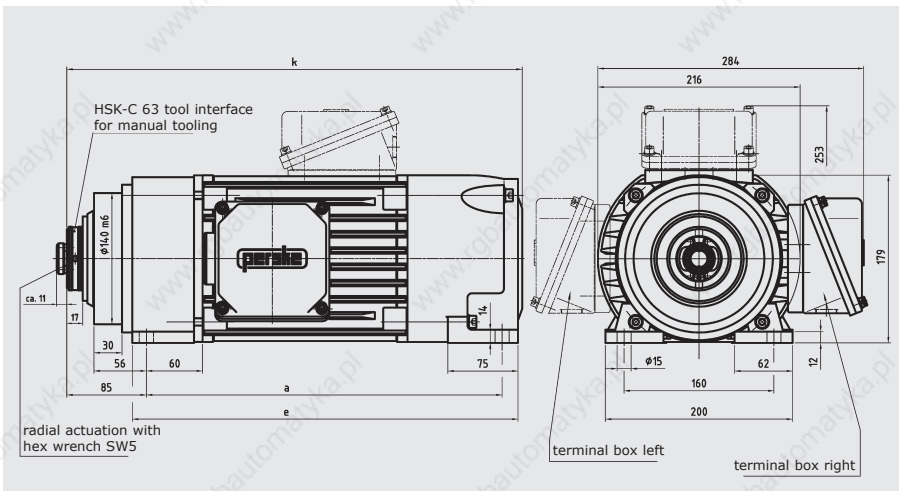
# Installation dimensions for high speed three-phase motors

with HSK-C tool holder for manual tool change



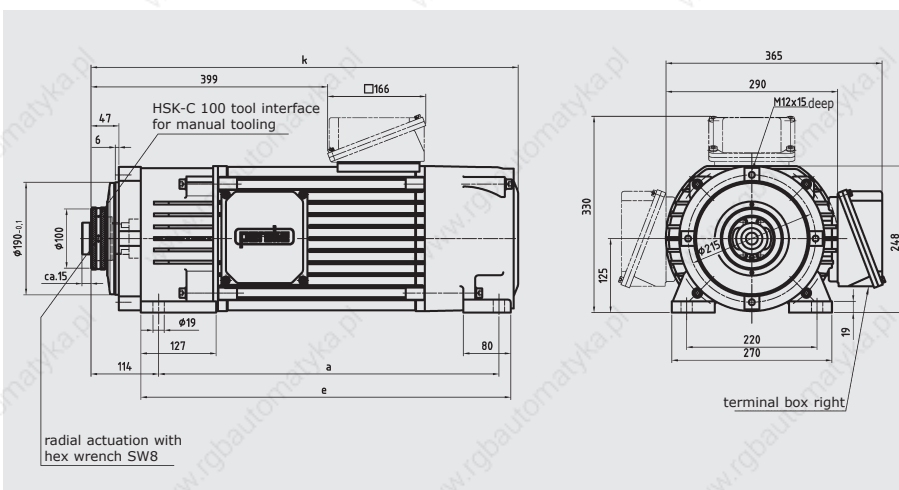
**Type: KNOS 71 D**  
**Drawing: MS 181-23**  
**Shaft end: HSK-C63**

type	a	e	k
KNOS 71 D	340	385	474



**Type: KS 81 D**  
**Drawing: MS 630 A379**  
**Shaft end: HSK-C63**

type	a	e	k
KS 81 D	460	492	567



**Type: KS 111 D**  
**Drawing: MS 630 C114**  
**Shaft end: HSK-C100**

type	a	e	k
KS 111 D	574	624	721

Dimensions subject to change

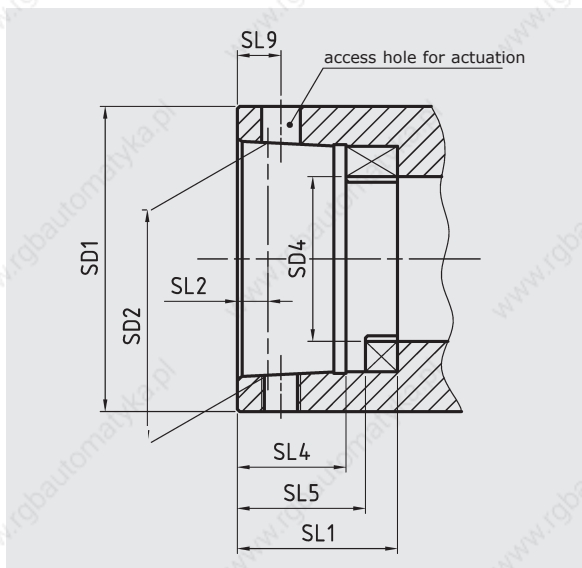
## Tooling interface DIN 69893-HSK-C for manual tool change

### Dimensions

The HSK-C interface allows the use of tools with form HSK-C as well with HSK-A. Tools of form HSK-A have an additional gripper groove. Both forms have a boring through the tapered shaft for radial actuation with a hexagon wrench.

