Straightening & Guide Rolls

Straightening Rolls

WR, WN and WK rollers have been specifically designed to provide high-quality, consistent straightening. In contrast with lower quality rollers the thick walled outer ring allows direct rolling on the outer surface along with a wide range of groove shapes and profiles. Custom groove profiles may be manufactured on request.

Rollers are constructed from ARNE (oil-hardened tool steel), with high quality ball-bearing steel bearings and polyamide 6.6 ball cages. Designed to bear high loads and operate at high speeds, our rollers are corrosion resistant, provide excellent elasticity, damping and creep resistance and are compatible with most lubricating and drawing oils. Standard rollers are suitable for use at temperatures from -20C to 100°C. Special designs may be requested for more extreme temperatures.

Our straightening rollers are manufactured in accordance with DIN 620 to provide life expectancy, smooth running and ensure consistent straightening. Contactless sealing ensures that friction is minimised for smooth running whilst also ensuring that the high-performance lubricants incorporated into the rollers remain in place. Bearings are generally sealed on both sides. For special applications such as low/high temperature, use in humid environments or exposure to fume or dust, fully sealed bearings may be requested.

Advanced Straightening Roll Designs

A range of advanced designs are available including roller and axle combinations, tool-less quick-release rolls and WICAS® sealed-bearing rolls for exceptionally high loads

Guide Rolls

Heavy duty ball-bearing based guide rolls for a variety of processing needs.

Diameter tolerances: ISO f7, f9, h9.

FA / FB / FC - Hardened Steel
FASH / FBSH / FCSH
60 HRC hardened-steel rolls for general use.

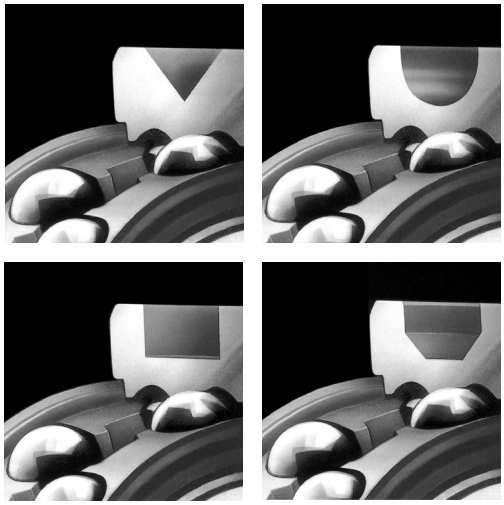
CA / CB / CC - Cromax Steel
CASH / CBSH / CCSH
Cromax hard chromium plated steel rolls for improved corrosion resistance and use with hard or abrasive materials. With a minimum chromium layer thickness of 20µm for extended life.

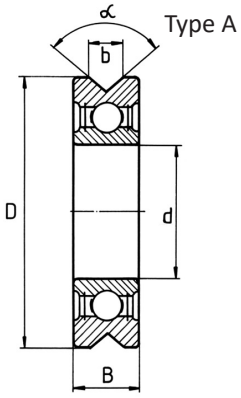
PA / PB / PC - PETP Plastic
PASH / PBSH / PCSH
Rolls in PETP plastic or other materials to suit customer requirements, offering increased corrosion resistance.

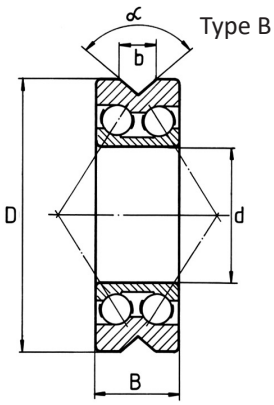
Advanced Guide Roll Designs

Repositionable guide rolls are available, extending the service life of rollers by up to four times and reducing maintenance and replacement costs. Available in three configurations and eight diameters in hardened steel, Cromax or PETP.

