



expanding core chucks



operating instructions



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Questo prodotto è conforme alla Direttiva 2006/42/CE relativa alle macchine

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MANTX180ITA4V0925

introduction

Dear customer,

Thank you for the preference given to this product that are sure to satisfy with its solutions, the design and the quality of construction.

The design has been addressed primarily for use in the field of web control for the coils of materials being unwound, application that requires a secure grip in all the phases of processing and a block self expandable and self-centering

So, we have created a family of chucks suitable for the most used mechanical internal diameters of the coils up to 12 ", with models suitable for single diameter, stepped for two diameters, with flange for expulsion etc.

Particular attention was also reserved to the robust construction with a core forged in one piece and heat and galvanic treatments that ensure excellent resistance to wear and stresses of this type of applications.

We recommend reading this manual to get faster familiar with this product, understand his particularities and required attentions to his long working life.

Please pay particular attention to the security precautions to be observed for a safe and proper use.

Renova srl

certifications



icons

This manual uses the following icons to define the competence of the operator who has to do the work and any situations of concern the integrity of the operator or of the product.



Generic



Administrative



Mechanical



Risk to persons



Risk to chuck

proper use of the product

Our product complies with the following reference standards:

2006/42/EC Machine Law and all safety regulations in the workplace:

- Law No. 129 of 2 August 2008
- Law No. 133 of 6 August 2008
- Law No. 14 of 27 February 2009
- Law No. 88 of 7 July 2009

Legislative Decree No. 106 of 3 August 2009 In accordance with Decree 224/88 EC No. 85/374, our product's limitations of use are defined, along with the conditions of correct use.

Compliance with the Installation and Maintenance Instructions, avoid costly downtime in production and replacement of damaged parts, can prevent accidents of parts and people.

It is a reminder to comply with safety regulations by using appropriate equipment when operating the machine, such as helmets, gloves, goggles, safety shoes, protective jackets, and earplugs or headphones in noisy environments.

Our products are designed to operate in line with the characteristics defined in our technical specifications,

which must not be overlooked or bypassed for production requirements.

Our technical department is at your disposal for problems when installing or starting the machine and can offer the right solutions to overcome any problems.

THIS COMPONENT IS EXPRESSLY DESIGNED TO BE MOUNTED IN A MACHINE AND CANNOT' WORK INDEPENDENTLY.

IT'S ABSOLUTELY FORBIDDEN THE USE IF THE MACHINE IS NOT 'IN COMPLIANCE WITH THE LAW.

Particular attention to be given to operations of assembly and maintenance:

Securely block the mounting screws of the flange with a tightening torque recommended by the screw producers. (Table for 8G screws)

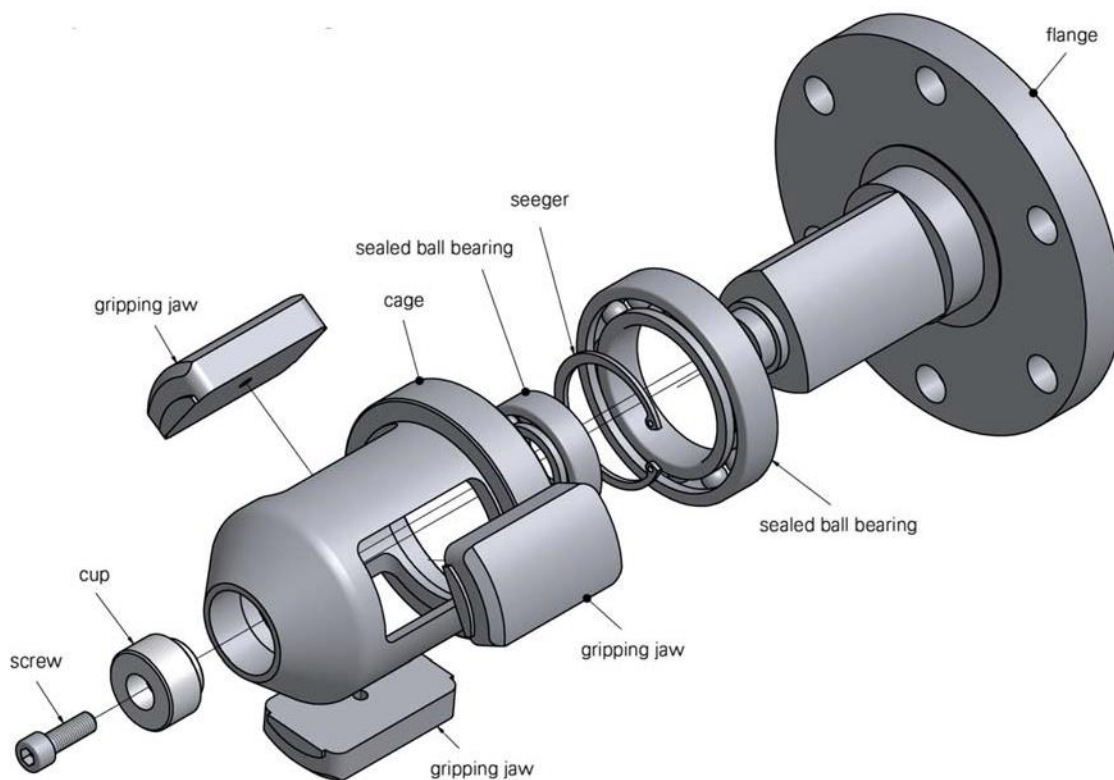
<i>Screw</i>	M6	M8	M10	M12	M14
<i>Torque (Nm)</i>	10,4	24,6	50,1	84,8	135

