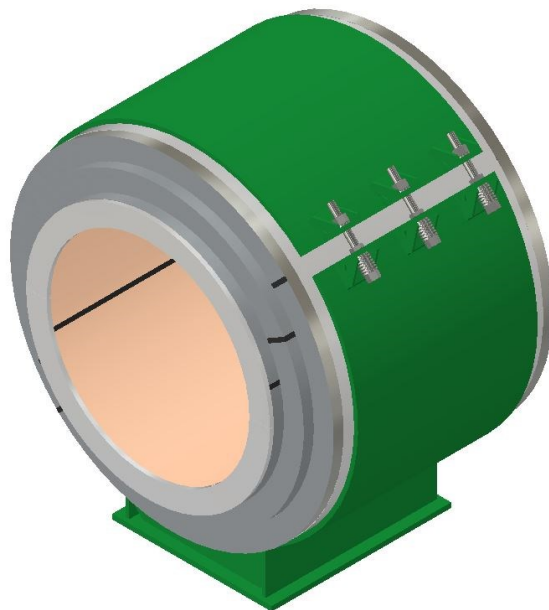
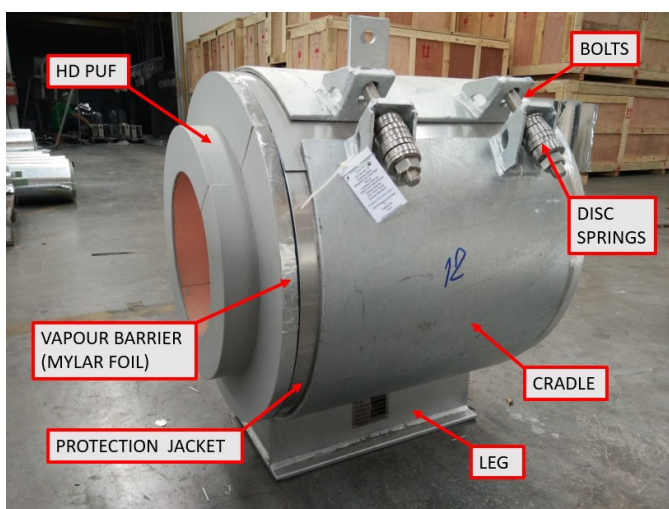




CRYOGENIC SUPPORTS



Carpenter and Paterson (Asia) Limited design and manufacture a complete range of supports for cold and cryogenic pipework. The range includes cold shoes manufactured from high density polyurethane foam (HDPUF) and also items which use densified wood. Resting supports, guides, line stops, fixed point supports and hanging supports are all included, as are supports for vertical pipes. Standard supports can be selected using the tables in the catalogue or we can design individual supports to suit the design conditions and applicable support loads and movements.



HDPUF Cold Shoes

CPA's range of HDPUF cold shoes incorporate load-bearing shells made from high density polyurethane foam. Polyurethane foam can be used over an extremely wide range of temperatures, typically -196°C to $+120^{\circ}\text{C}$. The shells are moulded to the required dimensions using steel moulds which are designed to ensure that the shell dimensions are maintained with high accuracy. The HDPUF is produced in three densities — 160, 224 and 320 kg/cu.m. The choice of density depends on the loading on the support.

The HDPUF can be single layer or multi-layer; when multi-layer, it is stepped to match the layer thicknesses used on the line insulation. Layers are also stepped circumferentially to ensure that there is no direct path for heat transfer between the pipe and the outside of the insulation.

On cold pipework it is essential that moisture is not able to penetrate the insulation, where it could freeze and cause damage. To ensure that moisture is excluded, the outer layer of the PUF is completely covered with Mylar foil, a polyester-aluminium laminate. The Mylar foil is protected with a metallic jacket and the assembled insulation is clamped in a carbon steel cradle.

The cradle is welded to a steel leg of box construction, which is an inherently strong design. The cradle halves are bolted together and disc springs are used to ensure that a clamping force is maintained after the pipe cools to cryogenic temperature and the pipe and insulation contract radially. The required disc spring configuration is established by calculation to ensure that there is no slippage between pipe, insulation and cradle.

Cold Shoe Types and Part Numbering

Type CS1 shoe has a single leg and is used as a resting support on horizontal pipe or a guide support where the lateral load is relatively light (up to 30% of the vertical load on the standard designs).

Type CS2 shoe has two legs and is used as a vertical support on horizontal pipe where there can be an uplift load or as a one way guide on vertical pipes.

Type CS3 shoe has three legs and is used as a guide when the lateral loading is relatively high.

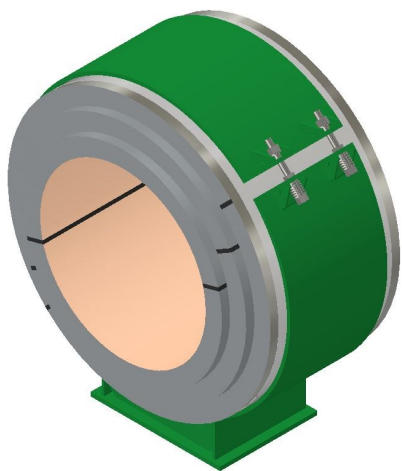
Type CS4 shoe has four legs and is used as a full guide on both vertical and horizontal pipes.

Where shoes are used to prevent or limit axial movement, the designs incorporate centre stops in the cradle and thrust rings are provided for welding to the pipe.

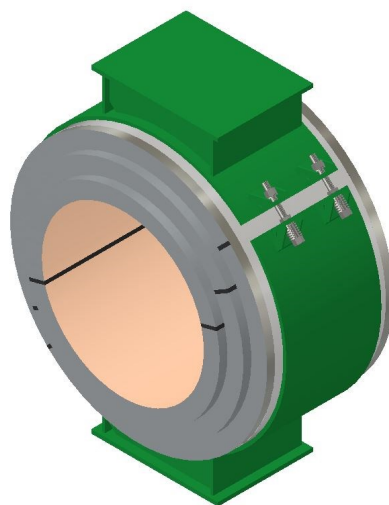
Type designations for shoes incorporating axial stops are CA1, CA2, CA3 and CA4.

For axial stops we can also supply pre-assembled support assemblies including pressure tested pipe spools with thrust flanges.

