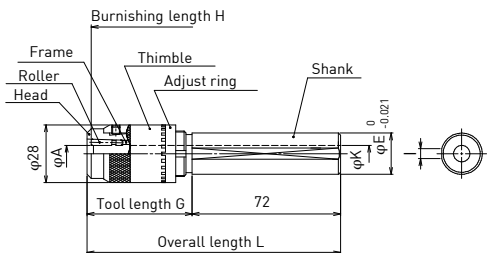


Superroll CSA Selection Chart

Workpiece size $\phi 3 - \phi 7$

Dimensional Drawing (mm)



* Tool length G and Overall length L varies between the range in the table below by adjusting the tool diameter.

Tool model	Tool diameter adjustment range A Max. - Min.	Burnishing length H mm	Tool length G mm	Shank		Overall length L mm	Part No.						
				Diameter E mm	Through hole diameter K mm		Thimble	Roller		Head	Frame		
CSA300 □	3.05 - 2.85	Burnishing is available up to Overall length L	48-51.2	φ19.05 φ20 φ22 φ25 φ25.4	8	120-123.2	CTA1	B007R	4	CH300	FA300		
CSA310 □	3.15 - 2.95									CH310	FA310		
CSA320 □	3.25 - 3.05									CH320	FA320		
CSA330 □	3.35 - 3.15									CH330	FA330		
CSA340 □	3.45 - 3.25									CH340	FA340		
CSA350 □	3.55 - 3.35									CH350	FA350		
CSA360 □	3.65 - 3.45									CH360	FA360		
CSA370 □	3.75 - 3.55									CH370	FA370		
CSA380 □	3.85 - 3.65									CH380	FA380		
CSA390 □	3.95 - 3.75									CH390	FA390		
CSA400 □	4.05 - 3.85									CH400	FA400		
CSA410 □	4.15 - 3.95									CH410	FA410		
CSA420 □	4.25 - 4.05									CH420	FA420		
CSA430 □	4.35 - 4.15									CH430	FA430		
CSA440 □	4.45 - 4.25									CH440	FA440		
CSA450 □	4.55 - 4.35									CH450	FA450		
CSA460 □	4.65 - 4.45									CH460	FA460		
CSA470 □	4.75 - 4.55									CH470	FA470		
CSA480 □	4.85 - 4.65									CH480	FA480		
CSA490 □	4.95 - 4.75									CH490	FA490		
CSA500 □	5.05 - 4.85	Burnishing is available up to Overall length L	48-51.2	φ19.05 φ20 φ22 φ25 φ25.4	8	120-123.2	CTA1	B007R	5	CH500	FA500		
CSA510 □	5.15 - 4.95									CH510	FA510		
CSA520 □	5.25 - 5.05									CH520	FA520		
CSA530 □	5.35 - 5.15									CH530	FA530		
CSA540 □	5.45 - 5.25									CH540	FA540		
CSA550 □	5.55 - 5.35									CH550	FA550		
CSA560 □	5.65 - 5.45									CH560	FA560		
CSA570 □	5.75 - 5.55									CH570	FA570		
CSA580 □	5.85 - 5.65									CH580	FA580		
CSA590 □	5.95 - 5.75									CH590	FA590		
CSA600 □	6.05 - 5.85									CH600	FA600		
CSA610 □	6.15 - 5.95									CH610	FA610		
CSA620 □	6.25 - 6.05									CH620	FA620		
CSA630 □	6.35 - 6.15									CH630	FA630		
CSA640 □	6.45 - 6.25									CH640	FA640		
CSA650 □	6.55 - 6.35									CH650	FA650		
CSA660 □	6.65 - 6.45									CH660	FA660		
CSA670 □	6.75 - 6.55									CH670	FA670		
CSA680 □	6.85 - 6.65									CH680	FA680		
CSA690 □	6.95 - 6.75									CH690	FA690		
CSA700 □	7.05 - 6.85	CH700	FA700										

Specifying Tool model

CSA ○○○○ □

E.g.: CSA300A

Shank model (either A, B, F, C or D)
* Refer to below table for Shank model.