generality

The principle of operation is based on a core of hardened steel with three-lobed shape, oscillating on sturdy ball bearings, which is set in rotation by 3 sectors in contact with the coil. When it starts to spin, friction causes them to slide on the inclined surface of the core, expanding. The coil is so firmly locked with an action proportional to the torque that the shaft, at the opposite end of which is mounted the brake, transmits to the chuck. The simultaneous action of the three sectors provides a self-centering block of the coil.

The forged steel construction, surface treatment, robust thrust bearings withstand the various axial, radial forces which are normally subject to this type of product.

Particular attention was paid in the design to protect from dust and chips that can damage or slow down the normal operation of the chucks.



unpacking and input control

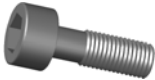


Check that the packaging has not been damaged during transport.

Verify that the carton contains the details listed below and the type ordered whose code is mentioned on the label pasted on the cover of the product.

RENOVA srl - Milano Italy		
cod: TMSM30FLF		
Mechanical chuck CK-SFM 4"		
lot: 12/08/11		
Lot	Name	Code

package contents

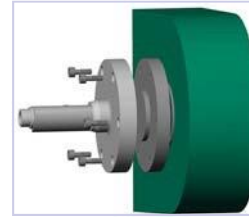
Name	Qty	Pictures
Flange	1	
Cage	1	
Gripping Jaw : Single diametral Double diametral	3 6	
Cup	1	
Block screw	1	

The mounting screws are not included.

assembling



- Check that the size of mounting on the counterflange of the shaft correspond both as drilling that as centering to those of the head.
- Check that there is no presence of grease or oil from defective bearing seals shaft.
- Mount the flange of the chuck against the flange and tighten firmly with the screws following the specified tightening torque specified by the type of screw used.



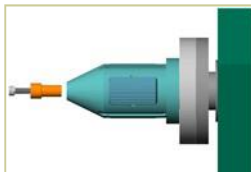
For 8G screws we recommend the value in the table:

Screw	M6	M8	M10	M12	M14
Torque (Nm)	10,4	24,6	50,1	84,8	135



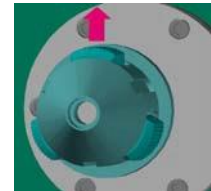
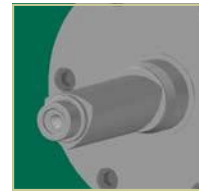
Pay particular attention to this operation which may lead, in the case of detachment of the chuck, risks for the integrity of the chuck, of the machine and of the persons present.

- Place the trefoil of the chucks in position of minimum projection upward.
- Install cage leaving the bottom two jaws that their weight will bring in expanded position and



extract the third jaw and support it until complete seating of parts.

- Insert the plug into the cage and tighten the locking screw.



Check that the movement of insertion of the two opposite chucks does not generate axial compressive forces that may affect their operation and duration.

It's possible to lubricate the surfaces of trefoil and jaws with a thin layer of silicone grease.

maintenance

This type of product does not require special maintenance.

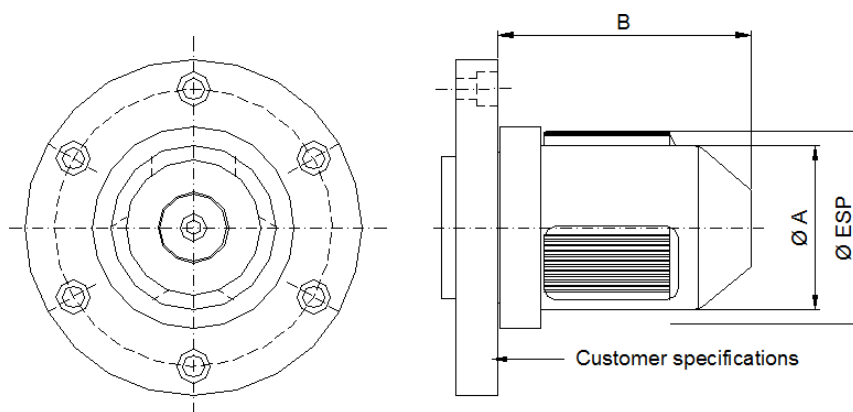
In case of particularly dusty environments, it is useful to a periodic cleaning with compressed air of moving parts to ensure their proper functioning.