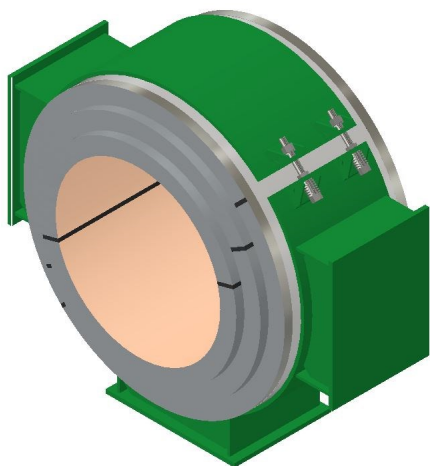
SHOE TYPES



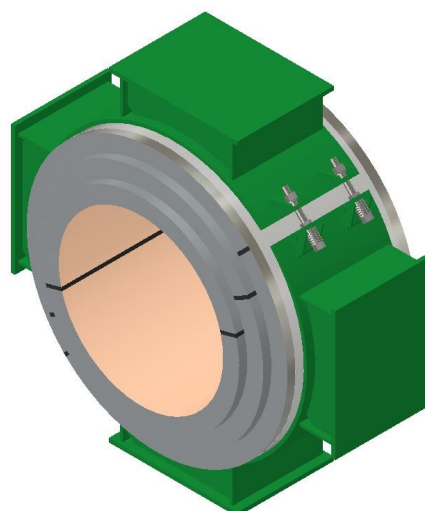
Type CS1



Type CS2



Type CS3



Type CS4

Example of Part Numbering

CS1 - 600 / 100 - 400 - 320

Shoe Type CS1 600mm Pipe Size 100mm Insulation 400mm Shoe Length PUF Density 320

PROPERTIES OF HDPUF & DESIGN SERVICE

Properties of HDPUF

Nominal Density	kg/m ³ , lb/ft ³	160 / 10 lb	224 / 14 lb	320 / 20 lb	500 / 32 lb	ASTM D1622
Thermal Conductivity at 22°C	W/m.K	0.028	0.0344	0.0434	0.0794	ASTM C518
Thermal Conductivity at -165°C	W/m.K	0.0191	0.0252	0.0315	0.0607	ASTM C177
Closed Cell Content	%	99	98	98	99	ASTM D6226
Open Cell Content	%	0.42	1.1	1.23	1.62	ASTM D6226
Compressive Strength at 20°C	MPa	2.23	3.65	7.33	17.75	ASTM D1621
Compressive Strength at -165°C	MPa	5.04	8.91	18.98	52.06	
Water absorption by Volume	%	0.04	0.37	0.39	0.49	ASTM D2842
Coefficient Of Linear Thermal Expansion (-123°C to 46°C)	K ⁻¹	55.3 x 10 ⁻⁶	55.9 x 10 ⁻⁶	54.4 x 10 ⁻⁶	56.5 x 10 ⁻⁶	ASTM D696

The above properties were confirmed by testing at the University of Southampton (UK).

Density and compressive strength are confirmed on every production batch.

Cryogenic Supports Design Service

CPA's design engineers will design special supporting arrangements to cover any requirement for supporting cryogenic pipes. Whether the requirement is for highly-loaded supports, hanging supports, or supports for vertical or inclined pipes, CPA will find a solution.

Specifying Design Parameters for Cryogenic Supports

The following information is needed for us to design cryogenic supports:

- Pipe Size and Orientation (horizontal / vertical)
- Support Type i.e. Resting, Guide, Line Stop etc.
- Pipe Material (Stainless Steel or Carbon Steel)
- Maximum and Minimum Design Temperature
- Installation Temperature
- Total Insulation Thickness and layering requirements
- Height to Bottom of Insulation or to Pipe Centre
- Length of the shoe (if critical)
- Design Loads (Vertical, Lateral & Axial Loads)
- Base Plate Width if there is any restriction

COLD SHOE SPECIFICATION

Standard CPA Specification for Cold Shoes

Clamp & Leg/Base: JIS G3101 Grade SS400, Hot Dip Galvanized

Pipe thrust rings: Material to match pipe

Insulation: Moulded High Density Polyurethane Foam - 160, 224 or 320 kg/m³

Mastic: Cryogenic mastic applied to cut ends

Vapour Barrier: Mylar foil - polyester / aluminium laminate

Jacket: Aluzinc (zinc/aluminium coated steel sheet) 0.6 - 0.8mm thick

Resilient blanket for expansion gaps: Fibreglass 32kg/m³

Bolts: ISO 898-1 Grade 8.8 and Nuts ISO 898-2 Grade 8, spin galvanized

Disc Springs (non-removable): High carbon or alloy spring steel, mechanically galvanized

Design Features

- Designed in accordance with Shell DEP and CINI Manual.
- Staggered Joints in PUF. The PUF layers are staggered both along the pipe and circumferentially around the pipe to minimize heat losses.
- Strip-bonded PUF. PUF layers are strip-bonded together to reduce thermal stresses in the PUF as the pipe cools.
- Box type leg/base. An inherently strong box design is used for the legs on all large size shoes.
- Disc springs are used to ensure that there is an adequate clamping force after radial contraction of the pipe and insulation. This ensures that there will not be slippage between pipe and insulation. The disc springs are factory-installed in the correct configuration and CPA's non-removable arrangement means that disc springs cannot be lost or installed incorrectly

Note:

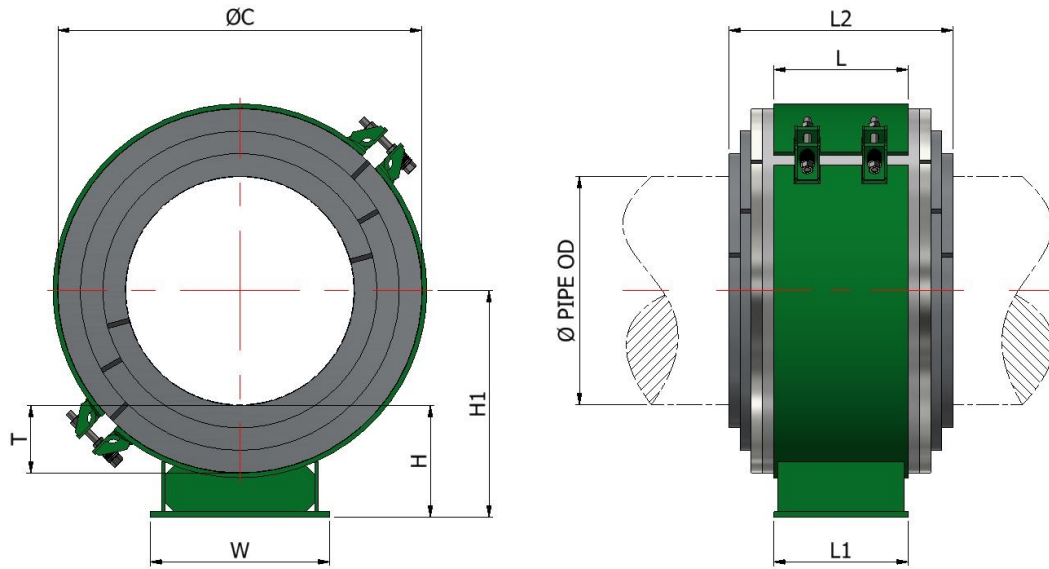
The lengths of the inner layer of PUF shown in the catalogue tables (L2) assume the number of layers is as follows:

Up to 50mm thick - 1 layer

75mm to 100mm thick - 2 layers

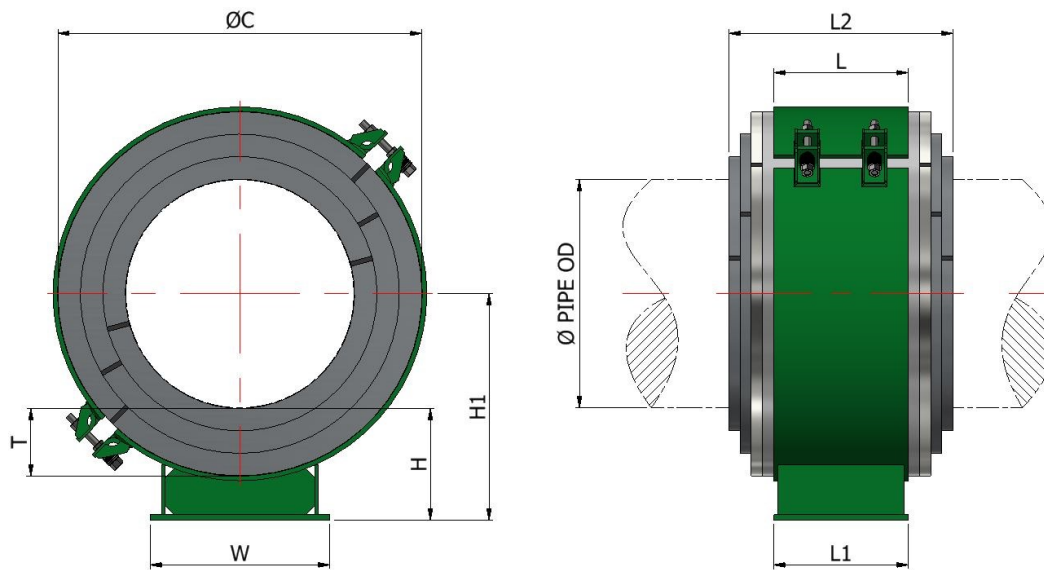
Above 100mm thick - 3 layers.

