# Telescoping RF

Female (outer)		uter)	Nominal Clearance		Male (	(inner)	Fem	Female (outer)		Nominal Clearance		Male (inner)		Female (outer		uter)	er) Nominal Clearance		Male (inner)	
			top	side		b	d			top	side		b	d			top	side		
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
	SQU	ARE H	IOLLO	W SEC	TIONS		89	89	3.5	7.0	7.0	75	75	75	50	1.6	6.8	11.8	65	35
13	13	1.8					89	89	5.0	4.0	4.0	75	75	75	50	2.0	6.0	11.0	65	35
				No Se Availa			89	89	6.0	2.0	2.0	75	75	75	50	2.5	5.0	10.0	65	35
15	15	1.8	1.0			15	90	90	2.0	11.0	11.0	75	75	75	50	3.0	4.0	9.0	65	35
20	20	1.6	1.8	1.8 1.8	15 20	15	90	90	2.5	10.0	10.0	75	75	75	50	4.0	2.0	7.0	65	35
25 25	25 25	1.6 2.0	1.8 1.0	1.8	20	20 20	100	100	2.0	6.0	6.0	90	90	75 75	50	5.0	0.0	5.0	<b>65</b>	<b>35</b>
25 25	25 25	2.0	0.0	0.0	20	20	100 100	100 100	2.5 3.0	5.0 4.0	5.0	90 90	90 90	100	50	6.0	13.0	13.0	50 75	25 25
30	30	1.6	1.8	1.8	25	25	100	100	3.0 4.0	4.0 2.0	4.0 2.0	90 90	90 90	100	50 50	1.6 2.0	21.8 21.0	21.8 21.0	75 75	∠5 25
30	30	2.0	1.0	1.0	25	25	100	100	4.0 5.0	2.0 <b>0.0</b>	2.0 <b>0.0</b>	90 90	90 90	100	50	2.0	21.0	20.0	75	25 25
35	35	1.6	1.8	1.8	30	30	100	100	6.0	13.0	13.0	75	75	100	50	3.0	19.0	19.0	75	25
35	35	2.0	1.0	1.0	30	30	100	100	9.0	7.0	7.0	75	75	100	50	3.5	18.0	18.0	75	25
35	35	2.5	0.0	0.0	30	30	125	125	4.0	17.0	17.0	100	100	100	50	4.0	17.0	17.0	75	25
35	35	3.0	4.0	4.0	25	25	125	125	5.0	15.0	15.0	100	100	100	50	5.0	15.0	15.0	75	25
40	40	1.6	1.8	1.8	35	35	125	125	6.0	13.0	13.0	100	100	100	50	6.0	13.0	13.0	75	25
40	40	2.0	1.0	1.0	35	35	125	125	9.0	7.0	7.0	100	100	100	50	1.6	31.8	11.8	65	35
40	40	2.5	0.0	0.0	35	35	150	150	5.0	15.0	15.0	125	125	100	50	2.0	31.0	11.0	65	35
40	40	3.0	4.0	4.0	30	30	150	150	6.0	13.0	13.0	125	125	100	50	2.5	30.0	10.0	65	35
40	40	4.0	2.0	2.0	30	30	150	150	9.0	7.0	7.0	125	125	100	50	3.0	29.0	9.0	65	35
50	50	1.6	6.8	6.8	40	40	200	200	5.0	40.0	40.0	150	150	100	50	3.5	28.0	8.0	65	35
50	50	2.0	6.0	6.0	40	40	200	200	6.0	38.0	38.0	150	150	100	50	4.0	27.0	7.0	65	35
50	50	2.5	5.0	5.0	40	40	200	200	9.0	32.0	32.0	150	150	100	50	5.0	25.0	5.0	65	35
50	50	3.0	4.0	4.0	40	40	250	250	6.0	38.0	38.0	200	200	100	50	6.0	23.0	3.0	65	35
50	50	4.0	2.0	2.0	40	40	250	250	9.0	32.0	32.0	200	200	125	75	2.0	21.0	21.0	100	50
50	50	5.0	0.0	0.0	40	40	DF	CTAN			LOW	SECTIO	ONS	125	75	2.5	20.0	20.0	100	50
65	65	1.6	11.8	11.8	50	50								125	75	3.0	19.0	19.0	100	50
65	65	2.0	11.0	11.0	50	50	50	20	1.6					125	75	4.0	17.0	17.0	100	50
65	65	2.5	10.0	10.0	50	50	50 50	20 20	2.0 2.5		No Se Avail			125	75	5.0	15.0	15.0	100	50
65	65	3.0	9.0	9.0	50	50	50 50	20	2.5 3.0		Avan	abie		125	75	6.0	13.0	13.0	100	50
65	65	4.0	7.0	7.0	50	50	50	20	1.6					150	100	4.0	17.0	17.0	125	75
65	65	5.0	5.0	5.0	50	50	50	25 25	2.0					150	100	5.0	15.0	15.0	125	75
65	65	6.0	3.0	3.0	50	50	50	25 25	2.0		No Se Avail			150	100	6.0	13.0	13.0	125	75
75	75	2.0	6.0	6.0	65	65	50	25	3.0					150	100	9.0	7.0	7.0	125	75
75	75	2.5	5.0	5.0	65	65	65	35	2.0	11.0	6.0	50	25	200	100	4.0	42.0	42.0	150	50
75	75	3.0	4.0	4.0	65	65	65	35	2.0	10.0	5.0	50	25	200	100	5.0	40.0	40.0	150	50
75	75	3.5	3.0	3.0	65	65	65	35	3.0	9.0	4.0	50	25	200	100	6.0	38.0	38.0	150	50
75	75	4.0	2.0	2.0	65	65	65	35	4.0	7.0	2.0	50	25	200	100	9.0	32.0	32.0	150	50
75	75	5.0	0.0	0.0	65	65	75	25	1.6	21.8	1.8	50	20	250	150	5.0	40.0	40.0	200	100
75	75	6.0	13.0	13.0	50	50	75	25	2.0	21.0	1.0	50	20	250	150	6.0	38.0	38.0	200	100
							75	25	2.5	20.0	0.0	50	20	250	150	9.0	32.0	32.0	200	100