As spare parts for stock we recommend:

- 1 set gripping jaws
- 1 set bearings

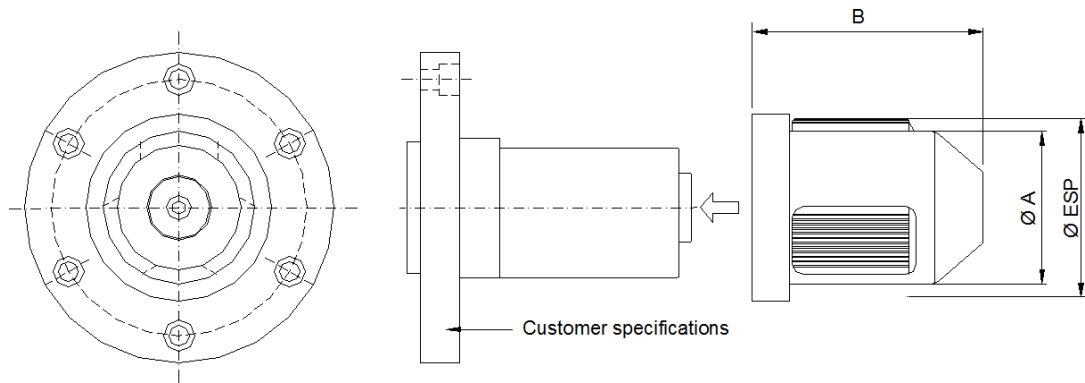
Technical data – Torque activated chucks

CK-S/SF/SFM Model



size	A (mm)	B (mm)	expansion (mm)	max load (N)	max torque (Nm)	weight (Kg)
70	68	150	69 ÷ 79	18000	1150	10
3"	74	150	75 ÷ 85	18000	1150	10
100	98	150	99 ÷ 109	45000	2500	15
4"	100	150	101 ÷ 110	45000	2500	15
120	118	150	119 ÷ 129	45000	2500	21
5"	125	150	126 ÷ 137	45000	2500	23
150	148	150	149 ÷ 159	110000	5000	25
6"	150	150	151 ÷ 161	110000	5000	25
200	198	150	199 ÷ 209	110000	5000	30
8"	201	150	202 ÷ 212	110000	5000	31
250	248	150	249 ÷ 259	110000	16000	39
10"	252	150	253 ÷ 263	110000	16000	40
300	298	150	299 ÷ 309	110000	16000	49
12"	302	150	303 ÷ 313	110000	16000	50

CK-SM Model



Flange 3"

size	A (mm)	B (mm)	expansion (mm)	max load (N)	max torque (Nm)	weight (Kg)
70	69	149	69 ÷ 79	18000	1150	10
3"	75		75 ÷ 85			10
100	99		99 ÷ 109			15
4"	100		101 ÷ 110			15
120	119		119 ÷ 129			21
5"	127		126 ÷ 137			23
150	149		149 ÷ 159			25
6"	151		151 ÷ 161			25
200	199		199 ÷ 209			30
8"	202		202 ÷ 212			31
250	249		249 ÷ 259			39
10"	253		253 ÷ 263			40
300	299		299 ÷ 309			49
12"	303		303 ÷ 313			50

Flange 4"

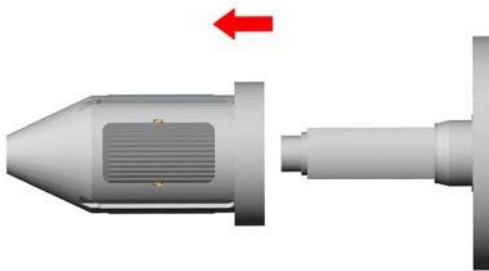
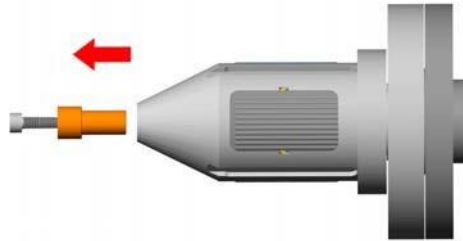
size	A (mm)	B (mm)	expansion (mm)	max load (N)	max torque (Nm)	weight (Kg)
100	99	149	99 ÷ 109	45000	2550	15
4"	100		101 ÷ 110			15
120	119		119 ÷ 129			20
5"	127		126 ÷ 137			23
150	149		149 ÷ 159			24
6"	151		151 ÷ 161			25
200	199		199 ÷ 209			28
8"	202		202 ÷ 212			30
250	249		249 ÷ 259			38
10"	253		253 ÷ 263			40
300	299		299 ÷ 309			47
12"	303		303 ÷ 313			50

