

SCHUNK Engineering Expansion arbor FORTIS

Hand in hand for tomorrow



Flexible configuration – short delivery time

Discover our FORTIS hydraulic expansion arbor

FORTIS is a standard expansion arbor that can be precisely tailored to your specifications. Using a blank as a base, any clamping diameter from 13 to 50 mm can be produced within defined limits, providing maximum flexibility for your application.



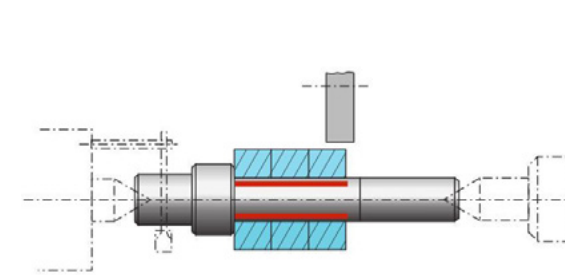
100%
compatible

Optimize the machining of your workpieces and take advantage of FORTIS's extremely high clamping forces to boost efficiency.

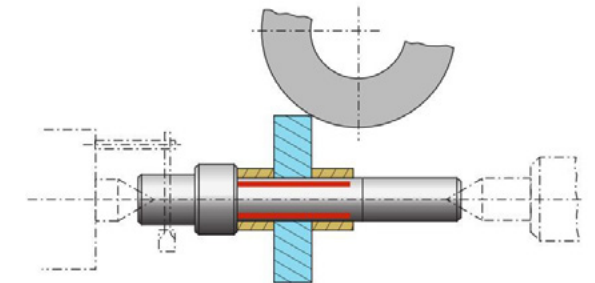
Your contact for the Special Expansion
Technology Department
Tel.: +49-7133-103-2555
sonderdehnspanntechnik@de.schunk.com

One arbor – endless possibilities

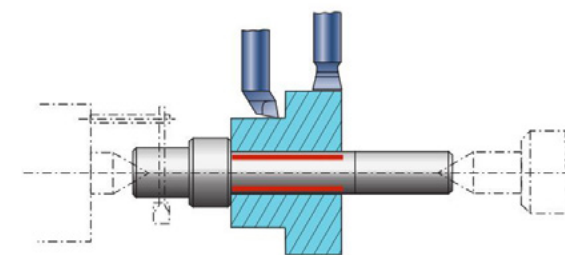
The FORTIS expansion arbor is used in assembly, production, and quality assurance to clamp workpieces in a form-fit manner, center them precisely, and thus enable secure joining processes as well as accurate roundness and flatness checks. In addition, it allows rapid, repeatable adjustment of coordinates to the final dimension – ideal for series production, short setup times, and consistently high dimensional accuracy.



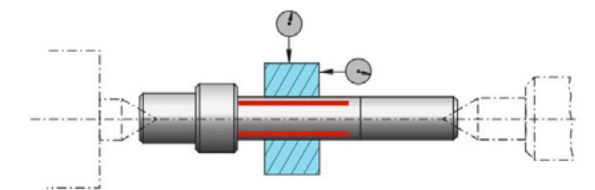
Workpiece grinding (stacked arrangement)



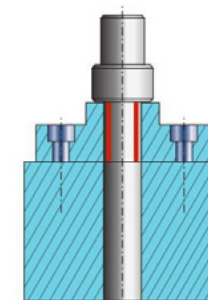
Workpiece (e.g. milling cutter) sharpening;
with lateral cover of the clamping area