## NOTE

RHS is not a precision tube and all dimensions shown in the chart, although in accordance with the specifications, may vary marginally within the tolerance bands permitted.

Sizes shown in bold print are sizes that provide a clearance of less than 2.0mm. The internal weld bead and variation in corner radii between sections will need to be considered when closer fits are indicated. Where telescoping over some length is desired, additional allowance may be needed for straightness. For tight fits it is recommended that some form of testing be carried out prior to committing material.

## HOW TO USE THIS CHART

1. Select the appropriate table for the type of hollow section required. Select the size of female (or outside) member closest to your requirements for the left hand column.

2. Depending on the application select the clearance required between the two members. Members may need to slide freely inside each other, or be locked with a pin, spot welded or fixed with wedges. This means, in some cases, a 'sloppy' fit may be suitable, while for others the tightest fit possible may be more appropriate.

3. Having selected the most suitable clearance for your application. take the appropriate size of the male (inner) section from the right hand column, eq:

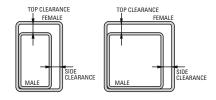




4. Where two telescoping sections are being used, thickness should be similar and will be determined by normal structural requirements. If a third section is to be used, consideration of both clearance and thickness within the size list available may be required.

5. RHS has the obvious advantage that its shape prevents rotation of the sections. When pipe is used it may need to be fixed against twisting by welding or bolting.

6. Press Fit. For short pieces with no need for separation or sliding an interference fit can be achieved using the available ductility of the steel



Note:

Sizes where clearance is shown as 0.0 will generally require press fit.