Flange 6"

size	A (mm)	B (mm)	expansion (mm)	max load (N)	max torque (Nm)	weight (Kg)
150	149	149	149 ÷ 159	110000	5000	25
6"	151		151 ÷ 161			26
200	199		199 ÷ 209			29
8"	202		202 ÷ 212			31
250	249		249 ÷ 259			40
10"	253		253 ÷ 263			42
300	299		299 ÷ 309			48
12"	303		303 ÷ 313			51

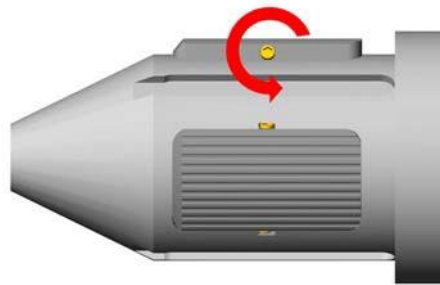
disassembling of the chuck

- Unscrew the blocking screw on top of the chuck
- Remove the screw and the cap from



- Remove the cage from the three-lobed core of the chuck.

- Unscrew the locking screw which prevents the fall of the gripping jaws inside the cage for an easily assembly and disassembly of the chuck.



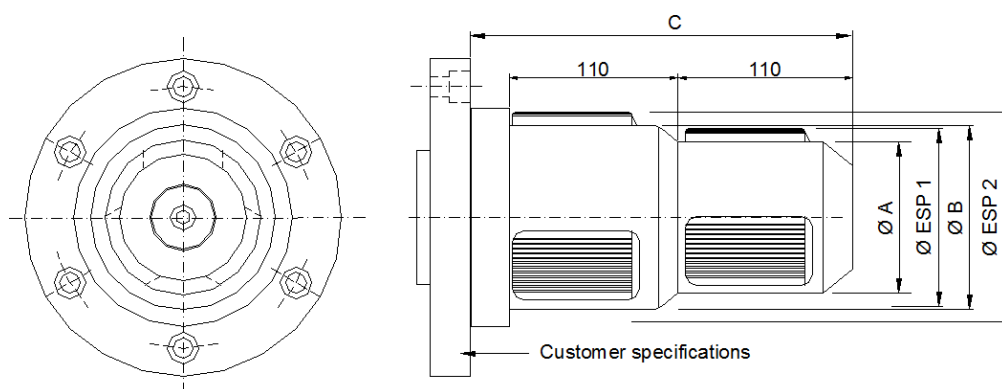
- Attention: the screws are locked, to prevent an accidental loosening, with thread locker paste.



Avoid unscrew if not for the replacement of the gripping jaws.

- . . . Remove the gripping jaws from the inside of the cage.