WR - Straightening Rolls





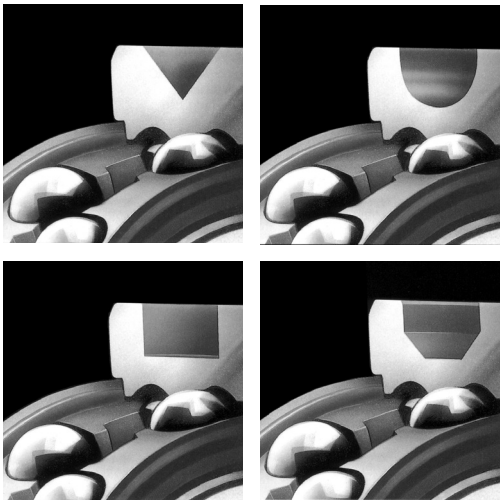


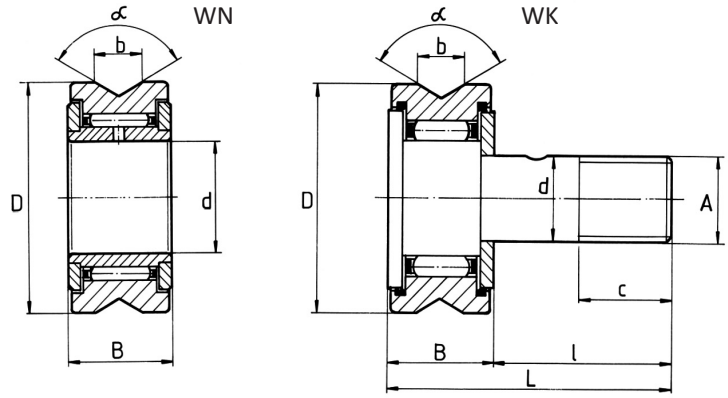
Note:
dyn. C[N] = standard bearing reference "max. force in a radial direction."

