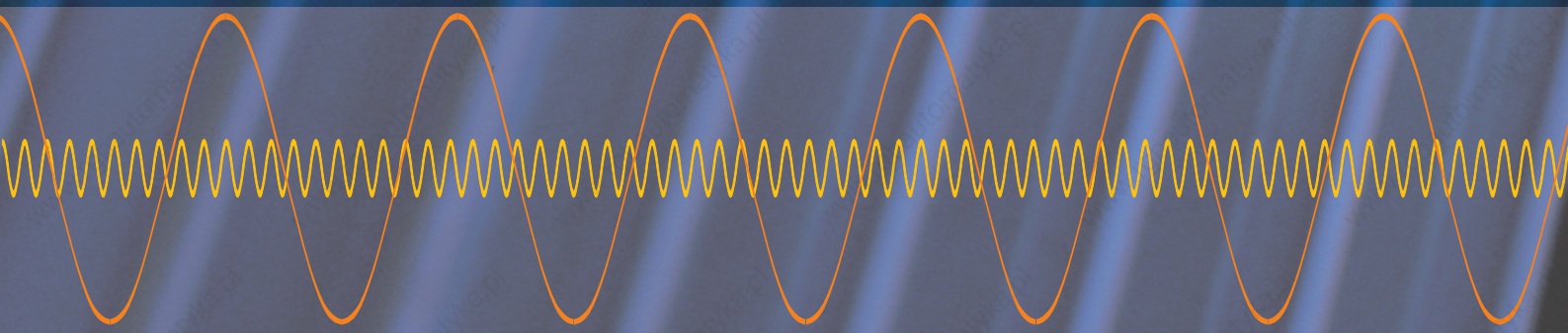


***Special Three-Phase
Motors with HSK-C
Tool Holder for Manual
Quick Tool Change***



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 ⁻¹ | 100 Hz 6.000 min ⁻¹ | 150 Hz 9.000 min ⁻¹ | 200 Hz 12.000 min ⁻¹ | 250 Hz 15.000 min ⁻¹ | 300 Hz 18.000 min ⁻¹ |
| 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.

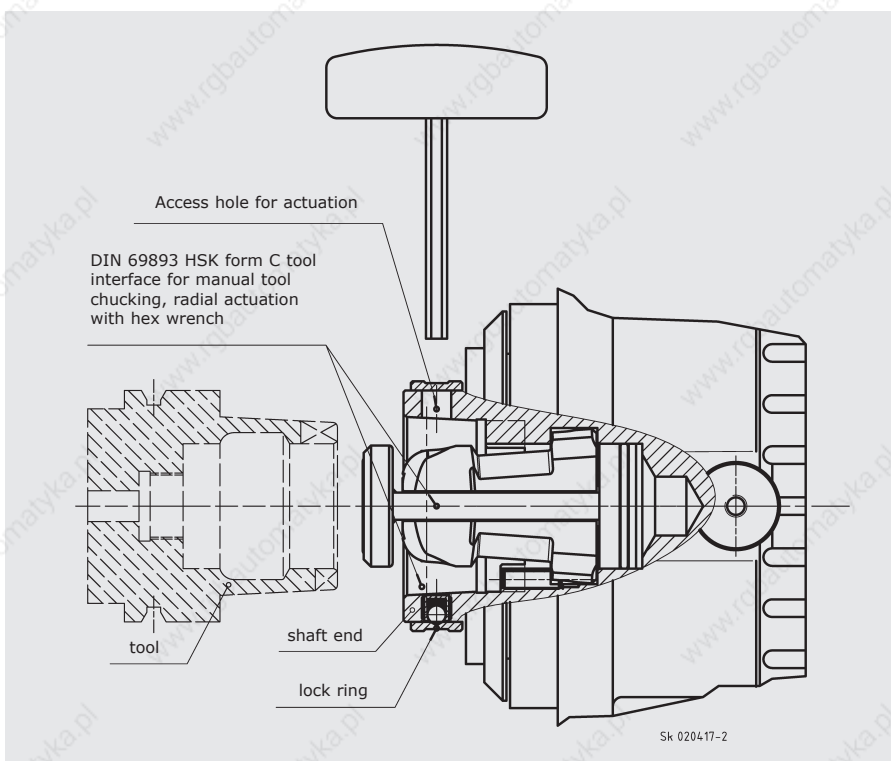
We reserve the right to make technical changes without notice.