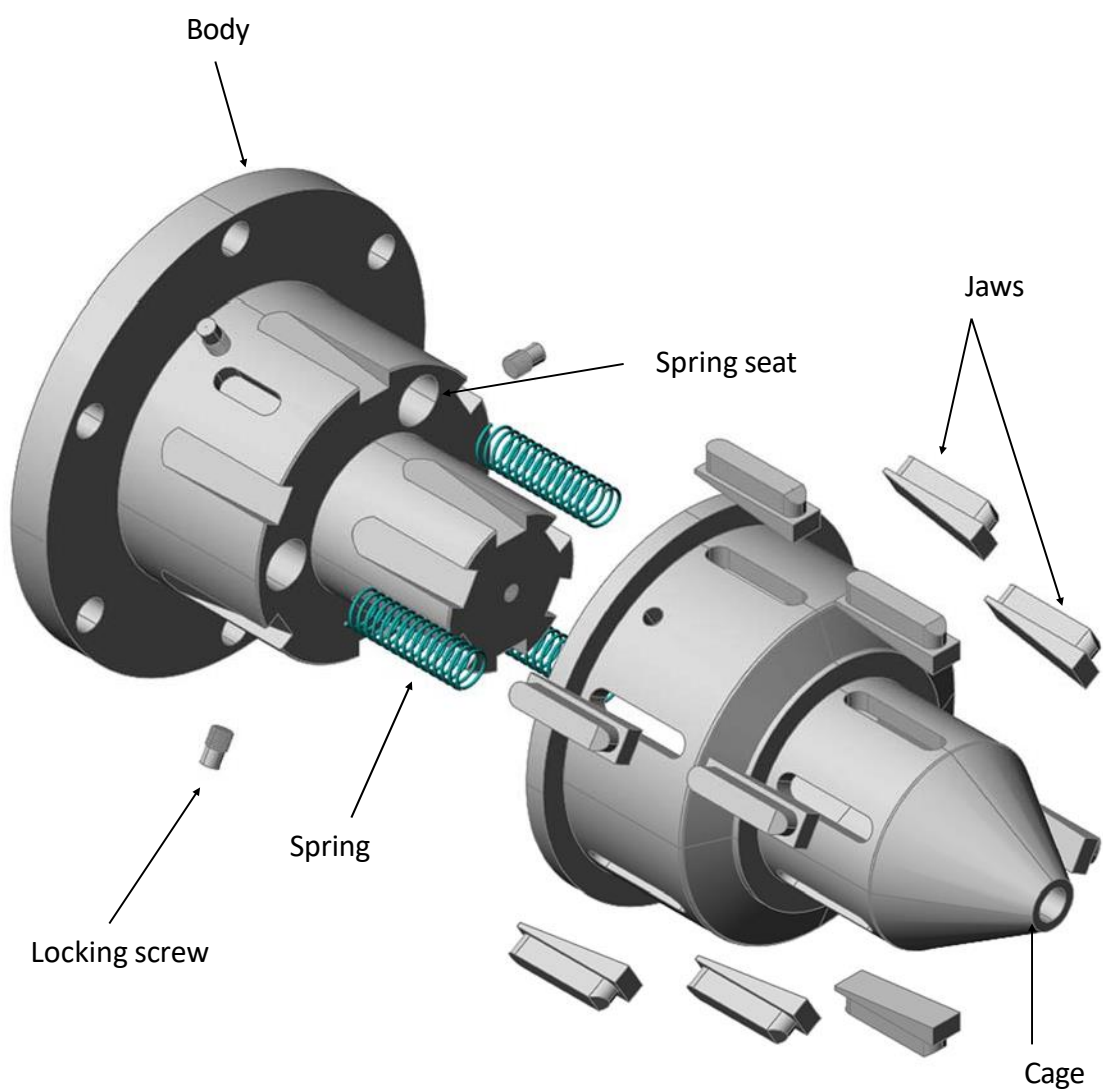
CK_SDD Model



size	A (mm)	B (mm)	expansion (mm)	max load (N)	Max torque (Nm)	weight (Kg)
70-100	68	98	69÷79 99÷109	18000 45000	1150 2500	18
70-4"	68	100	69÷79 101÷111	18000 45000	1150 2500	18
70-120	68	118	69÷79 119÷129	18000 45000	1150 2500	19
3"-4"	74	100	75÷85 101÷111	18000 45000	1150 2500	21
3"-150	74	148	75÷85 149÷159	18000 110000	1150 5000	28
3"-6"	74	150	75÷85 151÷161	18000 110000	1150 5000	32
4"-5"	100	125	101÷111 126÷136	45000 45000	2500 2500	28
4"-6"	100	150	101÷111 151÷161	45000 110000	2500 5000	36
150-300	148	298	149÷159 299÷309	110000 110000	5000 5000	52
150-12"	148	302	149÷159 303÷313	110000 110000	5000 5000	52
6"-12"	150	302	151÷161 303÷313	110000 110000	5000 5000	53

Technical data – Side load chucks

CK– TM/S CK-TM/D Models

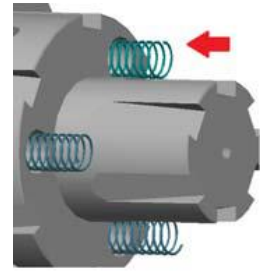


assembling



- Check that the size of mounting on the counterflange of the shaft correspond both as drilling that as centering to those of the chuck.
- Check that there is no presence of grease or oil from defective bearing seals shaft.
- Mount the flange of the chuck on the flange of the machine and block firmly with the screws fol-

lowing the tightening torque specified by the type of screw used.



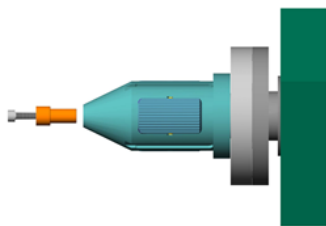
For 8G screws we recommend the value in the table:

Screw	M6	M8	M10	M12	M14
Torque (Nm)	10,4	24,6	50,1	84,8	135



Pay particular attention to this operation which may lead, in the case of detachment of the chuck, risks for the integrity of the chuck, of the machine and of the persons present.

- Place the body of the chucks in position of minimum projection upward
- Install cage leaving the bottom jaws that their weight will bring in expanded position and extract the other jaws and support it until complete seating of parts.



- Insert the plug into the cage and tighten the locking screw.

Check that the movement of insertion of the two opposite chucks does not generate axial compressive forces that may affect their operation and duration.

It's possible to lubricate the surfaces of jaws with a thin layer of silicone grease.

maintenance

This type of product does not require special maintenance.