WR	Dimensions (mm)								
Order Ref.	d	D	B	α	b	Type	Sealing *	Ø	dyn. C [N]
WR 4	1.5	4	2	100°	0.4	A	2Z	-0.2	78
WR 7	3	7	3	100°	0.6	A	2Z	-0.2	216
WR 10	3	10	4	90°	0.6	A	2Z	-0.4	445
WR 13	4	13	5	90°	0.8	A	2Z	0.2 - 0.5	900
WR 16	4	16	5	90°	1.0	A	2Z	0.5 - 0.8	1880
WR 17	4	17	5	90°	1.0	A	2Z	0.5 - 0.8	1880
WR 19	5	19	6	100°	1.7	A	2Z	1.0 - 1.5	2460
WR 21	6	21	6	90°	2.4	A	2Z	0.7 - 1.4	2460
WR 22	8	22	7	90°	1.7	A	2Z	0.8 - 1.5	3300
WR 23	8	23	7	90°	1.7	A	2Z	0.8 - 1.5	3300
WR 26	8	26	7	90°	3.3	A	2Z	1.0 - 2.5	3300
WR 30	10	30	14	90°	3.2	B	2Z	1.5 - 3.0	8000
WR300	10	30	8	90°	3.3	A	2Z	1.0 - 3.0	4600
WR 31	10	31	14	90°	3.2	B	2Z	1.5 - 3.0	6800
WR 32	10	32	14	90°	4.2	B	2Z	1.5 - 4.0	6800
WR 320	12	32	16	90°	4.2	B	2Z	1.5 - 4.0	10600
WR 3200	10	32	9	90°	4.4	A	2RS	1.5 - 4.0	4350
WR 35	12	35	16	90°	4.7	B	2Z	2.0 - 4.5	8600
WR 350	12	35	10	90°	4.7	A	2Z	2.0 - 4.5	5600
WR 3500	10	35	9	90°	4.5	A	2Z	1.5 - 3.5	6100
WR 3501	9	35	18	U-Groove	Radius = 2	B	2Z / RK	2.0 - 4.0	6700
WR 40	15	40	16	90°	5.0	B	2Z	3.0 - 5.0	9800
WR 400	15	40	11	90°	5.0	A	2RS	3.0 - 5.0	6500
WR 45	12	45	22	110°	10.5	B	2Z / RK	5.0 - 7.0	10600
WR 450	12	45	22	U-Groove	Radius = 4	B	2Z / RK	4.0 - 8.0	10600
WR 47	17	47	17.5	90°	8.2	B	2Z	4.0 - 8.0	12600
WR 470	17	47	12	90°	7.0	A	2RS	4.0 - 7.5	8400
WR 4700	15	47	11	90°	6.5	A	2Z	3.0 - 6.0	8400
WR 4701	15	47	11	90°	9.5	A	2Z	5.0 - 9.0	8400
WR 52	12	52	22	110°	10.5	B	2Z / RK	7.0 - 9.0	10600
WR 520	20	52	20.6	90°	9.4	B	2Z	6.0 - 9.5	15800
WR 5200	20	52	14	100°	8.5	A	2RS	6.0 - 8.5	10500
WR 5201	12	52	22	U-Groove	Radius = 6	B	2Z / RK	8.0 - 12.0	10600
WR 62	25	62	20.6	100°	13.0	B	2Z	6.5 - 10.5	18500
WR 620	25	62	15	100°	9.7	A	2RS	6.5 - 10.0	12500
WR 72	30	72	23.8	100°	12.0	B	2Z	7.0 - 12.0	24600
WR 720	30	72	16	100°	11.0	A	2RS	7.0 - 11.0	16600
WR 74	25	74	35	U-Groove	Radius = 8	B	2Z / RK	8.0 - 16.0	15800
WR 80	25	80	30	100°	22.0	B	2Z / RK	8.0 - 16.0	21600
WR 800	35	80	27	100°	13.0	B	2Z	7.5 - 16.0	30500
WR 8000	35	80	17	100°	12.5	A	2RS	7.5 - 15.0	20200
WR 85	25	85	35	U-Groove	Radius = 12	B	2Z / RK	16.0 - 24.0	21600
WR 1000	30	100	40	U-Groove	Radius = 15	B	2Z / RK	24.0 - 30.0	30000
WR 110	35	110	40	100°	27.0	B	2Z / RK	10.0 - 21.0	39500
WR 125	40	125	50	U-Groove	Radius = 20	B	2Z / RK	30.0 - 40.0	55000
WR 1250	35	125	55	110°	45.0	B	2Z / RK	14.0 - 40.0	51000
WR 1251	35	125	40	100°	30.0	B	2Z / RK	15.0 - 27.0	39500
WR 150	40	150	80	U-Groove	Radius = 30	B	2Z / RK	40.0 - 60.0	100000
WR 1500	40	150	80	100°	46.0	B	2Z / RK	18.0 - 40.0	100000
WR 240	45	240	120	U-Groove	Radius = 50	B	2Z / RK	20.0 - 100.0	164000

*** 2Z = Metal Shields / 2RS = Rubber Contact Seals / RK = Double Lip Rubber Contact Seals**

WN / WK - Straightening Rolls





Note:
dyn. C[N] = standard bearing reference "max. force in a radial direction."

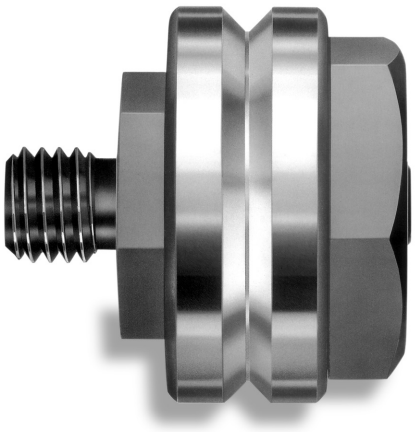
WN	Dimensions (mm)							
Order Ref.	d	D	B	α	b	Sealing *	Ø	dyn. C [N]
WN 16	5	16	12	90°	1.0	2RS	0.5 - 1.0	3150
WN 19	6	19	12	90°	1.7	2RS	0.7 - 1.5	3500
WN 24	8	24	15	90°	3.2	2RS	1.0 - 3.0	5500
WN 30	10	30	15	90°	3.7	2RS	1.5 - 3.5	6800
WN 32	12	32	15	90°	4.7	2RS	1.5 - 4.5	6900
WN 35	15	35	19	90°	5.0	2RS	2.0 - 5.0	9700
WN 40	17	40	21	90°	5.5	2RS	2.5 - 5.5	10900
WN 47	20	47	25	90°	8.5	2RS	3.5 - 8.5	15500
WN 52	25	52	25	100°	9.7	2RS	6.5 - 10.0	15400
WN 62	30	62	29	100°	12.0	2RS	6.0 - 11.0	23600
WN 72	35	72	29	100°	13.0	2RS	7.0 - 13.0	25500
WN 80	40	80	32	110°	17.0	2RS	7.0 - 17.0	33000
WN 90	50	90	32	110°	18.0	2RS	9.0 - 20.0	32000