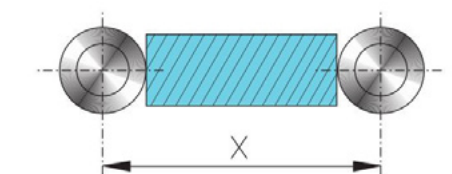
Turning between centers



Measuring radial and axial run-out



As an assembly aid for centering two
workpieces



Coordinate adjustment to final dimensions

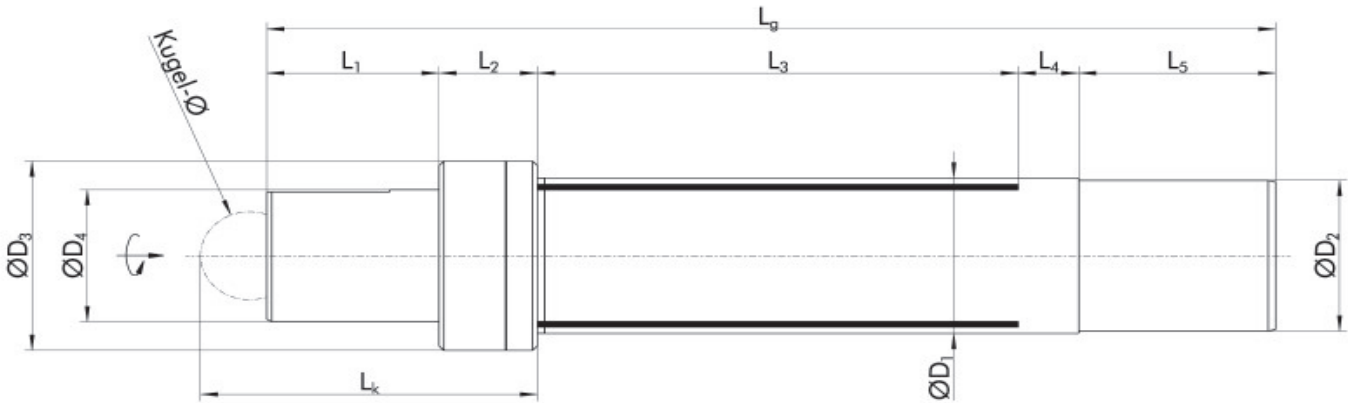
Technical details and benefits

- + Highest run-out accuracy ≤ 0.003 mm
- + Centers are hardened and ground
- + Precision-ground workpiece stop max. 0.003 mm
- + Wear-resistant surface of the expansion sleeve, $52 + 2$ HRC
- + Metallic connection between the expansion sleeve and the base body ensures optimal stability and torsional rigidity
- + Closed oil chamber, resistant to dirt and coolant
- + Individual selection of the clamping diameter, adapted to the customer's workpiece

Outstanding price-performance ratio.
Thanks to the blank concept, delivery
is possible within 10 working days.

Expansion arbor solution overview

The blank concept allows for fast and cost-effective handling of requests.



Drawing FORTIS expansion arbor

Inquiry form

To process your requests, please provide us with the following values:

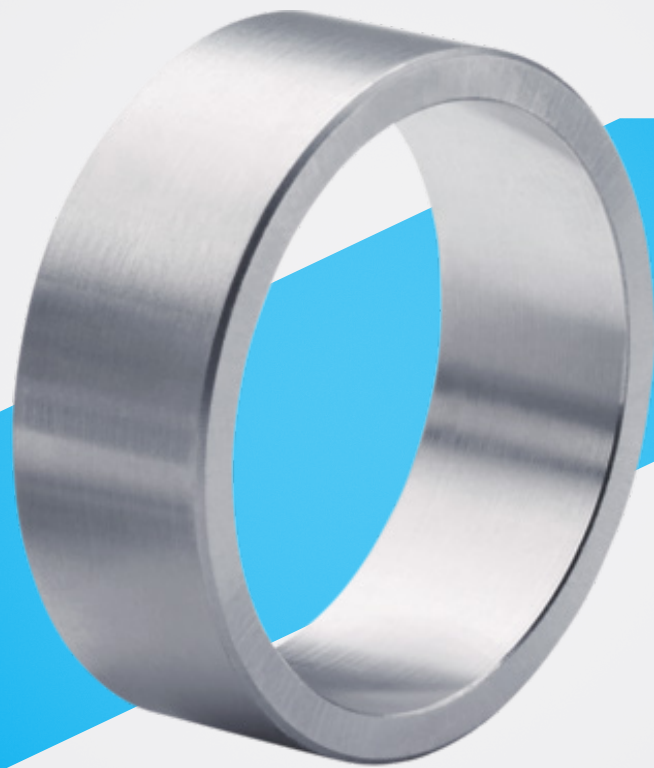
Dimension (example value)		Your values
Workpiece Ø	(35.435)	<input type="text"/> mm
Workpiece tolerance	(H7)	<input type="text"/>
Length of the clamp. area	(62)	<input type="text"/> mm
Type of machining	(grinding)	<input type="text"/>

