FAHRION

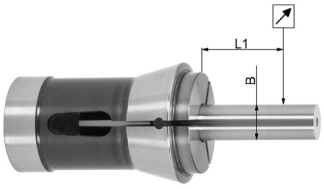
FAR BEYOND PRECISION

Workpiece Clamping

Collets for Workpiece Clamping
Collet Chucks for Workpiece Clamping

Overview of Contents

Concentricity Charts Collets DIN 6341 and DIN 6343



Concentricity DIN 6341 and DIN 6343

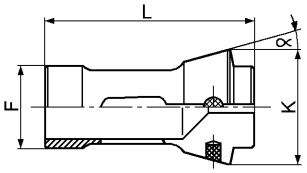
B mm				L1 mm	DIN Class 2
up to	1,0			3	0,015
over	1,0	to	1,6	6	0,020
	1,6		3,0	10	
	3,0		6,0	16	
	6,0		10,0	25	
	10,0		18,0	40	0,030
	18,0		24,0	50	
	24,0		30,0	60	
	30,0		50,0	80	0,040
	50,0		60,0	100	

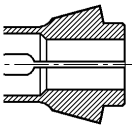
For applications which require highest concentricity, it is absolutely necessary to pay attention to the complete system (machine spindle, collet acceptance, clamping nut, collet and cutting tool).

Dead Length Collets DL

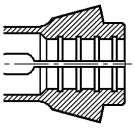
Concentricity and repeatability: To DIN 6343 on page 2
Application: For workpiece clamping (bar or chuck work) in conventional single spindle lathes and CNC-turning machines directly in the spindle or in a collet chuck (see pages 6 and 7) • plain bores are mainly used in counter spindle of CNC-turning machines
Bore execution: See B in the chart • with plain bore or annular serration

Collapse: h9, i.e. only nominal size can be clamped
Special features: Minimal axial movement of the collet while clamping, therefore component positioning when clamping is axially consistent
Remark: • dead length collets are designed for clamping bars • when clamping short components we recommend reducing the clamping pressure to help eliminate the risk of premature breakage





B = G
(with plain bore)



B = Q (with
annular serration)

Dead Length Collets DL

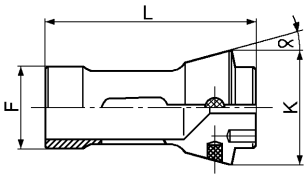
E-No. FM-No. DIN 6343	Order-No.	F	K	L	α	B	Pro-file	from-to	steps
173E FM1148 DIN 6343 48-R42	1012801	48	60	94	15°	G	●	1,0-8,0	0,5
						Q	●	8,5-42,0	0,5
	1012810					G	●	9,0-42,0	1,0
							⬢	6,0-12,0	1,0
	1012803					Q	⬢	13,0-17,0	1,0
							⬢	19,0•22,0•24,0•27,0•30,0•32,0•36,0	
	1012802					G	■	6,0-12,0	1,0
						Q	■	13,0•14,0•16,0•18,0•20,0•22,0•25,0•28,0•30,0	
185E FM1149 DIN 6343 66-R60	1013001	66	84	110	15°	G	●	4,0-8,0	1,0
						Q	●	9,0-60,0	1,0
	1013003					G	⬢	8,0-12,0	1,0
						Q	⬢	13,0-17,0	1,0
							⬢	19,0•22,0•24,0•27,0•30,0•32,0•36,0•38,0•41,0•46,0•50,0	
	1013002					G	■	7,0-12,0	1,0
						Q	■	13,0•14,0•16,0•18,0•20,0•22,0•25,0•28,0•30,0•32,0•36,0•40,0	

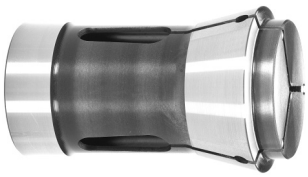
Ordering example:
173E FM1148 ■ 20,0mm = Order-No. 10128022000

Emergency Dead Length Collets DL-V

Concentricity and repeatability: Best concentricity with high flexibility
Application: For workpiece clamping (bar or chuck work) as per series 100 dead length collets (see pages 6 and 7) • emergency collets are not intended for volume production
Bore execution: Plain and pre-drilled as the chart

Collapse: h9, i.e. only nominal size can be clamped
Special features: Hardened and tempered to 45 HRC • completely ground and pre-drilled (Ø see chart) • enable the customer to machine the collet bore to suit their requirement • minimum axial movement of collet while clamping





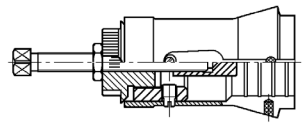
Emergency Dead Length Collets DL-V

E-No. FM-No.	Order-No.	F	K	L	α	B	Profile	Bore (pre-drilled)
173E FM1148-V	1012801	48	60	94	15°	G	●	3,0
185E FM1149-V	1013001	66	84	110	15°	G	●	4,0

Operating instructions:
By means of three fixing pins, which can be inserted from the grinding face, the emergency collet can be clamped in the collet chuck and be machined directly in the machine to the required bore-Ø or to a step bore.