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

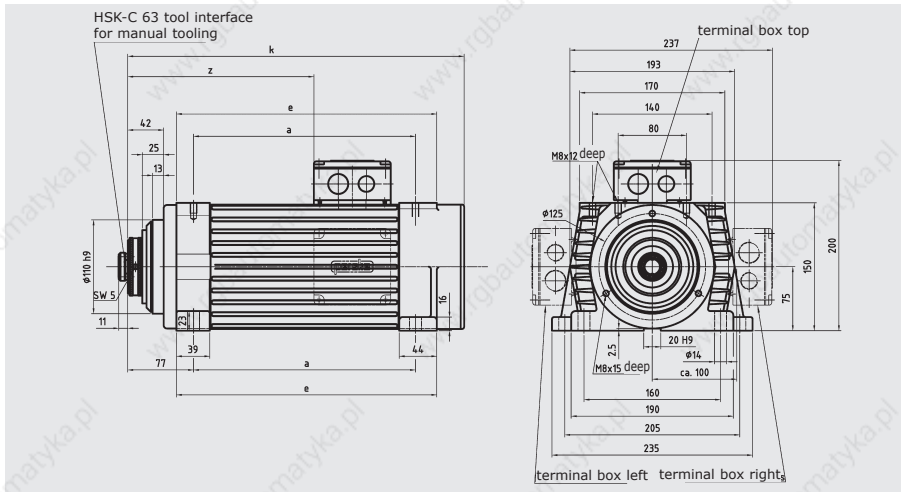
| Interface | HSK-C40 | HSK-C50 | HSK-C63 | HSK-C100 |
|-------------------------------|---------|---------|---------|----------|
| Wrench size | SW3 | SW4 | SW5 | SW8 |
| Recommended tightening torque | 6,0 Nm | 10,0 Nm | 15,0 Nm | 50,0 Nm |
| max. retention force | 20 kN | 31 kN | 40 kN | 60 kN |

Technical Data*

* Chuck manufacturer's specifications

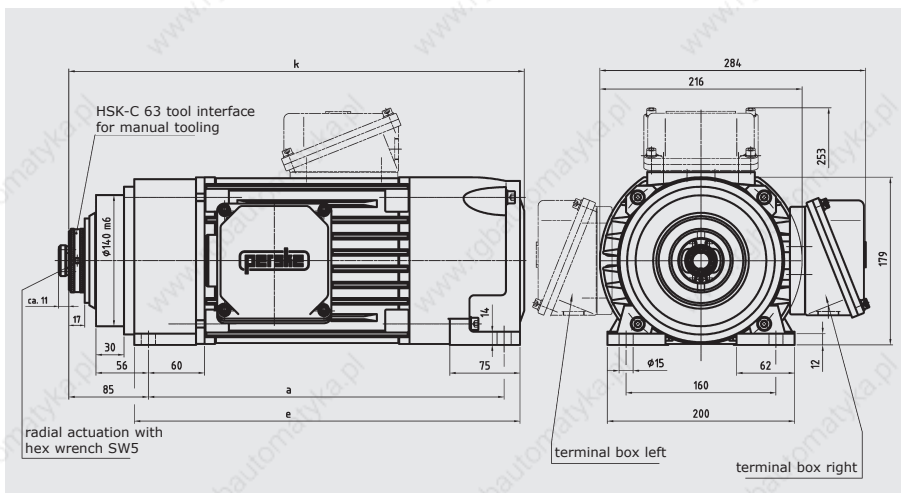
Installation dimensions for high speed three-phase motors