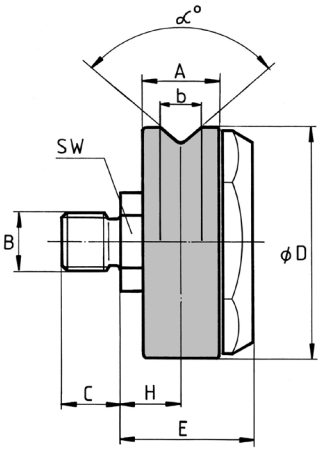
WK	Dimensions (mm)									
Order Ref.	d	D	B	α	b	l	A	Sealing *	Ø	dyn. C [N]
WK 16	6	16	12	90°	1.0	16	M 6 × 1.0	2RS	0.5 - 1.0	3150
WK 19	8	19	12	90°	1.7	20	M 8 × 1.25	2RS	0.7 - 1.5	3500
WK 22	10	22	13	90°	2.0	23	M 10 × 1.0	2RS	0.8 - 1.8	4450
WK 26	10	26	13	90°	3.2	23	M 10 × 1.0	2RS	1.0 - 3.0	5100
WK 30	12	30	15	90°	3.7	25	M 12 × 1.5	2RS	1.5 - 3.5	6800
WK 32	12	32	15	90°	4.7	25	M 12 × 1.5	2RS	1.5 - 4.5	7100
WK 35	16	35	19.5	90°	5.0	32.5	M 16 × 1.5	2RS	2.0 - 5.0	9700
WK 40	18	40	21.5	90°	5.5	36.5	M 18 × 1.5	2RS	2.5 - 5.5	10900
WK 47	20	47	25.5	90°	8.5	40.5	M 20 × 1.5	2RS	3.5 - 8.5	15500
WK 52	20	52	25.5	100°	9.7	40.5	M 20 × 1.5	2RS	6.5 - 10.0	16800
WK 62	24	62	30.5	100°	12.0	49.5	M 24 × 1.5	2RS	6.0 - 11.0	26500
WK 72	24	72	30.5	100°	13.0	49.5	M 24 × 1.5	2RS	7.0 - 13.0	37000
WK 80	30	80	37	110°	17.0	63	M 30 × 1.5	2RS	7.0 - 17.0	39500
WK 90	30	90	37	110°	18.0	63	M 30 × 1.5	2RS	9.5 - 20.0	41500

* 2Z = Metal Shields / 2RS = Rubber Contact Seals / RK = Double Lip Rubber Contact Seals

GB - Roller and Axle Combination

Straightening Rollers complete with axles.