SUPPORT TYPE CS1 (RESTING / GUIDE)



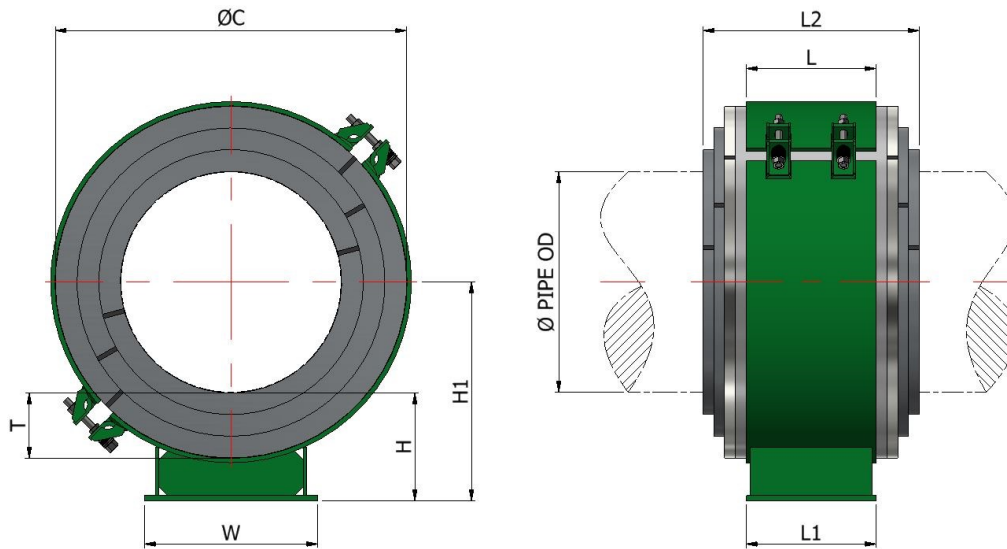
Part Number		T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³3		Den. = 224 kg/m³3		Den. = 320 kg/m³3	
										Max Vertical Load	Weight	Max Vertical Load	Weight	Max Vertical Load	Weight
		mm	mm	mm	mm	mm	mm	mm	mm	kN	kg	kN	kg	kN	kg
Pipe Size 0.5" / 15 mm (OD 21.3 mm)	CS1-15/25-150-Den.	25	72	150	150	250	75	86	60	1.16	4	1.85	4.1	3.79	4.2
	CS1-15/50-150-Den.	50	122	150	150	250	100	111	80	1.16	5.8	1.85	6	3.79	6.4
	CS1-15/75-150-Den.	75	172	150	150	300	125	136	100	1.16	7.7	1.85	8.1	3.79	8.7
	CS1-15/100-150-Den.	100	222	150	150	300	150	161	100	1.16	9.5	1.85	10	3.79	11
	CS1-15/25-300-Den.	25	72	300	300	400	75	86	60	2.32	6.8	3.71	6.9	7.59	7.2
	CS1-15/50-300-Den.	50	122	300	300	400	100	111	80	2.32	10	3.71	10	7.59	11
	CS1-15/75-300-Den.	75	172	300	300	450	125	136	100	2.32	14	3.71	14	7.59	15
CS1-15/100-300-Den.	100	222	300	300	450	150	161	100	2.32	17	3.71	18	7.59	20	
Pipe Size 0.75" / 20 mm (OD 26.7 mm)	CS1-20/25-150-Den.	25	78	150	150	250	75	88	60	1.45	4.2	2.32	4.2	4.75	4.5
	CS1-20/50-150-Den.	50	128	150	150	250	100	113	80	1.45	6.1	2.32	6.3	4.75	6.7
	CS1-20/75-150-Den.	75	178	150	150	300	125	138	100	1.45	7.9	2.32	8.4	4.75	9.1
	CS1-20/100-150-Den.	100	228	150	150	300	150	163	100	1.45	9.9	2.32	10	4.75	12
	CS1-20/25-300-Den.	25	78	300	300	400	75	88	60	2.91	7.1	4.65	7.2	9.51	7.5
	CS1-20/50-300-Den.	50	128	300	300	400	100	113	80	2.91	11	4.65	11	9.51	12
	CS1-20/75-300-Den.	75	178	300	300	450	125	138	100	2.91	14	4.65	15	9.51	16
CS1-20/100-300-Den.	100	228	300	300	450	150	163	100	2.91	17	4.65	19	9.51	20	
Pipe Size 1" / 25 mm (OD 33.4 mm)	CS1-25/25-150-Den.	25	85	150	150	250	75	92	60	1.83	4.4	2.93	4.5	6	4.7
	CS1-25/50-150-Den.	50	135	150	150	250	100	117	80	1.83	6.3	2.93	6.5	6	7
	CS1-25/75-150-Den.	75	185	150	150	300	125	142	100	1.83	8.2	2.93	8.7	6	9.4
	CS1-25/100-150-Den.	100	235	150	150	300	150	167	120	1.83	11	2.93	11	6	12
	CS1-25/125-150-Den.	125	285	150	150	350	175	192	120	1.83	13	2.93	14	6	16
	CS1-25/25-300-Den.	25	85	300	300	400	75	92	60	3.67	7.5	5.87	7.7	12	8.1
	CS1-25/50-300-Den.	50	135	300	300	400	100	117	80	3.67	11	5.87	11	12	12
	CS1-25/75-300-Den.	75	185	300	300	450	125	142	100	3.67	15	5.87	15	12	17
	CS1-25/100-300-Den.	100	235	300	300	450	150	167	120	3.67	19	5.87	20	12	22
CS1-25/125-300-Den.	125	285	300	300	500	175	192	120	3.67	23	5.87	25	12	27	
Pipe Size 1.5" / 40 mm (OD 48.3 mm)	CS1-40/25-150-Den.	25	100	150	150	250	75	99	60	2.63	4.9	4.2	5	8.6	5.3
	CS1-40/50-150-Den.	50	150	150	150	250	100	124	80	2.63	6.7	4.2	6.9	8.6	7.5
	CS1-40/75-150-Den.	75	200	150	150	300	125	149	100	2.63	8.8	4.2	9.3	8.6	10
	CS1-40/100-150-Den.	100	250	150	150	300	150	174	120	2.63	11	4.2	12	8.6	13
	CS1-40/125-150-Den.	125	300	150	150	350	175	199	150	2.63	14	4.2	15	8.6	17
	CS1-40/25-300-Den.	25	100	300	300	400	75	99	60	5.26	8.5	8.41	8.6	17.2	9.1
	CS1-40/50-300-Den.	50	150	300	300	400	100	124	80	5.26	12	8.41	12	17.2	13
	CS1-40/75-300-Den.	75	200	300	300	450	125	149	100	5.26	16	8.41	17	17.2	18
	CS1-40/100-300-Den.	100	250	300	300	450	150	174	120	5.26	20	8.41	21	17.2	23
CS1-40/125-300-Den.	125	300	300	300	500	175	199	150	5.26	25	8.41	27	17.2	30	

SUPPORT TYPE CS1 (RESTING / GUIDE)