Tool model No. = Workpiece size x 100

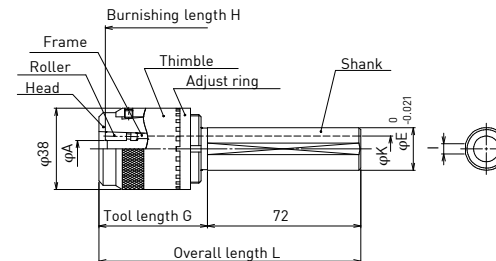
Shank model	A	B	F	C	D
Shank diameter E (mm)	φ19.05	φ20	φ22	φ25	φ25.4
Cut width I (mm)	4.7	4.9	5.1	5.4	5.5

About tool selections

- The □ at the end of Tool model is a letter of the alphabet (either A, B, F, C or D). The alphabet varies depending on Shank model.
- Shanks other than those listed below are also available, however the Burnishing length H may be limited depending on the requested shank specifications.

Workpiece size $\phi 7.1 - \phi 11$

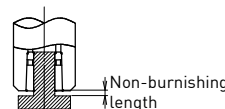
Dimensional Drawing (mm)



* Tool length G and Overall length L varies between the range in the table below by adjusting the tool diameter.

Tool model	Tool diameter adjustment range A Max. - Min.	Burnishing length H mm	Tool length G mm	Shank		Overall length L mm	Part No.						
				Diameter E mm	Through hole diameter K mm		Thimble	Roller		Head	Frame		
CSA710 □	7.15 - 6.95	Burnishing is available up to Overall length L	48-51.2	φ19.05 φ20 φ22 φ25 φ25.4	12	120-123.2	CTA2	B009R	5	CH710	FA710		
CSA720 □	7.25 - 7.05									CH720	FA720		
CSA730 □	7.35 - 7.15									CH730	FA730		
CSA740 □	7.45 - 7.25									CH740	FA740		
CSA750 □	7.55 - 7.35									CH750	FA750		
CSA760 □	7.65 - 7.45									CH760	FA760		
CSA770 □	7.75 - 7.55									CH770	FA770		
CSA780 □	7.85 - 7.65									CH780	FA780		
CSA790 □	7.95 - 7.75									CH790	FA790		
CSA800 □	8.05 - 7.85									CH800	FA800		
CSA810 □	8.15 - 7.95									CH810	FA810		
CSA820 □	8.25 - 8.05									CH820	FA820		
CSA830 □	8.35 - 8.15									CH830	FA830		
CSA840 □	8.45 - 8.25									CH840	FA840		
CSA850 □	8.55 - 8.35									CH850	FA850		
CSA860 □	8.65 - 8.45									CH860	FA860		
CSA870 □	8.75 - 8.55									CH870	FA870		
CSA880 □	8.85 - 8.65									CH880	FA880		
CSA890 □	8.95 - 8.75									CH890	FA890		
CSA900 □	9.05 - 8.85									CH900	FA900		
CSA910 □	9.15 - 8.95	CH910	FA910										
CSA920 □	9.25 - 9.05	CH920	FA920										
CSA930 □	9.35 - 9.15	CH930	FA930										
CSA940 □	9.45 - 9.25	CH940	FA940										
CSA950 □	9.55 - 9.35	CH950	FA950										
CSA960 □	9.65 - 9.45	CH960	FA960										
CSA970 □	9.75 - 9.55	CH970	FA970										
CSA980 □	9.85 - 9.65	CH980	FA980										
CSA990 □	9.95 - 9.75	CH990	FA990										
CSA1000 □	10.05 - 9.85	CH1000	FA1000										
CSA1010 □	10.15 - 9.95	CH1010	FA1010										
CSA1020 □	10.25 - 10.05	CH1020	FA1020										
CSA1030 □	10.35 - 10.15	CH1030	FA1030										
CSA1040 □	10.45 - 10.25	CH1040	FA1040										
CSA1050 □	10.55 - 10.35	CH1050	FA1050										
CSA1060 □	10.65 - 10.45	CH1060	FA1060										
CSA1070 □	10.75 - 10.55	CH1070	FA1070										
CSA1080 □	10.85 - 10.65	CH1080	FA1080										
CSA1090 □	10.95 - 10.75	CH1090	FA1090										
CSA1100 □	11.05 - 10.85	CH1100	FA1100										

Non-burnishing length



Workpiece size (mm)	Non-burnishing length (mm)
3.0- 7.0	0.8
7.1- 11.0	

*Non-burnishing length above keeps a clearance 0.5mm between Superroll and a workpiece bottom surface.