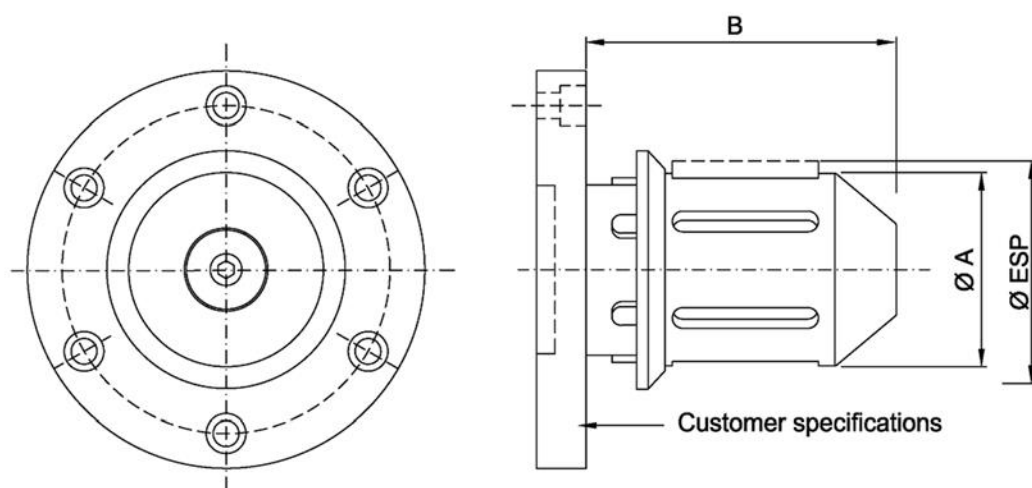
In case of particularly dusty environments, it is useful to a periodic cleaning with compressed air of moving parts to ensure their proper functioning.

As spare parts for stock we recommend:

- 1 set gripping jaws
- 1 set springs

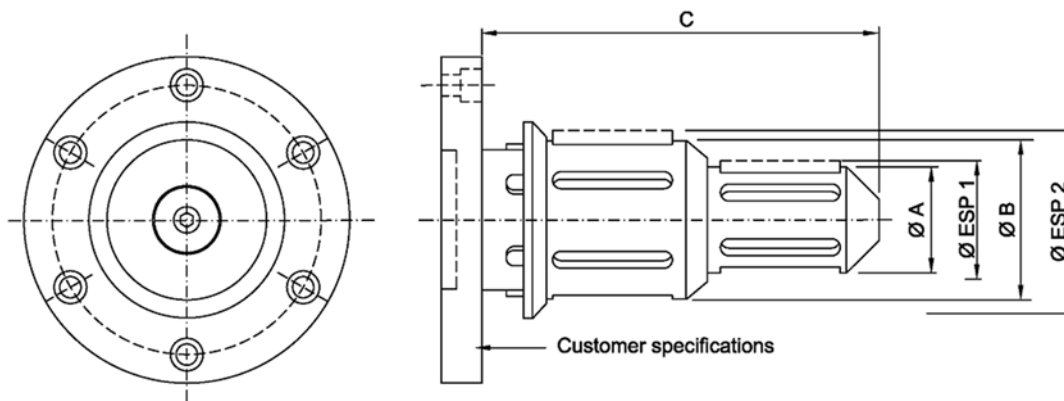
Technical data – Side load chucks

CK– TM/S Model



size	A (mm)	B (mm)	expansion (mm)	max load (N)	max torque (Nm)	weight (Kg)
3"	74,5	150	78	12000	250	10
4"	98	150	104	27000	1100	15
5"	125	135	131	50000	2120	22
6"	148	135	156	75000	3000	25
12"	301	135	309	150000	18000	50