Part Number		T Thick	øC	L	L1	L2	H	H1	W	Den. = 160 kg/m³		Den. = 224 kg/m³		Den. = 320 kg/m³	
										Max Vertical Load	Weight	Max Vertical Load	Weight	Max Vertical Load	Weight
										kN	kg	kN	kg	kN	kg
Pipe Size 2" / 50 mm (OD 60.3 mm)	CS1-50/25-150-Den.	25	112	150	150	250	75	105	80	3.28	5.5	5.25	5.7	10.7	6
	CS1-50/50-150-Den.	50	162	150	150	250	100	130	80	3.28	7.1	5.25	7.4	10.7	8.1
	CS1-50/75-150-Den.	75	212	150	150	300	125	155	120	3.28	9.8	5.25	10	10.7	11
	CS1-50/100-150-Den.	100	262	150	150	300	150	180	120	3.28	12	5.25	13	10.7	14
	CS1-50/125-150-Den.	125	312	150	150	350	175	205	150	3.28	15	5.25	16	10.7	18
	CS1-50/150-150-Den.	150	362	150	150	350	200	230	150	3.28	17	5.25	19	10.7	22
	CS1-50/25-300-Den.	25	112	300	300	400	75	105	80	6.57	9.6	10.5	9.9	21.5	10
	CS1-50/50-300-Den.	50	162	300	300	400	100	130	80	6.57	13	10.5	13	21.5	14
	CS1-50/75-300-Den.	75	212	300	300	450	125	155	120	6.57	18	10.5	18	21.5	20
	CS1-50/100-300-Den.	100	262	300	300	450	150	180	120	6.57	21	10.5	22	21.5	24
CS1-50/125-300-Den.	125	312	300	300	500	175	205	150	6.57	26	10.5	28	21.5	31	
CS1-50/150-300-Den.	150	362	300	300	500	200	230	150	6.57	31	10.5	33	21.5	37	
Pipe Size 3" / 80 mm (OD 88.9 mm)	CS1-80/25-150-Den.	25	141	150	150	250	75	119	80	4.84	7.1	7.74	7.4	15.8	7.8
	CS1-80/50-150-Den.	50	191	150	150	250	100	144	120	4.84	9.7	7.74	10	15.8	11
	CS1-80/75-150-Den.	75	241	150	150	300	125	169	120	4.84	12	7.74	12	15.8	13
	CS1-80/100-150-Den.	100	291	150	150	300	150	194	150	4.84	14	7.74	15	15.8	17
	CS1-80/125-150-Den.	125	341	150	150	350	175	219	150	4.84	17	7.74	18	15.8	20
	CS1-80/150-150-Den.	150	391	150	150	350	200	244	200	4.84	21	7.74	22	15.8	25
	CS1-80/25-300-Den.	25	141	300	300	400	75	119	80	9.68	12	15.5	13	31.7	14
	CS1-80/50-300-Den.	50	191	300	300	400	100	144	120	9.68	17	15.5	17	31.7	18
	CS1-80/75-300-Den.	75	241	300	300	450	125	169	120	9.68	20	15.5	21	31.7	23
	CS1-80/100-300-Den.	100	291	300	300	450	150	194	150	9.68	25	15.5	26	31.7	29
	CS1-80/125-300-Den.	125	341	300	300	500	175	219	150	9.68	29	15.5	31	31.7	35
CS1-80/150-300-Den.	150	391	300	300	500	200	244	200	9.68	36	15.5	38	31.7	43	
Pipe Size 4" / 100 mm (OD 114.3 mm)	CS1-100/25-200-Den.	25	166	200	200	300	75	132	80	8.3	10	13.3	10	27.2	11
	CS1-100/50-200-Den.	50	216	200	200	300	100	157	100	8.3	13	13.3	13	27.2	15
	CS1-100/75-200-Den.	75	266	200	200	350	125	182	120	8.3	16	13.3	16	27.2	18
	CS1-100/100-200-Den.	100	316	200	200	350	150	207	150	8.3	19	13.3	20	27.2	22
	CS1-100/125-200-Den.	125	366	200	200	400	175	232	150	8.3	22	13.3	24	27.2	27
	CS1-100/150-200-Den.	150	416	200	200	400	200	257	200	8.3	27	13.3	29	27.2	33
	CS1-100/200-200-Den.	200	516	200	200	400	250	307	250	8.3	36	13.3	40	27.2	46
	CS1-100/25-400-Den.	25	166	400	400	500	75	132	100	16.6	18	26.5	19	54.3	20
	CS1-100/50-400-Den.	50	216	400	400	500	100	157	100	16.6	22	26.5	24	54.3	26
	CS1-100/75-400-Den.	75	266	400	400	550	125	182	120	16.6	28	26.5	29	54.3	31
	CS1-100/100-400-Den.	100	316	400	400	550	150	207	150	16.6	34	26.5	36	54.3	40
	CS1-100/125-400-Den.	125	366	400	400	600	175	232	150	16.6	40	26.5	43	54.3	48
	CS1-100/150-400-Den.	150	416	400	400	600	200	257	200	16.6	48	26.5	52	54.3	59
	CS1-100/200-400-Den.	200	516	400	400	600	250	307	250	16.6	64	26.5	70	54.3	80

SUPPORT TYPE CS1 (RESTING / GUIDE)



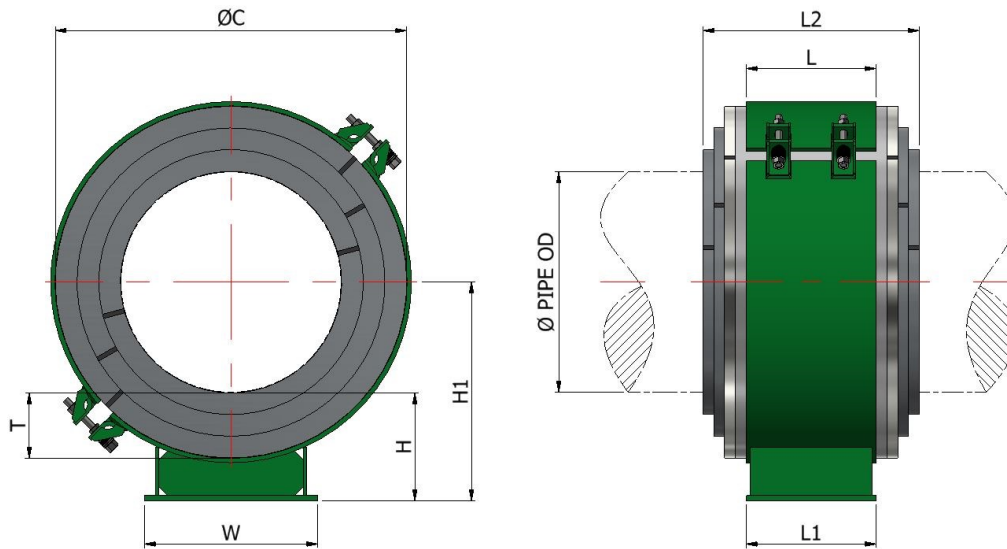
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³		Den. = 224 kg/m³		Den. = 320 kg/m³	
									Max Vertical Load	Weight	Max Vertical Load	Weight	Max Vertical Load	Weight
									kN	kg	kN	kg	kN	kg