Inner Stops DL-IA for Dead Length Collets

Application: For collets DIN 6343
Special features: Simple, low priced and in spite of this a fully functional inner stop for collets to DIN 6343 • can be used for ●, ⬢ and ■ • absolutely firm seat • quick assembly • collet shanks are not deformed • clamping of the collet is not effected • can also be used as stop for hollow parts



Inner Stop DL-IA for Dead Length Collets

for E-No. FM-No.	Order-No.	
173E FM1148-IA	1117300	
185E FM1149-IA	1118500	

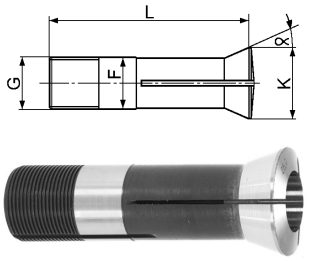
Assembly:
Screw in the three (resp. four) cross screws totally and insert the stop into the collet, so that the cross screws are visible in the slots of the collet. Now screw out the cross screws and tighten the stop with the lock-nut.

Ordering example:
173E FM1148-V = Order-No 1012801

Draw-in Collets DI

Concentricity and repeatability: To DIN 6341 on page 2
Application: To clamp work pieces after turning, e.g. grinding and devices with high accuracy and clamping forces, best results are obtained when using close toleranced material and the correct size collet

Bore execution: Plain, see B in the chart
Collapse: h8, i.e. only nominal size can be clamped
Special features: Higher clamping forces as dead length collets, but axial movement while clamping



Draw-in Collets DI

E-No. FM-No. DIN 6341	Order-No.	F	K	L	α	B	Profile	from-to	steps
386E FM613 DIN 6341 K32	1031901	32	45	110	20°	G	●	1,0-29,0	0,5
		G	TR32x1,5				●	29,5-30,0 *	0,5
	1032100	Set 27parts					●	3,0-29,0	1,0
	1032200	Set 53parts					●	3,0-29,0	0,5

* max. insertion depth 11 mm (drilling at the top)

Ordering examples:
386E FM613 ● 20,0 mm = Order-No. 10319012000
386E FM613 Set 27parts = Order-No. 1032100

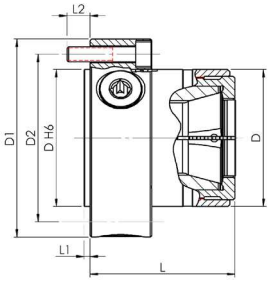
Manually Operated Collet Chucks HSPF with Safety Key

Application: Various possibilities on conventional as well as on CNC-machines, e.g. lathes, drills, mills and grinders • ideal for small production batches • can be used on pallets and machining centre tables (see examples at the bottom)
Special features: Wear resistant construction • durable, simple design • contamination and dirt ingress almost eliminated • higher clamping force and improved concentricity due to holding workpieces with collets (see concentricity table on page 2) compared with 3 jaw chucks • large clamping range with free bar passage for bar material • low surface stresses due to large clamping surface area of the collets – thus no pressure marks on the workpiece profile • standard-, emergency-, multi-range- and profiled collets can be inserted • profiled collets eliminate the time wasting exchange of chucks and/or jaws when changing from round to profiled material • no problem using on machines with CE-mark

Manually Operated Collet Chucks HSPF with Flat Back Mounting

Description	Order-No.	Mount	Clamping range	Dead Length Collets Pages 3 and 4
HSPF40Z/130	7124000	cyl. Ø 130 mm	1,0-42,0 mm	FM1148•V
HSPF60Z/170*	7136000	cyl. Ø 170 mm	4,0-60,0 mm	FM1149•V

Flange execution: Universal application due to flat back mounting for mounting on special or intermediate flanges
Extend of delivery: With safety key • without collets