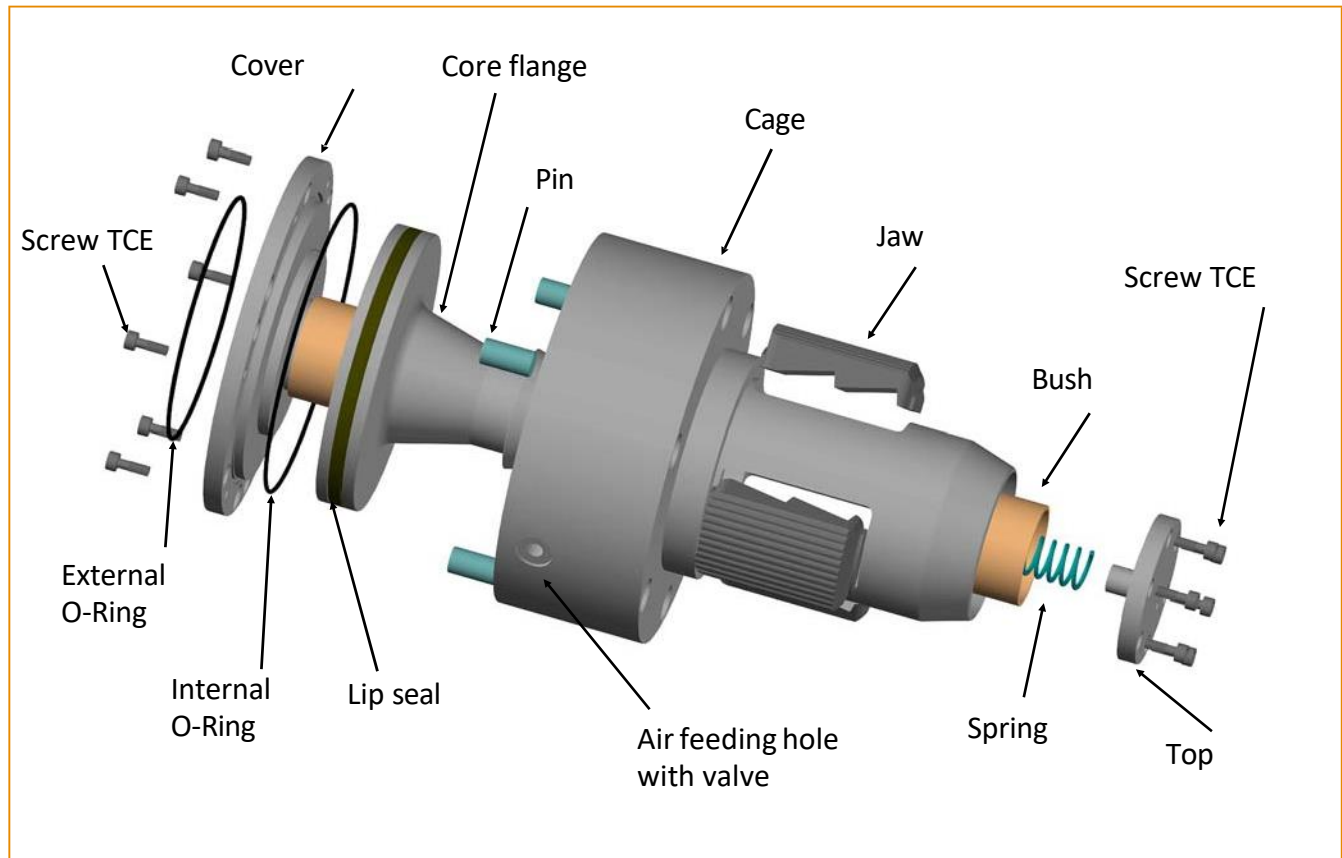
CK– TM/D Model



size	A (mm)	B (mm)	Exp A (mm)	Exp B (mm)	max load A/B (N)	max torque A/B (Nm)	weight (Kg)
3"/4"	74,5	98	78	104	7500/25000	250/1100	21
3"/6"	74,5	148	78	156	15000/75000	250/3000	32
4"/6"	98	148	104	156	27000/75000	1100/3000	36

Technical data – Pneumo mechanical chucks

CK– PM Models



Air feeding

The air supply must be filtered so as to limit the presence of condensation especially in environments with a coefficient of air humidity particularly high.

The air pressure should be

Pressure min	Pressure max
5 bar	7 bar

Lubrication is not necessary because the components of the chuck are previously greased with silicone grease.

If necessary to other components, you must use oil with viscosity equal to 32 cSt at 40 °C and the quantity must be max 1 drop per minute.

The lubrication, if applied, should be maintained for the life of the seals.

assembling



- The chucks are made from heavy weight, it is important that staff is provided with the law protections in number suitable for handling the unit.
- Check that the size of mounting on the counterflange of the shaft correspond both as drilling that as centering to those of the chuck.
- In the case the power supply is centrally through the shaft, insert the O-Ring seal between the flange of the chuck and the flange of the machine.
- If the feeding is with pneumatic gun, check that the supply valve is working properly.
- Mount the chuck on the flange of the machine and block it firmly with the screws following the torque specified by the type of screw used.

For 8G screws we recommend the value in the table:

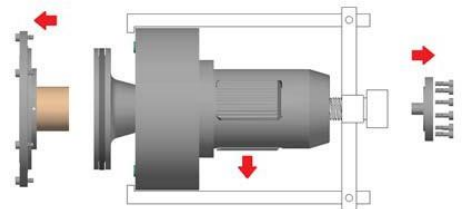
Screw	M6	M8	M10	M12	M14
Torque (Nm)	10,4	24,6	50,1	84,8	135



Pay particular attention to this operation which may lead, in the case of detachment of the chuck, risks for the integrity of the chuck, of the machine and of the persons present.

diassembling

- Unscrew the cover and the cap screws and remove the two parts.
- Keep open the jaws of the chuck outside at maximum expansion.
- Press the middle core-flange until his expulsion.
- In reassembling restore lubrication with silicone grease.