Pipe Size 6" / 150 mm (OD 168.3 mm)	CS1-150/25-200-Den.	25	220	200	200	300	75	159	100	12.2	14	19.5	14	40	16
	CS1-150/50-200-Den.	50	270	200	200	300	100	184	120	12.2	18	19.5	18	40	19
	CS1-150/75-200-Den.	75	320	200	200	350	125	209	150	12.2	22	19.5	23	40	24
	CS1-150/100-200-Den.	100	370	200	200	350	150	234	160	12.2	26	19.5	27	40	30
	CS1-150/125-200-Den.	125	420	200	200	400	175	259	200	12.2	31	19.5	33	40	36
	CS1-150/150-200-Den.	150	470	200	200	400	200	284	200	12.2	35	19.5	38	40	43
	CS1-150/200-200-Den.	200	570	200	200	400	250	334	250	12.2	45	19.5	49	40	57
	CS1-150/25-400-Den.	25	220	400	400	500	75	159	120	24.5	27	39.1	27	80	27
	CS1-150/50-400-Den.	50	270	400	400	500	100	184	120	24.5	32	39.1	33	80	35
	CS1-150/75-400-Den.	75	320	400	400	550	125	209	150	24.5	40	39.1	41	80	44
	CS1-150/100-400-Den.	100	370	400	400	550	150	234	160	24.5	47	39.1	49	80	53
	CS1-150/125-400-Den.	125	420	400	400	600	175	259	200	24.5	56	39.1	59	80	65

Pipe Size 8" / 200 mm (OD 219.1 mm)	CS1-200/25-200-Den.	25	271	200	200	300	100	210	140	15.9	18	25.4	18	52.1	19
	CS1-200/50-200-Den.	50	321	200	200	300	125	235	160	15.9	22	25.4	22	52.1	24
	CS1-200/75-200-Den.	75	371	200	200	350	150	260	160	15.9	25	25.4	27	52.1	29
	CS1-200/100-200-Den.	100	421	200	200	350	175	285	200	15.9	30	25.4	32	52.1	35
	CS1-200/125-200-Den.	125	471	200	200	400	200	310	200	15.9	35	25.4	37	52.1	41
	CS1-200/150-200-Den.	150	521	200	200	400	225	335	250	15.9	41	25.4	44	52.1	50
	CS1-200/200-200-Den.	200	621	200	200	400	275	385	300	15.9	52	25.4	57	52.1	66
	CS1-200/25-400-Den.	25	271	400	400	500	100	210	140	31.8	33	50.9	33	104	34
	CS1-200/50-400-Den.	50	321	400	400	500	125	235	160	31.8	40	50.9	41	104	43
	CS1-200/75-400-Den.	75	371	400	400	550	150	260	160	31.8	47	50.9	49	104	52
	CS1-200/100-400-Den.	100	421	400	400	550	175	285	200	31.8	55	50.9	58	104	63
	CS1-200/125-400-Den.	125	471	400	400	600	200	310	200	31.8	63	50.9	67	104	74

Pipe Size 10" / 250 mm (OD 273.0 mm)	CS1-250/25-300-Den.	25	325	300	300	400	100	237	160	29.8	30	47.6	30	97.3	31
	CS1-250/50-300-Den.	50	375	300	300	400	125	262	160	29.8	35	47.6	36	97.3	38
	CS1-250/75-300-Den.	75	425	300	300	450	150	287	200	29.8	42	47.6	44	97.3	47
	CS1-250/100-300-Den.	100	475	300	300	450	175	312	200	29.8	47	47.6	50	97.3	55
	CS1-250/125-300-Den.	125	525	300	300	500	200	337	250	29.8	56	47.6	59	97.3	66
	CS1-250/150-300-Den.	150	575	300	300	500	225	362	250	29.8	62	47.6	67	97.3	76
	CS1-250/200-300-Den.	200	675	300	300	500	275	412	300	29.8	79	47.6	86	97.3	99
	CS1-250/25-500-Den.	25	325	500	500	600	100	237	160	49.6	49	79.3	49	162	51
	CS1-250/50-500-Den.	50	375	500	500	600	125	262	160	49.6	57	79.3	58	162	61
	CS1-250/75-500-Den.	75	425	500	500	650	150	287	200	49.6	67	79.3	70	162	75
	CS1-250/100-500-Den.	100	475	500	500	650	175	312	200	49.6	76	79.3	81	162	88
	CS1-250/125-500-Den.	125	525	500	500	700	200	337	250	49.6	89	79.3	95	162	100

SUPPORT TYPE CS1 (RESTING / GUIDE)



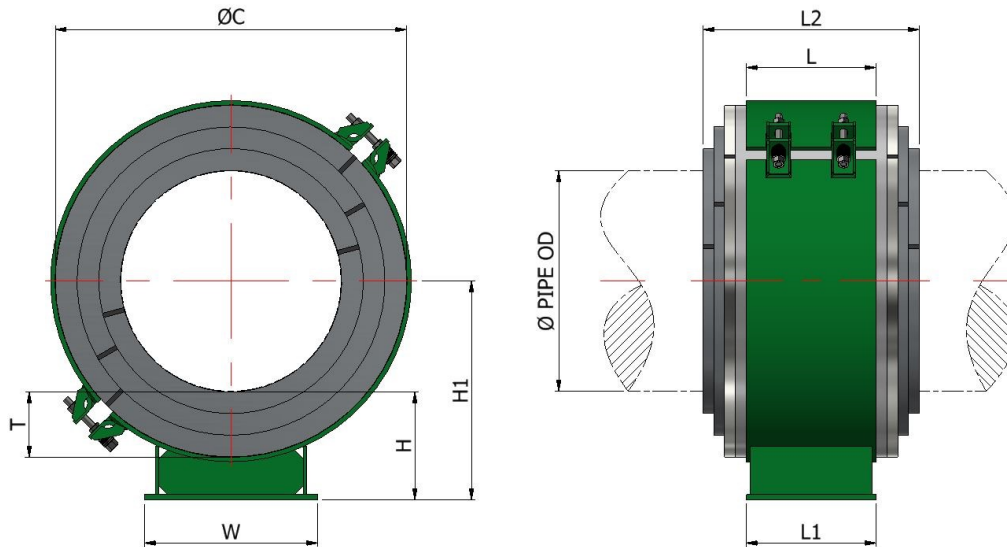
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³		Den. = 224 kg/m³		Den. = 320 kg/m³	
									Max Vertical Load	Weight	Max Vertical Load	Weight	Max Vertical Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kg	kN	kg	kN	kg

Pipe Size 12" / 300 mm (OD 323.9 mm)	CS1-300/25-300-Den.	25	376	300	300	400	100	262	160	35.3	42	56.4	42	115	44
	CS1-300/50-300-Den.	50	426	300	300	400	125	287	200	35.3	49	56.4	51	115	53
	CS1-300/75-300-Den.	75	476	300	300	450	150	312	200	35.3	56	56.4	58	115	62
	CS1-300/100-300-Den.	100	526	300	300	450	175	337	250	35.3	64	56.4	68	115	73
	CS1-300/125-300-Den.	125	576	300	300	500	200	362	250	35.3	72	56.4	76	115	83
	CS1-300/150-300-Den.	150	626	300	300	500	225	387	300	35.3	83	56.4	88	115	98
	CS1-300/200-300-Den.	200	726	300	300	500	275	437	350	35.3	100	56.4	110	115	120
	CS1-300/25-500-Den.	25	376	500	500	600	100	262	160	58.8	68	94	69	192	72
	CS1-300/50-500-Den.	50	426	500	500	600	125	287	200	58.8	80	94	82	192	85
	CS1-300/75-500-Den.	75	476	500	500	650	150	312	200	58.8	90	94	93	192	99
	CS1-300/100-500-Den.	100	526	500	500	650	175	337	250	58.8	100	94	110	192	120
	CS1-300/125-500-Den.	125	576	500	500	700	200	362	250	58.8	120	94	120	192	130
	CS1-300/150-500-Den.	150	626	500	500	700	225	387	300	58.8	130	94	140	192	150
	CS1-300/200-500-Den.	200	726	500	500	700	275	437	350	58.8	160	94	170	192	190