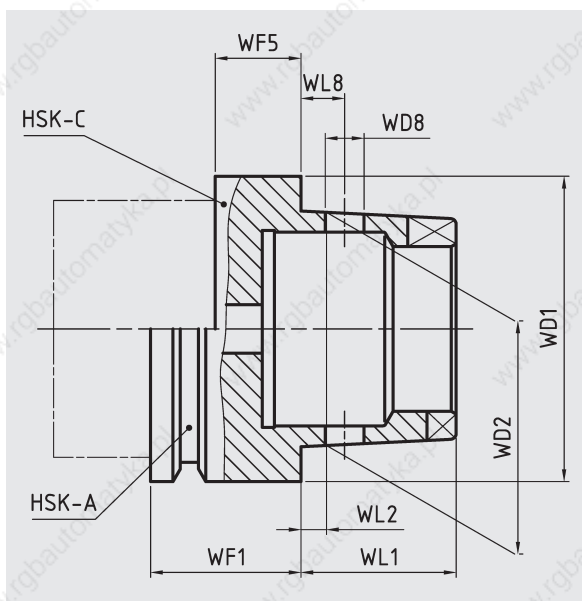
Therefore already available tools can be used by the customer.

### Shaft



Size	SD1	SD2	SD4	SL1	SL2	SL4	SL5	SL9
HSK-C40	40	30	21	20,5	4	14,4	16,9	6
HSK-C50	50	38	26	25,5	5	17,9	20,9	7,5
HSK-C63	63	48	34	33	6,3	22,4	26,4	9
HSK-C100	100	75	53	51	10	35,4	40,4	15

### Tool



Size	WD1	WD2	WD8	WL1	WL2	WL8	WF1*	WF5
HSK-C40	40	30	4,6	20	4	6	20	10
HSK-C50	50	38	6	25	5	7,5	26	12,5
HSK-C63	63	48	7,5	32	6,3	9	26	12,5
HSK-C100	100	75	12	50	10	15	29	16

\* HSK-A

all measurements in mm

Exact dimensions and tolerances see:  
DIN 69893-1 hollow taper shanks with flange contact surface  
DIN 69063-1 tool receiver for hollow taper shanks  
form A and form C to DIN 69893

## Shaft options

according to application:

Shaft for HSK-C tooling.

### Basic form

Hollow shaft for HSK-C tooling.

On the non drive end compressed air inlet for cleaning of tapered shaft and flange contact surface. The air cylinder is equipped with a seal which lifts off when disconnected. The compressed air must only be supplied when the spindle is at standstill. The connection fits a 4 mm diameter hose.

### Version for cleaning air supply

Hollow shaft for HSK-C tooling.

The non drive end side has a thread for a rotating union.

### Version for coolant supply

Type	Interface	Thread size (metric)	Centering diameter max.
KNS 51.14-2 D	HSK - C40	M10x1 – LH	ø11
KNS 61.13-2 D	HSK - C50	M10x1 – LH	ø11
KCS 70.12-2 D	HSK - C63	M16x1,5 – LH	ø18
KCS 71.20-2 D	HSK - C63	M16x1,5 – LH	ø18
KCS 72.24-2 D	HSK - C63	M16x1,5 – LH	ø18
KS 81.26-2 D	HSK - C63	M16x1,5 – LH	ø18
KS 111.31-2 D	HSK - C100	M16x1,5 – LH	ø18

For transportation and protection against dust ingress during standstill a sealing plug is supplied.

### Shaft protection

Interface	Sealing plug part no.	Material
HSK - C40	VT-040_0002	PA 6.6
HSK - C50	VT-040_0003	PA 6.6
HSK - C63	VT-040_0001	PA 6.6
HSK - C100	VT-040_0004	PA 6.6





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