* To minimize non-burnishing length for Superroll burnishing, grind off Head protruded length from Roller tip to the same position as Roller tip after setting a tool diameter.

Burnishing conditions (Reference)

Workpiece size (mm)	Rotation speed (min ⁻¹)	Feed rate (mm/rev)
3.0- 7.0	800-1,200	0.2-0.4
7.1- 11.0	600-800	0.2-0.4

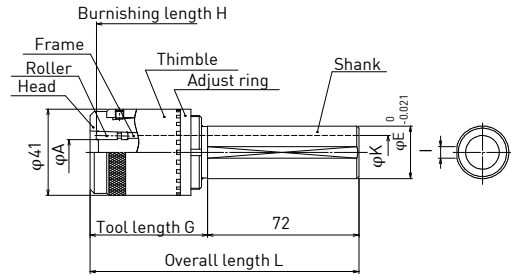
* Burnishing conditions are reference only, and do not guarantee that they will achieve the customers' required values.

* Actual burnishing conditions vary depending on the material and conditions before burnishing, so these values should be used as a reference.

Superroll CSA Selection Chart

Workpiece size $\phi 11.1 - \phi 14.9$

Dimensional Drawing (mm)



* Tool length G and Overall length L varies between the range in the table below by adjusting the tool diameter.

Tool model	Tool diameter adjustment range A		Burnishing length H mm	Tool length G mm	Shank		Overall length L mm	Part No.				
	Max.	Min.			Diameter E mm	Through hole diameter K mm		Thimble	Roller		Head	Frame
CSA1110□	11.15	10.95	Burnishing is available up to Overall length L	53-56.2	$\phi 25$ $\phi 25.4$	16	125-128.2	CTA3	B009R	5	CH1110	FA1110
CSA1120□	11.25	11.05									CH1120	FA1120
CSA1130□	11.35	11.15									CH1130	FA1130
CSA1140□	11.45	11.25									CH1140	FA1140
CSA1150□	11.55	11.35									CH1150	FA1150
CSA1160□	11.65	11.45									CH1160	FA1160
CSA1170□	11.75	11.55									CH1170	FA1170
CSA1180□	11.85	11.65									CH1180	FA1180
CSA1190□	11.95	11.75									CH1190	FA1190
CSA1200□	12.05	11.85									CH1200	FA1200
CSA1210□	12.15	11.95									CH1210	FA1210
CSA1220□	12.25	12.05									CH1220	FA1220
CSA1230□	12.35	12.15									CH1230	FA1230
CSA1240□	12.45	12.25									CH1240	FA1240
CSA1250□	12.55	12.35									CH1250	FA1250
CSA1260□	12.65	12.45									CH1260	FA1260
CSA1270□	12.75	12.55									CH1270	FA1270
CSA1280□	12.85	12.65									CH1280	FA1280
CSA1290□	12.95	12.75									CH1290	FA1290
CSA1300□	13.05	12.85									CH1300	FA1300
CSA1310□	13.15	12.95									CH1310	FA1310
CSA1320□	13.25	13.05									CH1320	FA1320
CSA1330□	13.35	13.15									CH1330	FA1330
CSA1340□	13.45	13.25									CH1340	FA1340
CSA1350□	13.55	13.35									CH1350	FA1350
CSA1360□	13.65	13.45									CH1360	FA1360
CSA1370□	13.75	13.55									CH1370	FA1370
CSA1380□	13.85	13.65									CH1380	FA1380
CSA1390□	13.95	13.75									CH1390	FA1390
CSA1400□	14.05	13.85									CH1400	FA1400
CSA1410□	14.15	13.95									CH1410	FA1410
CSA1420□	14.25	14.05									CH1420	FA1420
CSA1430□	14.35	14.15									CH1430	FA1430
CSA1440□	14.45	14.25									CH1440	FA1440
CSA1450□	14.55	14.35									CH1450	FA1450
CSA1460□	14.65	14.45									CH1460	FA1460
CSA1470□	14.75	14.55									CH1470	FA1470
CSA1480□	14.85	14.65									CH1480	FA1480
CSA1490□	14.95	14.75									CH1490	FA1490

Specifying Tool model

CSA □ E.g.: CSA1110C
 Shank model (either C or D)
 * Refer to below table for Shank model.
 Tool model No. = Workpiece size x 100

Shank model	C	D
Shank diameter E [mm]	$\phi 25$	$\phi 25.4$
Cut width I [mm]	5.4	5.5

Burnishing conditions (Reference)

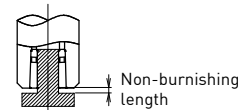
Workpiece size [mm]	Rotation speed [min^{-1}]	Feed rate [mm/rev]
11.1- 14.9	600-800	0.2-0.6

* Burnishing conditions are reference only, and do not guarantee that they will achieve the customers' required values.
 * Actual burnishing conditions vary depending on the material and conditions before burnishing, so these values should be used as a reference.