Pipe Size 14" / 350 mm (OD 355.6 mm)	CS1-350/25-300-Den.	25	408	300	300	400	125	303	200	38.8	48	61.9	49	127	50
	CS1-350/50-300-Den.	50	458	300	300	400	150	328	200	38.8	54	61.9	56	127	58
	CS1-350/75-300-Den.	75	508	300	300	450	175	353	250	38.8	63	61.9	65	127	69
	CS1-350/100-300-Den.	100	558	300	300	450	200	378	250	38.8	70	61.9	73	127	79
	CS1-350/125-300-Den.	125	608	300	300	500	225	403	300	38.8	80	61.9	85	127	92
	CS1-350/150-300-Den.	150	658	300	300	500	250	428	300	38.8	89	61.9	95	127	110
	CS1-350/200-300-Den.	200	758	300	300	500	300	478	350	38.8	110	61.9	120	127	130
	CS1-350/25-500-Den.	25	408	500	500	600	125	303	200	64.6	78	103	79	211	80
	CS1-350/50-500-Den.	50	458	500	500	600	150	328	200	64.6	88	103	90	211	93
	CS1-350/75-500-Den.	75	508	500	500	650	175	353	250	64.6	100	103	100	211	110
	CS1-350/100-500-Den.	100	558	500	500	650	200	378	250	64.6	110	103	120	211	130
	CS1-350/125-500-Den.	125	608	500	500	700	225	403	300	64.6	130	103	130	211	150
	CS1-350/150-500-Den.	150	658	500	500	700	250	428	300	64.6	140	103	150	211	160
	CS1-350/200-500-Den.	200	758	500	500	700	300	478	350	64.6	170	103	180	211	200

Pipe Size 16" / 400 mm (OD 406.4 mm)	CS1-400/50-300-Den.	50	509	300	300	400	150	353	250	44.3	62	70.8	64	145	66
	CS1-400/75-300-Den.	75	559	300	300	450	175	378	250	44.3	69	70.8	72	145	76
	CS1-400/100-300-Den.	100	609	300	300	450	200	403	300	44.3	80	70.8	84	145	90
	CS1-400/125-300-Den.	125	659	300	300	500	225	428	300	44.3	88	70.8	93	145	100
	CS1-400/150-300-Den.	150	709	300	300	500	250	453	350	44.3	99	70.8	110	145	120
	CS1-400/200-300-Den.	200	809	300	300	500	300	503	400	44.3	120	70.8	130	145	140
	CS1-400/250-300-Den.	250	909	300	300	500	350	553	450	44.3	140	70.8	150	145	170
	CS1-400/50-500-Den.	50	509	500	500	600	150	353	250	73.8	100	118	100	241	110
	CS1-400/75-500-Den.	75	559	500	500	650	175	378	250	73.8	110	118	110	241	120
	CS1-400/100-500-Den.	100	609	500	500	650	200	403	300	73.8	130	118	130	241	140
	CS1-400/125-500-Den.	125	659	500	500	700	225	428	300	73.8	140	118	150	241	160
	CS1-400/150-500-Den.	150	709	500	500	700	250	453	350	73.8	160	118	170	241	180
	CS1-400/200-500-Den.	200	809	500	500	700	300	503	400	73.8	190	118	200	241	220
	CS1-400/250-500-Den.	250	909	500	500	700	350	553	450	73.8	220	118	240	241	270

SUPPORT TYPE CS1 (RESTING / GUIDE)



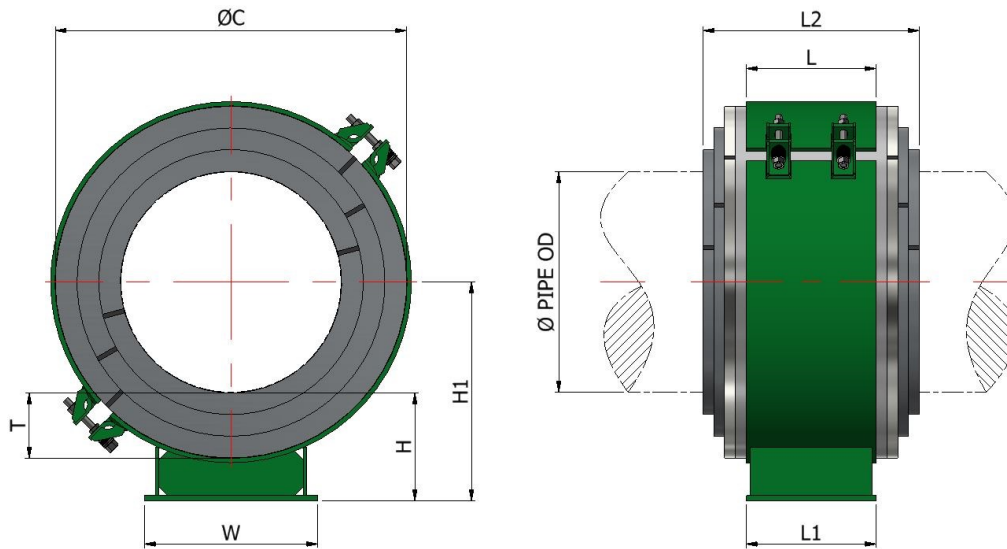
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³		Den. = 224 kg/m³		Den. = 320 kg/m³	
									Max Vertical Load	Weight	Max Vertical Load	Weight	Max Vertical Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kg	kN	kg	kN	kg

Pipe Size 18" / 450 mm (OD 457.2 mm)	CS1-450/50-300-Den.	50	560	300	300	400	150	379	250	49.8	66	79.6	68	163	73
	CS1-450/75-300-Den.	75	610	300	300	450	175	404	300	49.8	77	79.6	80	163	85
	CS1-450/100-300-Den.	100	660	300	300	450	200	429	300	49.8	85	79.6	89	163	96
	CS1-450/125-300-Den.	125	710	300	300	500	225	454	350	49.8	96	79.6	100	163	110
	CS1-450/150-300-Den.	150	760	300	300	500	250	479	350	49.8	100	79.6	110	163	120
	CS1-450/200-300-Den.	200	860	300	300	500	300	529	400	49.8	120	79.6	130	163	150
	CS1-450/250-300-Den.	250	960	300	300	500	350	579	450	49.8	150	79.6	160	163	180
	CS1-450/50-500-Den.	50	560	500	500	600	150	379	250	83.1	110	133	110	272	110
	CS1-450/75-500-Den.	75	610	500	500	650	175	404	300	83.1	120	133	130	272	140
	CS1-450/100-500-Den.	100	660	500	500	650	200	429	300	83.1	140	133	140	272	150
	CS1-450/125-500-Den.	125	710	500	500	700	225	454	350	83.1	150	133	160	272	170
	CS1-450/150-500-Den.	150	760	500	500	700	250	479	350	83.1	170	133	180	272	190

Pipe Size 20" / 500 mm (OD 508.0 mm)	CS1-500/50-400-Den.	50	611	400	400	500	150	404	300	73.8	96	118	99	241	100
	CS1-500/75-400-Den.	75	661	400	400	550	175	429	300	73.8	110	118	110	241	120
	CS1-500/100-400-Den.	100	711	400	400	550	200	454	350	73.8	120	118	120	241	130
	CS1-500/125-400-Den.	125	761	400	400	600	225	479	350	73.8	130	118	140	241	150
	CS1-500/150-400-Den.	150	811	400	400	600	250	504	400	73.8	140	118	150	241	170
	CS1-500/200-400-Den.	200	911	400	400	600	300	554	450	73.8	170	118	180	241	210
	CS1-500/250-400-Den.	250	1011	400	400	600	350	604	500	73.8	200	118	220	241	250
	CS1-500/50-600-Den.	50	611	600	600	700	150	404	300	111	140	177	150	362	150
	CS1-500/75-600-Den.	75	661	600	600	750	175	429	300	111	160	177	160	362	170
	CS1-500/100-600-Den.	100	711	600	600	750	200	454	350	111	180	177	180	362	200
	CS1-500/125-600-Den.	125	761	600	600	800	225	479	350	111	190	177	200	362	220
	CS1-500/150-600-Den.	150	811	600	600	800	250	504	400	111	210	177	230	362	250