D1 Clamp Ø - 0.005	Rate of expansion	D2	D3	D4	L1	L2	L3	L4	L5	Lg	Lk 0.3	±	Ball Ø
13	0.039	12.95	25	18	25	15	40	5	35	120	48.00		12
14	0.042	13.95	25	18	25	15	40	5	35	120	48.00		12
15	0.045	14.95	25	18	25	15	40	5	35	120	48.00		12
16	0.048	15.95	27	18	25	15	40	5	35	120	48.00		12
17	0.051	16.95	27	18	25	15	40	5	35	120	48.00		12
18	0.054	17.95	27	18	25	15	40	5	35	120	48.00		12
19	0.057	18.95	31	24	30	15	60	5	35	145	54.50		14
20	0.060	19.95	31	24	30	15	60	5	35	145	54.50		14
21	0.063	20.95	31	24	30	15	60	5	35	145	54.50		14
22	0.066	21.95	31	24	30	15	60	5	35	145	54.50		14
23	0.069	22.95	35	28	35	15	60	5	35	150	59.50		14
24	0.072	23.95	35	28	35	15	60	5	35	150	59.50		14
25	0.075	24.95	35	28	35	15	60	5	35	150	59.50		14
26	0.078	25.95	35	28	35	15	60	5	35	150	59.50		14
27	0.080	26.95	39	28	35	15	80	10	40	180	62.00		18
28	0.080	27.95	39	28	35	15	80	10	40	180	62.00		18
29	0.080	28.95	39	28	35	15	80	10	40	180	62.00		18
30	0.080	29.95	39	28	35	15	80	10	40	180	62.00		18
31	0.090	30.95	43	30	35	20	100	10	40	205	68.50		20
32	0.090	31.95	43	30	35	20	100	10	40	205	68.50		20
33	0.090	32.95	43	30	35	20	100	10	40	205	68.50		20
34	0.090	33.95	43	30	35	20	100	10	40	205	68.50		20
35	0.090	34.95	43	30	35	20	100	10	40	205	68.50		20
36	0.090	35.95	49	32	35	20	100	10	45	210	68.50		20
37	0.090	36.95	49	32	35	20	100	10	45	210	68.50		20
38	0.090	37.95	49	32	35	20	100	10	45	210	68.50		20
39	0.090	38.95	49	32	35	20	100	10	45	210	68.50		20
40	0.090	39.95	49	32	35	20	100	10	45	210	68.50		20
41	0.100	40.95	55	32	35	20	100	10	45	210	68.50		20
42	0.100	41.95	55	32	35	20	100	10	45	210	68.50		20
43	0.100	42.95	55	32	35	20	100	10	45	210	68.50		20
44	0.100	43.95	55	32	35	20	100	10	45	210	68.50		20
45	0.100	44.95	55	32	35	20	100	10	45	210	68.50		20
46	0.100	45.95	59	32	35	20	100	10	45	230	68.50		20
47	0.100	46.95	59	32	35	20	120	10	45	230	68.50		20
48	0.100	47.95	59	32	35	20	120	10	45	230	68.50		20
49	0.100	48.95	59	32	35	20	120	10	45	230	68.50		20
50	0.100	49.95	59	32	35	20	120	10	45	230	68.50		20



All FORTIS expansion arbors in the 13 to 50 mm diameter range are ready to ship within 10 working days.

All supporting sleeves for customer-specific FORTIS expansion arbors (13–50 mm clamping diameter) are ready to ship within 10 working days.