with HSK-C tool holder for manual tool change



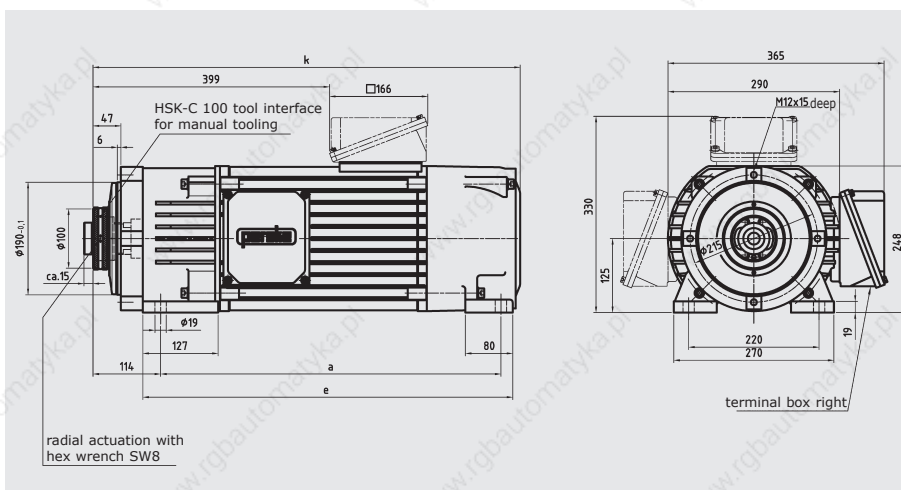
Type: KNOS 71 D
Drawing: MS 181-23
Shaft end: HSK-C63

| 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

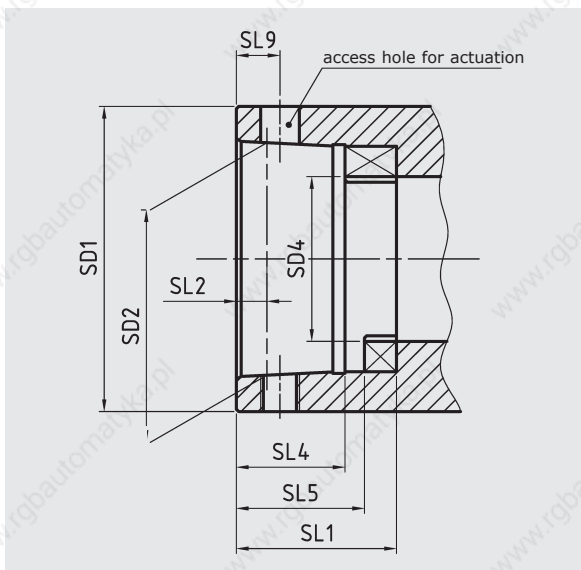
Tooling interface DIN 69893-HSK-C for manual tool change

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.

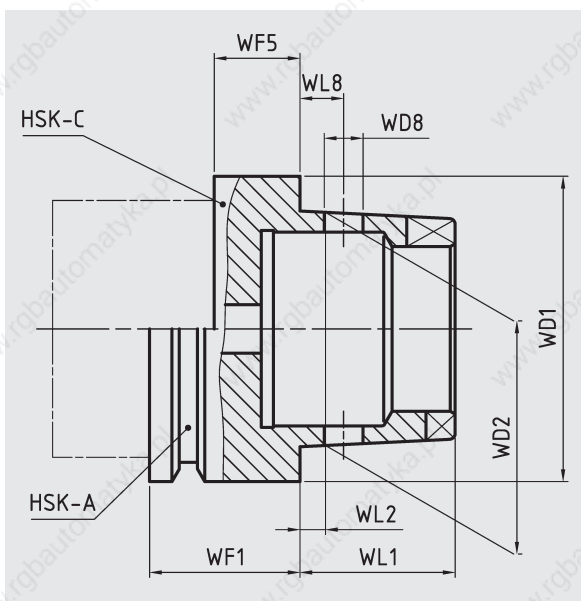
Therefore already available tools can be used by the customer.

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 |





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

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