Pipe Size 22" / 550 mm (OD 558.8 mm)	CS1-550/50-400-Den.	50	662	400	400	500	150	429	300	81.2	100	130	110	266	110
	CS1-550/75-400-Den.	75	712	400	400	550	175	454	350	81.2	120	130	120	266	130
	CS1-550/100-400-Den.	100	762	400	400	550	200	479	350	81.2	130	130	140	266	150
	CS1-550/125-400-Den.	125	812	400	400	600	225	504	400	81.2	140	130	150	266	170
	CS1-550/150-400-Den.	150	862	400	400	600	250	529	400	81.2	160	130	170	266	180
	CS1-550/200-400-Den.	200	962	400	400	600	300	579	450	81.2	180	130	200	266	220
	CS1-550/250-400-Den.	250	1062	400	400	600	350	629	500	81.2	210	130	230	266	260
	CS1-550/50-600-Den.	50	662	600	600	700	150	429	300	122	160	195	160	398	170
	CS1-550/75-600-Den.	75	712	600	600	750	175	454	350	122	180	195	180	398	190
	CS1-550/100-600-Den.	100	762	600	600	750	200	479	350	122	190	195	200	398	220
	CS1-550/125-600-Den.	125	812	600	600	800	225	504	400	122	210	195	220	398	240
	CS1-550/150-600-Den.	150	862	600	600	800	250	529	400	122	230	195	240	398	270

SUPPORT TYPE CS1 (RESTING / GUIDE)



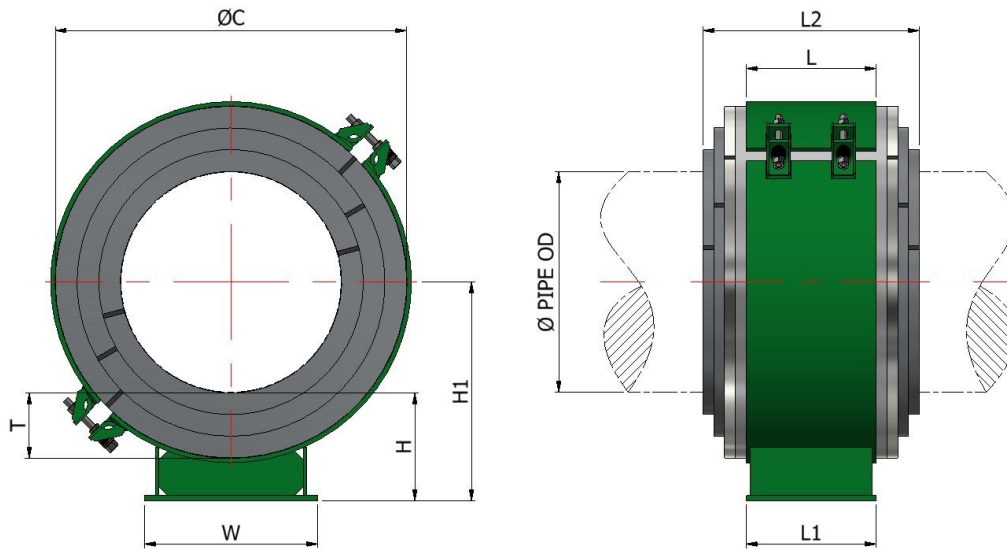
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³		Den. = 224 kg/m³		Den. = 320 kg/m³	
									Max Vertical Load	Weight	Max Vertical Load	Weight	Max Vertical Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kg	kN	kg	kN	kg

Pipe Size 24" / 600 mm (OD 609.6 mm)	CS1-600/50-400-Den.	50	713	400	400	500	150	455	350	88.6	110	142	120	290	120
	CS1-600/75-400-Den.	75	763	400	400	550	175	480	350	88.6	120	142	130	290	140
	CS1-600/100-400-Den.	100	813	400	400	550	200	505	400	88.6	140	142	150	290	160
	CS1-600/125-400-Den.	125	863	400	400	600	225	530	400	88.6	150	142	160	290	180
	CS1-600/150-400-Den.	150	913	400	400	600	250	555	450	88.6	170	142	180	290	200
	CS1-600/200-400-Den.	200	1013	400	400	600	300	605	500	88.6	200	142	210	290	240
	CS1-600/250-400-Den.	250	1113	400	400	600	350	655	550	88.6	230	142	250	290	280
	CS1-600/50-600-Den.	50	713	600	600	700	150	455	350	133	170	212	170	434	180
	CS1-600/75-600-Den.	75	763	600	600	750	175	480	350	133	190	212	190	434	210
	CS1-600/100-600-Den.	100	813	600	600	750	200	505	400	133	210	212	220	434	230
	CS1-600/125-600-Den.	125	863	600	600	800	225	530	400	133	220	212	240	434	260
	CS1-600/150-600-Den.	150	913	600	600	800	250	555	450	133	250	212	260	434	290
	CS1-600/200-600-Den.	200	1013	600	600	800	300	605	500	133	290	212	310	434	340
	CS1-600/250-600-Den.	250	1113	600	600	800	350	655	550	133	330	212	360	434	410

Pipe Size 26" / 650 mm (OD 660.4 mm)	CS1-650/50-400-Den.	50	764	400	400	500	150	480	350	96	120	153	130	314	130
	CS1-650/75-400-Den.	75	814	400	400	550	175	505	400	96	140	153	140	314	150
	CS1-650/100-400-Den.	100	864	400	400	550	200	530	400	96	150	153	160	314	170
	CS1-650/125-400-Den.	125	914	400	400	600	225	555	450	96	160	153	170	314	190
	CS1-650/150-400-Den.	150	964	400	400	600	250	580	450	96	180	153	190	314	210
	CS1-650/200-400-Den.	200	1064	400	400	600	300	630	500	96	210	153	220	314	250
	CS1-650/250-400-Den.	250	1164	400	400	600	350	680	550	96	240	153	260	314	300
	CS1-650/50-600-Den.	50	764	600	600	700	150	480	350	144	180	230	190	471	200
	CS1-650/75-600-Den.	75	814	600	600	750	175	505	400	144	200	230	210	471	230
	CS1-650/100-600-Den.	100	864	600	600	750	200	530	400	144	220	230	230	471	250
	CS1-650/125-600-Den.	125	914	600	600	800	225	555	450	144	240	230	260	471	280
	CS1-650/150-600-Den.	150	964	600	600	800	250	580	450	144	260	230	280	471	310
	CS1-650/200-600-Den.	200	1064	600	600	800	300	630	500	144	300	230	320	471	370
	CS1-650/250-600-Den.	250	1164	600	600	800	350	680	550	144	350	230	370	471	430