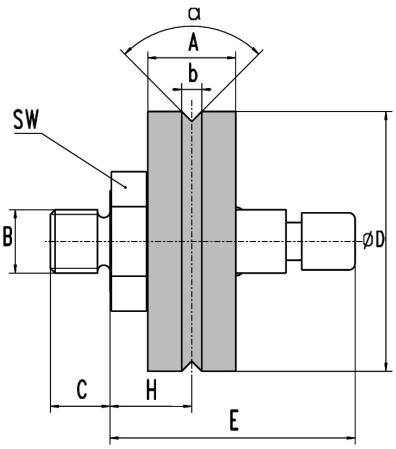


SW = dimension across flats

GB	Dimensions (mm)								
Order Ref.	A	B	C	D	E	H	SW	α	b
GB 13	5	M6	7.5	13	13.5	6	10	90°	0.8
GB 17	5	M6	7.5	17	13.5	6	10	90°	1.0
GB 23	7	M10	9.5	23	17	7	14	90°	1.7
GB 26	7	M10	9.5	26	17	7	14	90°	3.3
GB 31	14	M10	9.5	31	26	13	19	90°	3.2
GB 35	16	M10	9.5	35	27	13	19	90°	4.7
GB 40	16	M12	9.5	40	29.5	13	24	90°	5
GB 45	22	M12	11.5	45	34	16	24	110°	10.5
GB 52	22	M12	11.5	52	34	16	24	110°	10.5
GB 520	20.6	M12	11.5	52	35	17.3	30	90°	9.4
GB 62	20.6	M12	9.5	62	38	15.8	36	100°	13
GB 72	23.8	M20	19.5	72	41.8	18	41	100°	12
GB 80	30	M20	19.5	80	46	22	30	100°	22
GB 800	27	M20	15	80	46	18.5	41	100°	13
GB 110	40	M24	22	110	54.5	21	41	100°	27
GB 1250	55	M24	24	125	66	29	41	110°	45
GB 1500	80	M30	40	150	111.5	52	55	100°	46

FT - Quick Change Rollers

FT rolls and spindles allow rapid change of rolls without the need for tools.

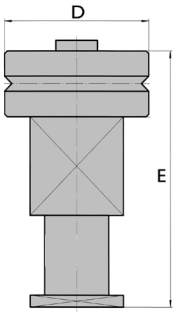


SW = dimension across flats

FT	Dimensions (mm)								
Order Ref.	A	B	C	D	E	H	SW	α	b
FT 22	7	M10	9.5	22	23.5	7	14	90°	1.7
FT 23	7	M10	9.5	23	23.5	7	14	90°	1.7
FT 26	7	M10	9.5	26	23.5	7	14	90°	3.3
FT 31	14	M10	9.5	31	39	13	19	90°	3.2
FT 32	14	M10	7.5	32	39	13	19	90°	4.2
FT 40	16	M12	9.5	40	42.5	13	24	90°	5
FT 45	22	M12	11.5	45	49.5	16	24	110°	10.5
FT 52	22	M12	11.5	52	49.5	16	24	110°	10.5
FT 520	20.6	M12	11.5	52	54.9	17.3	30	90°	9.4
FT 62	20.6	M12	9.5	62	53.4	15.8	30	100°	13
FT 72	23.8	M20	19	72	63.5	17.9	41	100°	12
FT 80	30	M20	19	80	70.5	21.8	30	100°	22
FT 800	27	M20	15.5	80	66	18.5	41	100°	13
FT 110	40	M24	22	110	69	21	41	100°	27

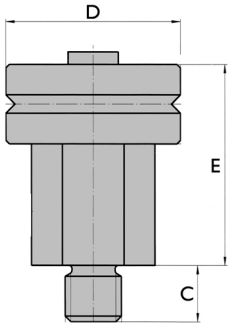
NC/GC - WICAS Cartridge System®

Rolls for harsh environments and high loads with sealed roller bearings and solid rolls.



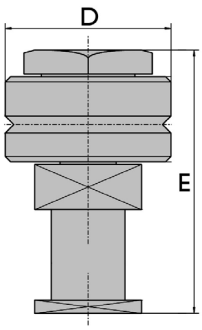
NC	Dimensions (mm)				
Order Ref.	NC 13	NC 17	NC 23	NC 31	NC 40
D	13	17	23	31	40
E	41	42	51	51	76.5

Detailed dimensions on request

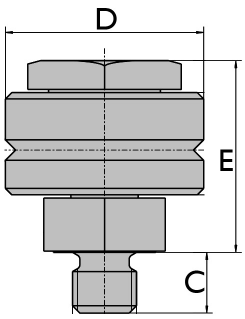


GC	Dimensions (mm)				
Order Ref.	GC 13	GC 17	GC 23	GC 31	GC 40
C	7.5	7.5	9.8	9.8	11.5
D	13	17	23	31	40
E	23.5	24.5	31.5	31.5	53.5