About tool selections

- The □ at the end of the Tool model is a letter of the alphabet (either A, B, F, C or D). The alphabet varies depending on Shank model.
- Shanks other than those listed above are also available, however the Burnishing length H may be limited depending on the requested shank specifications.

Non-burnishing length



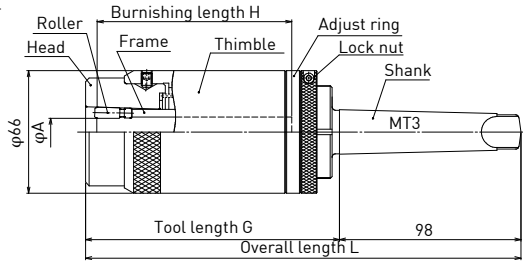
Workpiece size [mm]	Non-burnishing length [mm]
11.1- 14.9	0.8

* Non-burnishing length above keeps a clearance 0.5mm between Superroll and a workpiece bottom surface.
 * To minimize non-burnishing length for Superroll burnishing, grind off Head protruded length from Roller tip to the same position as Roller tip after setting a tool diameter.

Superroll SA Selection Chart

Dimensional Drawing (mm)

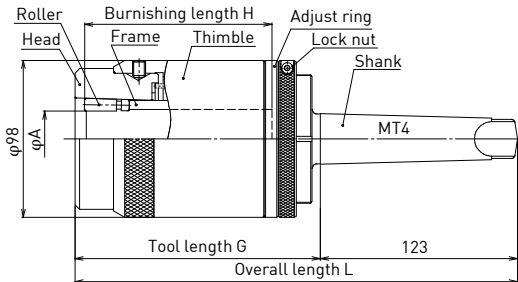
Workpiece size $\phi 15 - \phi 24$



* Tool length G and Overall length L varies between the range in the table below by adjusting the tool diameter.

Tool model	Tool diameter adjustment range A		Burnishing length H mm	Tool length G mm	Overall length L mm	Part No.					
	Max.	Min.				Thimble	Roller		Head	Frame	Shank
SA1500	15.1	13.9	115	132-151.2	230-249.2	TA2	B012	7	H1500	SA1500FR	MT3
SA1600	16.1	14.9							H1600	SA1600FR	
SA1700	17.1	15.9							H1700	SA1700FR	
SA1800	18.1	16.9							H1800	SA1800FR	
SA1900	19.1	17.9							H1900	SA1900FR	
SA2000	20.1	18.9							H2000	SA2000FR	
SA2100	21.1	19.9							H2100	SA2100FR	
SA2200	22.1	20.9							H2200	SA2200FR	
SA2300	23.1	21.9							H2300	SA2300FR	
SA2400	24.1	22.9							H2400	SA2400FR	

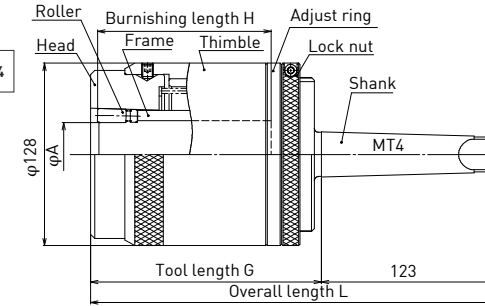
Workpiece size $\phi 25 - \phi 44$



* Tool length G and Overall length L varies between the range in the table below by adjusting the tool diameter.