# **Telescoping CHS**

Female (outer) Size					Male (inner) Size	Minimum		Female (outer) Size				Male (inner) Size	Minimum
DN	Quality	d <sub>o</sub>	t	DN	d <sub>o</sub>	Clearance mm	DN	Quality	d <sub>o</sub>	t	DN	d <sub>o</sub>	Clearance mm
15	Light	21.3	Х	-	-	-	65	Extra Light	76.1	х	50	60.3	9.8
	Medium		2.6	-	-	-		Galtube <sup>®</sup>		2.6	50	60.3	9.2
	Heavy		3.2	-	-	-		Light		3.2	50	60.3	8.0
20	Extra Light	26.9	х	15	21.3	0.4		Medium		3.6	50	60.3	7.2
25	Extra Light	33.7	х	20	26.9	1.6		Heavy		4.5	50	60.3	5.4
	Light		2.6	20	26.9	0.4		Extra Heavy		5.9	50	60.3	2.6
	Medium		3.2	15	21.3	4.8	80	Light	88.9	х	65	76.1	4.8
	Heavy		4.0	15	21.3	3.2		Medium		4.0	65	76.1	3.2
32	Extra Light	42.4	х	25	33.7	3.5		Heavy		5.0	65	76.1	1.2
	Light		2.6	25	33.7	2.3		Extra Heavy		5.9	50	60.3	15.3
	Medium		3.2	25	33.7	1.1	90	Extra Light	101.6	Х	80	88.9	5.6
	Heavy		4.0	20	26.9	6.3		Light		3.2	80	88.9	4.4
40	Extra Light	48.3	х	32	42.4	0.1		Medium		4.0	80	88.9	2.8
	Light		2.9	25	33.7	7.6		Heavy		5.0	80	88.9	0.8
	Medium		3.2	25	33.7	7.0	100	Extra Light	114.3	х	90	101.6	4.1
	Heavy		4.0	25	33.7	5.4		Light		3.6	90	101.6	3.3
	Extra Heavy		5.4	25	33.7	2.6		Medium		4.5	90	101.6	1.5
50	Extra Light	60.3	х	40	48.3	6.4		Heavy		5.4	80	88.9	12.6
	Light		2.9	40	48.3	5.2	125	Extra Light	139.7	Х	100	114.3	16.9
	Medium		3.6	40	48.3	3.8		Light		3.5	100	114.3	15.9
	Heavy		4.5	40	48.3	2.0		Medium		5.0	100	114.3	12.9
	Extra Heavy		5.4	40	48.3	0.2		Heavy		5.4	100	114.3	12.1
							150	Light	165.1	х	125	139.7	15.4
								Medium		5.0	125	139.7	12.4
								Heavy		5.4	125	139.7	11.6

## NOTE

Clearance = (AS1163 Min  $d_0$  - 2t) - (AS1163 Max  $d_0$ )

CHS is not a precision tube and all dimensions shown in the chart, although in accordance with the specifications, may vary marginally within the tolerance bands permitted.

Sizes shown in bold print are sizes that provide a clearance of less than 2.0mm. The internal weld bead will need to be considered when closer fits are indicated. Where telescoping over some length is desired, additional allowance may be needed for straightness. For tight fits it is recommended that some form of testing be carried out prior to committing material.

### HOW TO USE THIS CHART

1. Select the size of female (or outer) member closest to your requirements from the left hand column.

2. Depending on the application select the clearance required between the two members.

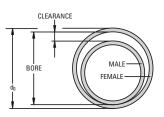
Members may need to slide freely inside each other, or be locked with a pin, spot welded or fixed with wedges. This means, in some cases, a 'sloppy' fit may be suitable, while for others the tightest fit possible may be more appropriate. (See Note 6 Press Fit).

3. Having selected the most suitable clearance for your application, take the appropriate size of the male (inner) section from the centre column, eg:

Female Section	Male Section	Clearance
(outer)	(inner)	mm
76.1x5.9	60.3	2.6

Note that clearance is total available difference between member dimensions, not the gap on both sides.

4. Where two telescoping sections are being used, thickness should be similar and will be determined by normal structural requirements. If a third sections is the be used, consideration of both clearance and thickness within the size list available may be required.



5. Pipe may need to be fixed against twisting by welding or bolting.

6. Press Fit. For short pieces with no need for separation or sliding an interference fit can be achieved using the available ductility of the steel.





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