HS N/HS G - Rolls for High Speeds

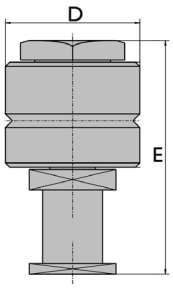


HS N	Dimensions (mm)				
Order Ref.	HS 14 N	HS 17 N	HS 23 N	HS 31 N	HS 40 N
D	14	17	23	31	40
E	44	44	45.5	49.5	60

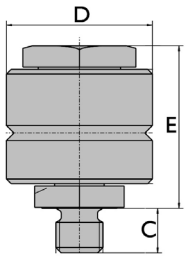


HS G	Dimensions (mm)				
Order Ref.	HS 14 G	HS 17 G	HS 23 G	HS 31 G	HS 40 G
C	7.5	7.5	9.5	9.5	11.5
D	14	17	23	31	40
E	26.5	26.5	26	30	37

HL N/HL G - Rolls for High Loads



HL N	Dimensions (mm)		
Order Ref.	HL 17 N	HL 23 N	HL 31 N
D	17	23	31
E	54	49.5	53.5

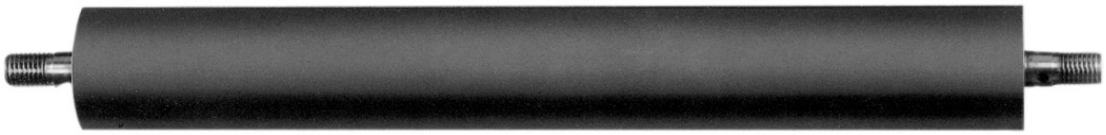


HL G	Dimensions (mm)		
Order Ref.	HL 17 G	HL 23 G	HL 31 G
C	7.5	9.5	9.5
D	17	23	31
E	36.5	30	34
F	M6	M10	M10

CA/CB/CC / FA/FB/FC / PA/PB/PC - Guide Rolls

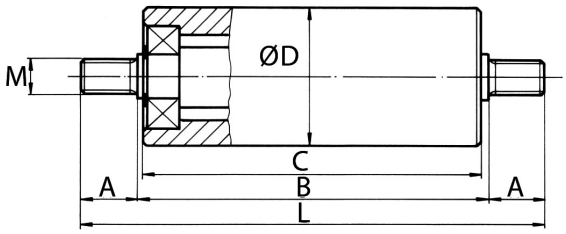
CA - Cromax Steel - For general use

FA - Hardened Steel - For hard or abrasive materials e.g. steel, copper, copper alloys

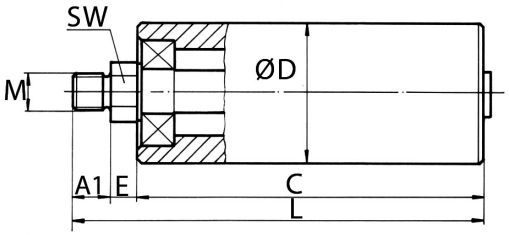


PA - PETP Plastic - Non marking & corrosion resistant

CA / FA / PA

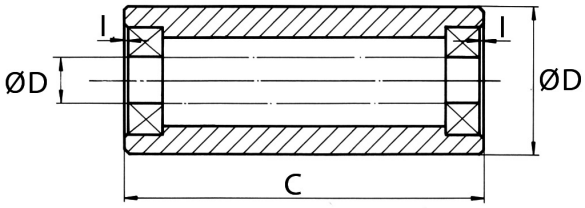


CB / FB / PB



SW = dimension across flats

CC / FC / PC



How to Order

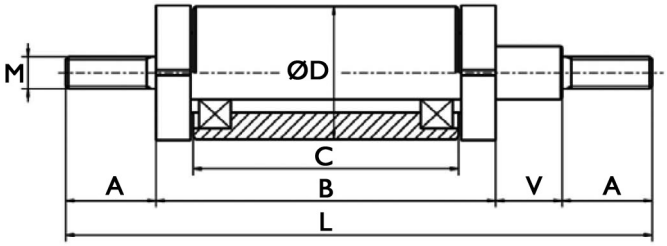
Type Ref.	ØD	Customer Required Length [C](mm)
FA	20	XXX mm