maintenance

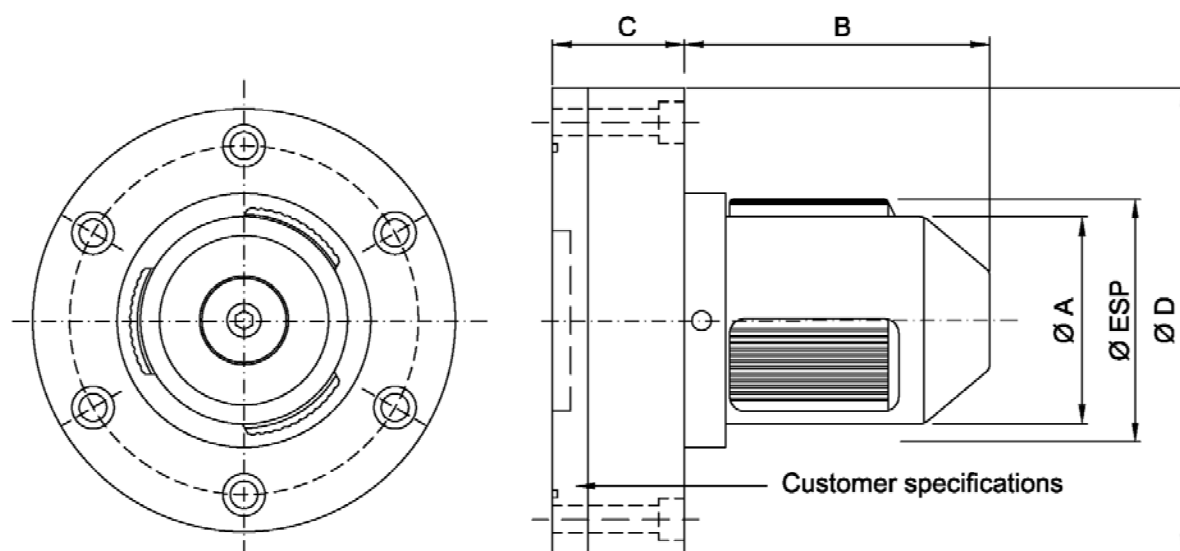
Keep clean the gripping jaws periodically to prevent dirt can block their normal operation. Depending on the level of dust that must be monthly or weekly.

Every six months check for air leakage from the gaskets. If it's necessary replace them. As spare parts are recommended :

- 1 set of seals
- 1 set gripping jaws
- 1 set springs

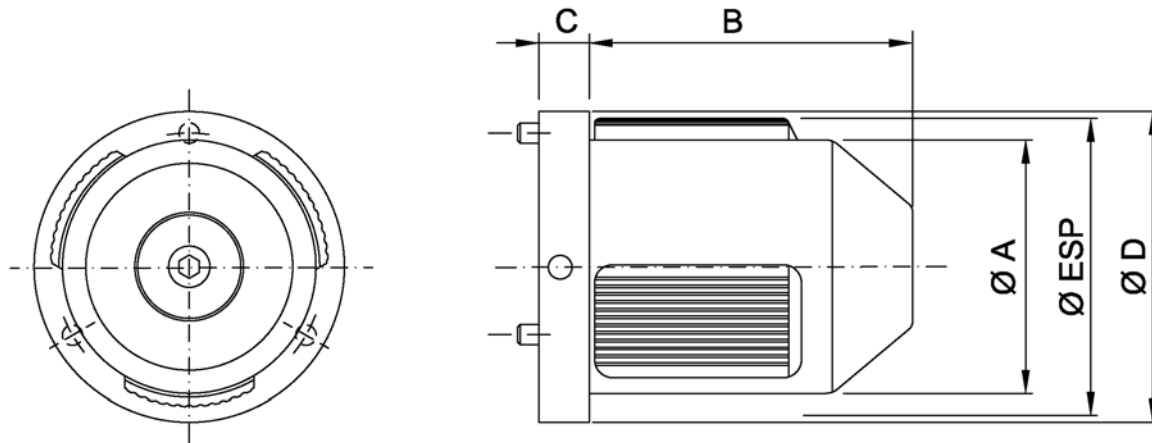
dimensions and technical data

CK– PM Models



model	A (mm)	B (mm)	C (mm)	D (mm)	Expansion (mm)	Load max (N)	Torque max (Nm)	weight (Kg)
69 mm	68	147	102	197	69÷77	7000	800	15
3"	74	147	102	197	74,5÷82,5	7000	800	15
100 mm	98	157	106	248	98,5÷105,5	18000	3200	23
4"	100	157	106	248	100,5÷110,5	18000	3200	23
150 mm	148	147	110	345	148,5÷158,5	35000	9500	50
6"	150	147	110	345	150,5÷160,5	35000	9500	50

Adapters CK– PM Models



model	A (mm)	B (mm)	C (mm)	D (mm)	Expansion (Nm)	weight (Kg)
69 mm/150 mm	148	121	28	167	148,5 ÷ 157,5	15
74 mm/150 mm	148	121	78	167	148,5 ÷ 157,5	15
150 mm/300 mm	296	129	104	318	297 ÷ 308	46



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