Tool model	Tool diameter adjustment range A		Burnishing length H mm	Tool length G mm	Overall length L mm	Part No.					
	Max.	Min.				Thimble	Roller		Head	Frame	Shank
SA2500	25.1	23.9	125	147-166.2	270-289.2	TA3	B014	7	H2500	SA2500FR	MT4
SA2600	26.1	24.9							H2600	SA2600FR	
SA2700	27.1	25.9							H2700	SA2700FR	
SA2800	28.1	26.9							H2800	SA2800FR	
SA2900	29.1	27.9							H2900	SA2900FR	
SA3000	30.1	28.9							H3000	SA3000FR	
SA3100	31.1	29.9							H3100	SA3100FR	
SA3200	32.1	30.9							H3200	SA3200FR	
SA3300	33.1	31.9							H3300	SA3300FR	
SA3400	34.1	32.9							H3400	SA3400FR	
SA3500	35.1	33.9							H3500	SA3500FR	
SA3600	36.1	34.9							H3600	SA3600FR	
SA3700	37.1	35.9				H3700	SA3700FR				
SA3800	38.1	36.9				H3800	SA3800FR				
SA3900	39.1	37.9				H3900	SA3900FR				
SA4000	40.1	38.9				H4000	SA4000FR				
SA4100	41.1	39.9				H4100	SA4100FR				
SA4200	42.1	40.9				H4200	SA4200FR				
SA4300	43.1	41.9				H4300	SA4300FR				
SA4400	44.1	42.9				H4400	SA4400FR				

Workpiece size $\phi 45 - \phi 64$



* Tool length G and Overall length L varies between the range in the table below by adjusting the tool diameter.

Tool model	Tool diameter adjustment range A		Burnishing length H mm	Tool length G mm	Overall length L mm	Part No.					
	Max.	Min.				Thimble	Roller		Head	Frame	Shank
SA4500	45.1	43.9	130	157-176.2	280-299.2	TA4	B016	9	H4500	SA4500FR	MT4
SA4600	46.1	44.9							H4600	SA4600FR	
SA4700	47.1	45.9							H4700	SA4700FR	
SA4800	48.1	46.9							H4800	SA4800FR	
SA4900	49.1	47.9							H4900	SA4900FR	
SA5000	50.1	48.9							H5000	SA5000FR	
SA5100	51.1	49.9							H5100	SA5100FR	
SA5200	52.1	50.9							H5200	SA5200FR	
SA5300	53.1	51.9							H5300	SA5300FR	
SA5400	54.1	52.9							H5400	SA5400FR	
SA5500	55.1	53.9							H5500	SA5500FR	
SA5600	56.1	54.9						H5600	SA5600FR		
SA5700	57.1	55.9						H5700	SA5700FR		
SA5800	58.1	56.9						H5800	SA5800FR		
SA5900	59.1	57.9						H5900	SA5900FR		
SA6000	60.1	58.9						H6000	SA6000FR		
SA6100	61.1	59.9						H6100	SA6100FR		
SA6200	62.1	60.9						H6200	SA6200FR		
SA6300	63.1	61.9						H6300	SA6300FR		
SA6400	64.1	62.9						H6400	SA6400FR		

Specifying Tool model

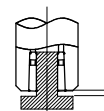
SA OOOO

Tool model No. = Workpiece size x 100

About tool selections

- Shank is also available for shanks other than Morse tapered shanks.
 - Sizes other than the sizes listed in the selection chart are also available.
- Please contact your nearest sales office by using the catalog inquiry sheet, or use the inquiry form on the homepage.

Non-burnishing length



Non-burnishing length

Workpiece size (mm)	Non-burnishing length (mm)
15- 64	1.8

- Non-burnishing length above keeps a clearance 0.5mm between Superroll and a workpiece bottom surface.
- To minimize non-burnishing length for Superroll burnishing, grind off Head protruded length from Roller tip to the same position as Roller tip after setting a tool diameter.

About the tool weight (Reference only)

Tool model	Weight (kg)
SA1500 - SA2400	2.8 - 2.9
SA2500 - SA4400	6.0 - 6.5
SA4500 - SA6400	10 - 12

- When SA type Superrolls use the same thimble size, a smaller tool size Superroll has bigger weight.
- E.g) SA4500: 12kg SA6400: 10kg
- Please check the allowable tool weight for your driving machine before using the tool.
- Please contact us if a specific tool weight is required.

Burnishing conditions (Reference)

Workpiece size (mm)	Rotation speed (min ⁻¹)	Feed rate (mm/rev)
15- 24	400-450	0.3-0.8
25- 44	350-550	0.4-1.0
45- 64	250-400	0.6-1.5

- Burnishing conditions are reference only, and do not guarantee that they will achieve the customers' required values.
- Actual burnishing conditions vary depending on the material and conditions before burnishing, so these values should be used as a reference.