Technical Data

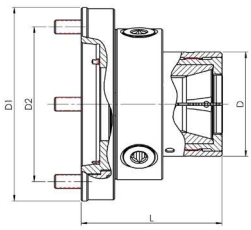
Description	Speed max. r.p.m.	L	L1	L2	D	D1	D2	D3 H6	Number of Fixing Screws DIN 912 12.9
HSPF40Z/130	5000	95	4	15	90	130	110	90	3xM10x45
HSPF60Z/170*	4000	125	6	15	118	180	133,4	170	3xM12x50

* cyl. mount inwards (see data sheet)

Manually Operated Collet Chucks HSPF with Short Taper DIN 55026/ISO 702/I

Description	Order-No.	Short Taper	Clamping range	Dead Length Collets Pages 3 and 4
HSPF40/5.1	7126500	Size 5	1,0-42,0 mm	FM1148•V
HSPF40/6.1	7126600	Size 6		
HSPF60/6.1	7138600	Size 6	4,0-60,0 mm	FM1149•V

Flange execution: Short taper DIN 55026/ISO 702/I
Extend of delivery: Chuck complete with adaptor plate, safety key and screws • without collets

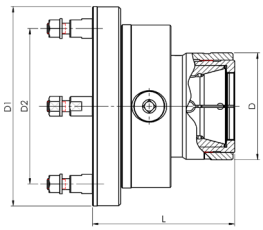


Technical Data

Description	Speed max. r.p.m.	L	D	D1	D2	Number of Screws
HSPF40/5.1	5000	123	90	137	104,8	4xM10-DIN912
HSPF40/6.1	5000	125		167	133,4	4xM12-DIN912
HSPF60/6.1	4000	157	118	186	133,4	4xM12-DIN912

Ordering example:
HSPF40/Z130 = Order-No. 7124000

Manually Operated Collet Chucks HSPF with Safety Key



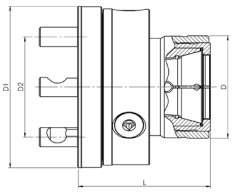
Manually Operated Collet Chucks HSPF with Short Taper DIN 55027/ISO 702/III

Description	Order-No	Short Taper	Clamping range	Dead Length Collets Pages 3 and 4
HSPF40/5	7124500	Size 5	1,0-42,0 mm	FM1148•V
HSPF40/6	7124600	Size 6		
HSPF60/6	7136600	Size 6	4,0-60,0 mm	FM1149•V

Flange execution: Short taper DIN 55027/ISO 702/III
Extend of delivery: Chuck complete with adaptor plate, safety key and screws • without collets

Technical Data

Description	Speed max. r.p.m.	L	D	D1	D2	Number of Screws
HSPF40/5	5000	116	90	137	104,8	4xM10
HSPF40/6	5000	127		167	133,4	4xM12
HSPF60/6	4000	152	118	186	133,4	4xM12



Manually Operated Collet Chucks HSPF with Short Taper DIN 55029/ISO 702/II (Camlock)

Description	Order-No	Short Taper	Clamping range	Dead Length Collets Pages 3 and 4
HSPF40/C4	7125400	C4"	1,0-42,0 mm	FM1148•V
HSPF40/C5	7125500	C5"		
HSPF40/C6	7125600	C6"		
HSPF60/C6	7137600	C6"	4,0-60,0 mm	FM1149•V

Flange execution: Short taper DIN 55029/ISO 702/II (Camlock)
Extend of delivery: Chuck complete with adaptor plate, safety key and Camlock bolts • without collets

Technical Data

Description	Speed max. r.p.m.	L	D	D1	D2	Number of Camlock Bolts
HSPF40/C4	5000	123	90	131	82,6	3xM10x1
HSPF40/C5	5000			137	104,8	6xM12x1
HSPF40/C6	5000	131		167	133,4	6xM16x1,5
HSPF60/C6	4000	158	118	180	133,4	6xM16x1,5

Ordering example:
HSPF40/C5 = Order-No. 7125500

FAR BEYOND PRECISION

FAHRION offers a wide selection of precision collets, precision collet chucks as well as precision products for workpiece clamping which fulfil maximum requirements in terms of concentricity, service life and manufacuring quality. In doing so, FAHRION pays particular attention to user-friendly technology oriented towards the practical requirements of the users, which is constantly advanced.

We reserve the right to change the design and specification of any product shown within this catalogue, which does not result in the adverse function of the corresponding tools.

The latest catalogue information is available at any times at **www.fahrion.com**

Eugen Fahrion GmbH & Co. KG
Forststraße 54
73667 Kaisersbach
Germany
Phone +49 7184 9282-0
sales@fahrion.de
www.fahrion.com
shop.fahrion.com

03/25/F-WS-EN // medienmaler.de