	CA / CB / CC Cromax Steel			FA / FB / FC Hardened Steel		PA / PB / PC PEPT Plastic		
Order Ref.	Dimensions (mm)							
ØD	A	B	A1	E	C	SW	M	d	I
20	17	C + 2	12	6	to order	13	M8*	8	1
25	17	C + 2	12	6	to order	13	M8	10	1
30	24	C + 2	16	7.5	to order	17	M8	10	1
40	34	C + 2	24	10	to order	19	M12	15	2
50	34	C + 2	24	10	to order	24	M12	20	2
60	45	C + 3	32	13	to order	30	M16	25	2
70	45	C + 3	32	13	to order	30	M16	25	2
80	56	C + 4	40	16	to order	36	M20	30	2
90	56	C + 4	40	16	to order	41	M24	35	3
100	67	C + 4	48	19	to order	55	M24	40	4
110	67	C + 4	48	19	to order	55	M24	40	4

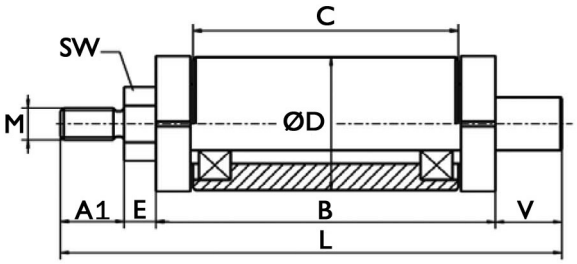
* FA20 = M6

SH - Guide Rolls to fit Roller Guides ZR SH (page 84)

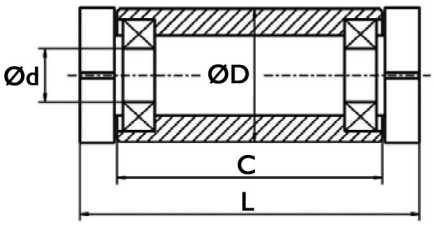
In many processes, product only makes contact with approximately 25% of the guide roll. This causes uneven wear, necessitating premature replacement of rolls where much of the surface is still usable. ZR SH Guide Roll Assemblies offer increased roll lifetime by allowing the rolls to be moved as they wear. Friction clamping rings facilitate tool-less repositioning of the rollers, enabling users to change the point of contact, utilise the entire roll and extend service life by up to four times.



FA SH / CA SH / PA SH



FB SH / CB SH / PB SH



FC SH / CC SH / PC SH

SW = dimension across flats

FA SH, FB SH, FC SH - Hardened steel - For general use

CA SH, CB SH, CC SH - Cromax steel - For hard or abrasive materials e.g. steel, copper, copper alloys

PA SH, PB SH, PC SH - PEPT plastic - Non marking and corrosion resistant

How to Order

Type Ref.	ØD	Customer Required Length [C](mm)
FA SH	40	XXX mm

FA SH / FB SH / FC SH / CA SH / CB SH / CC SH / PA SH / PB SH / PC SH									
Order Ref.	Dimensions (mm)								
ØD	A	B	A1	E	C	SW	M	d	V
40	34	C+22	24	10	to order	19	M 12	15	20
50	34	C+28	24	10	to order	24	M 12	20	25
60	45	C+28	32	13	to order	30	M 16	25	30
70	45	C+28	32	13	to order	30	M 16	25	35
80	56	C+28	40	16	to order	36	M 20	30	40
90	56	C+28	40	16	to order	41	M 24	35	45
100	67	C+28	48	23	to order	55	M 24	35	50
110	67	C+28	48	23	to order	55	M 24	35	55