FORTIS supporting sleeve

Stability meets precision

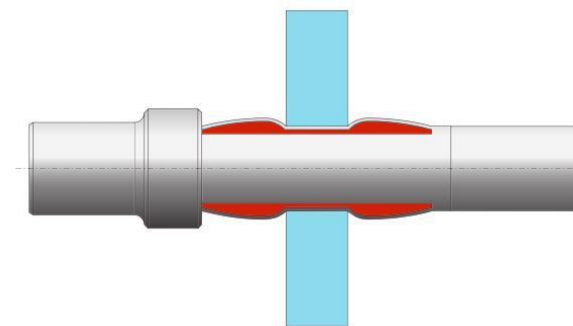
To improve manufacturing quality and increase the service life of the expansion arbor, we recommend covering exposed clamping points with supporting sleeves. They are individually manufactured for the Customer-specific FORTIS.

The supporting sleeve distributes clamping force evenly between the expansion arbor and the workpiece. The enhanced stability and resulting higher precision positively impact both the arbor's service life and the machining outcome.

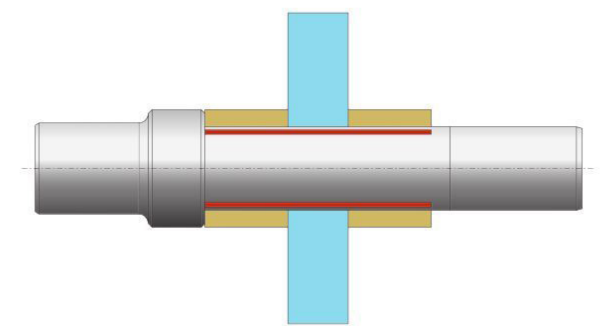
Minimal effort – maximum benefit

Technical details and benefits

- + Uniform pressure distribution on FORTIS and workpiece
- + Workpiece fixation
- + Reduction of inaccuracies
- + Extended service life of the FORTIS
- + Improved manufacturing quality
- + Individual adaptation of the supporting sleeve to your FORTIS

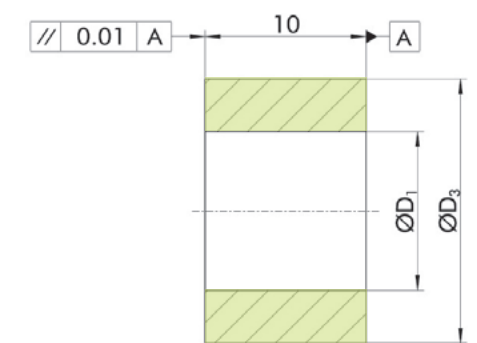


Without supporting sleeve

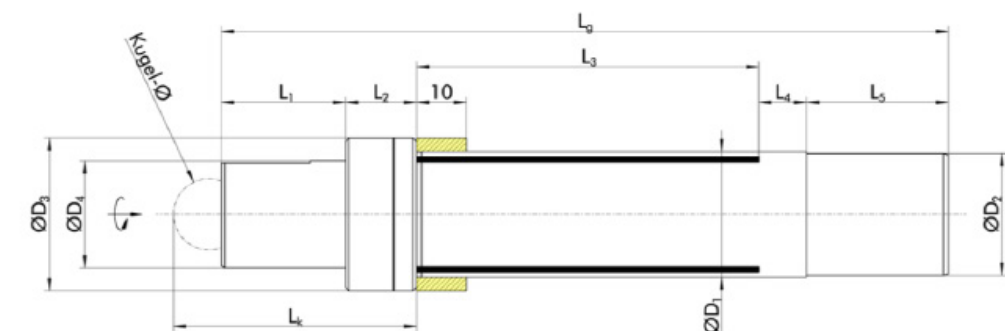


With supporting sleeve

The SCHUNK range includes the 10 mm supporting sleeve, with clamping diameter individually tailored to the corresponding FORTIS expansion arbor.



Drawing supporting sleeve



Drawing Expansion arbor FORTIS with supporting sleeve



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Greiftechnik
Automatisierungstechnik

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Folgen Sie uns