Pipe Size 28" / 700 mm (OD 711.2 mm)	CS1-700/50-400-Den.	50	815	400	400	500	150	506	400	103	130	165	140	338	140
	CS1-700/75-400-Den.	75	865	400	400	550	175	531	400	103	140	165	150	338	160
	CS1-700/100-400-Den.	100	915	400	400	550	200	556	450	103	160	165	170	338	180
	CS1-700/125-400-Den.	125	965	400	400	600	225	581	450	103	170	165	180	338	200
	CS1-700/150-400-Den.	150	1015	400	400	600	250	606	500	103	190	165	200	338	230
	CS1-700/200-400-Den.	200	1115	400	400	600	300	656	550	103	220	165	240	338	270
	CS1-700/250-400-Den.	250	1215	400	400	600	350	706	600	103	250	165	270	338	320
	CS1-700/50-600-Den.	50	815	600	600	700	150	506	400	155	200	248	200	507	210
	CS1-700/75-600-Den.	75	865	600	600	750	175	531	400	155	210	248	220	507	240
	CS1-700/100-600-Den.	100	915	600	600	750	200	556	450	155	240	248	250	507	270
	CS1-700/125-600-Den.	125	965	600	600	800	225	581	450	155	250	248	270	507	290
	CS1-700/150-600-Den.	150	1015	600	600	800	250	606	500	155	280	248	290	507	330
	CS1-700/200-600-Den.	200	1115	600	600	800	300	656	550	155	320	248	340	507	390
	CS1-700/250-600-Den.	250	1215	600	600	800	350	706	600	155	360	248	400	507	460

SUPPORT TYPE CS1 (RESTING / GUIDE)



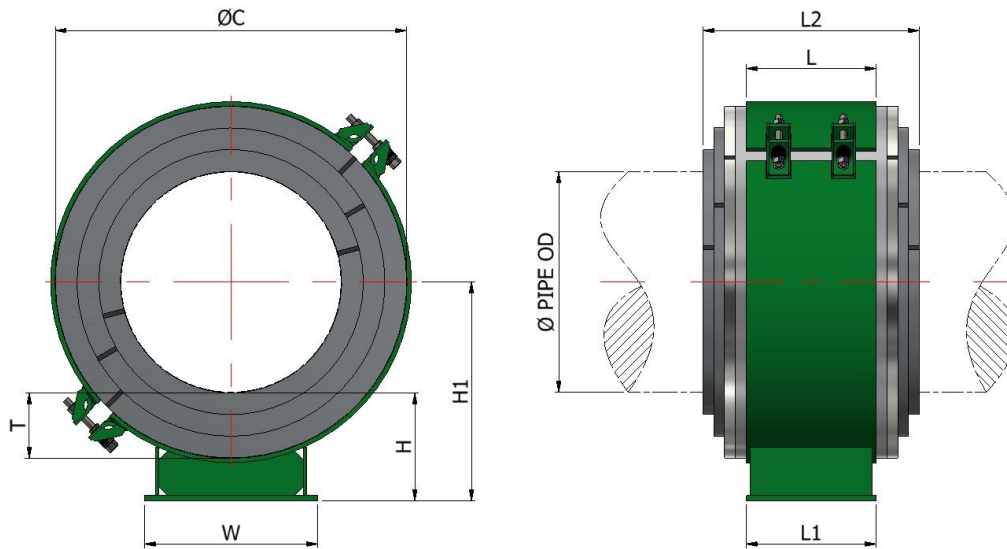
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³		Den. = 224 kg/m³		Den. = 320 kg/m³	
									Max Vertical Load	Weight	Max Vertical Load	Weight	Max Vertical Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kg	kN	kg	kN	kg

Pipe Size 30" / 750 mm (OD 762.0 mm)	CS1-750/50-500-Den.	50	866	500	500	600	150	531	400	138	170	221	180	453	190
	CS1-750/75-500-Den.	75	916	500	500	650	175	556	450	138	190	221	200	453	220
	CS1-750/100-500-Den.	100	966	500	500	650	200	581	450	138	210	221	220	453	240
	CS1-750/125-500-Den.	125	1016	500	500	700	225	606	500	138	230	221	240	453	260
	CS1-750/150-500-Den.	150	1066	500	500	700	250	631	500	138	240	221	260	453	290
	CS1-750/200-500-Den.	200	1166	500	500	700	300	681	550	138	280	221	300	453	340
	CS1-750/250-500-Den.	250	1266	500	500	700	350	731	600	138	320	221	350	453	400
	CS1-750/50-750-Den.	50	866	750	750	850	150	531	400	208	250	332	260	679	280
	CS1-750/75-750-Den.	75	916	750	750	900	175	556	450	208	280	332	290	679	310
	CS1-750/100-750-Den.	100	966	750	750	900	200	581	450	208	300	332	310	679	340
	CS1-750/125-750-Den.	125	1016	750	750	950	225	606	500	208	330	332	350	679	380
	CS1-750/150-750-Den.	150	1066	750	750	950	250	631	500	208	350	332	370	679	420
	CS1-750/200-750-Den.	200	1166	750	750	950	300	681	550	208	410	332	440	679	490
	CS1-750/250-750-Den.	250	1266	750	750	950	350	731	600	208	460	332	500	679	580

Pipe Size 32" / 800 mm (OD 812.8 mm)	CS1-800/50-500-Den.	50	917	500	500	600	150	556	450	148	190	236	190	483	200
	CS1-800/75-500-Den.	75	967	500	500	650	175	581	450	148	200	236	210	483	220
	CS1-800/100-500-Den.	100	1017	500	500	650	200	606	500	148	220	236	230	483	250
	CS1-800/125-500-Den.	125	1067	500	500	700	225	631	500	148	240	236	250	483	280
	CS1-800/150-500-Den.	150	1117	500	500	700	250	656	550	148	260	236	280	483	310
	CS1-800/200-500-Den.	200	1217	500	500	700	300	706	600	148	300	236	320	483	360
	CS1-800/250-500-Den.	250	1317	500	500	700	350	756	650	148	340	236	370	483	420
	CS1-800/50-750-Den.	50	917	750	750	850	150	556	450	221	270	354	280	724	300
	CS1-800/75-750-Den.	75	967	750	750	900	175	581	450	221	300	354	310	724	330
	CS1-800/100-750-Den.	100	1017	750	750	900	200	606	500	221	320	354	340	724	370
	CS1-800/125-750-Den.	125	1067	750	750	950	225	631	500	221	350	354	370	724	400
	CS1-800/150-750-Den.	150	1117	750	750	950	250	656	550	221	380	354	400	724	450
	CS1-800/200-750-Den.	200	1217	750	750	950	300	706	600	221	430	354	470	724	520
	CS1-800/250-750-Den.	250	1317	750	750	950	350	756	650	221	490	354	530	724	610

Pipe Size 34" / 850 mm (OD 863.6 mm)	CS1-850/50-500-Den.	50	968	500	500	600	150	582	450	157	190	251	200	513	210
	CS1-850/75-500-Den.	75	1018	500	500	650	175	607	500	157	220	251	220	513	240
	CS1-850/100-500-Den.	100	1068	500	500	650	200	632	500	157	230	251	240	513	260
	CS1-850/125-500-Den.	125	1118	500	500	700	225	657	550	157	250	251	270	513	290
	CS1-850/150-500-Den.	150	1168	500	500	700	250	682	550	157	270	251	290	513	320
	CS1-850/200-500-Den.	200	1268	500	500	700	300	732	600	157	310	251	330	513	380
	CS1-850/250-500-Den.	250	1368	500	500	700	350	782	650	157	350	251	380	513	440
	CS1-850/50-750-Den.	50	968	750	750	850	150	582	450	235	290	376	290	769	310
	CS1-850/75-750-Den.	75	1018	750	750	900	175	607	500	235	310	376	330	769	350
	CS1-850/100-750-Den.	100	1068	750	750	900	200	632	500	235	340	376	350	769	380
	CS1-850/125-750-Den.	125	1118	750	750	950	225	657	550	235	370	376	390	769	430
	CS1-850/150-750-Den.	150	1168	750	750	950	250	682	550	235	390	376	420	769	460
	CS1-850/200-750-Den.	200	1268	750	750	950	300	732	600	235	450	376	480	769	550
	CS1-850/250-750-Den.	250	1368	750	750	950	350	782	650	235	510	376	550	769	630

SUPPORT TYPE CS1 (RESTING / GUIDE)



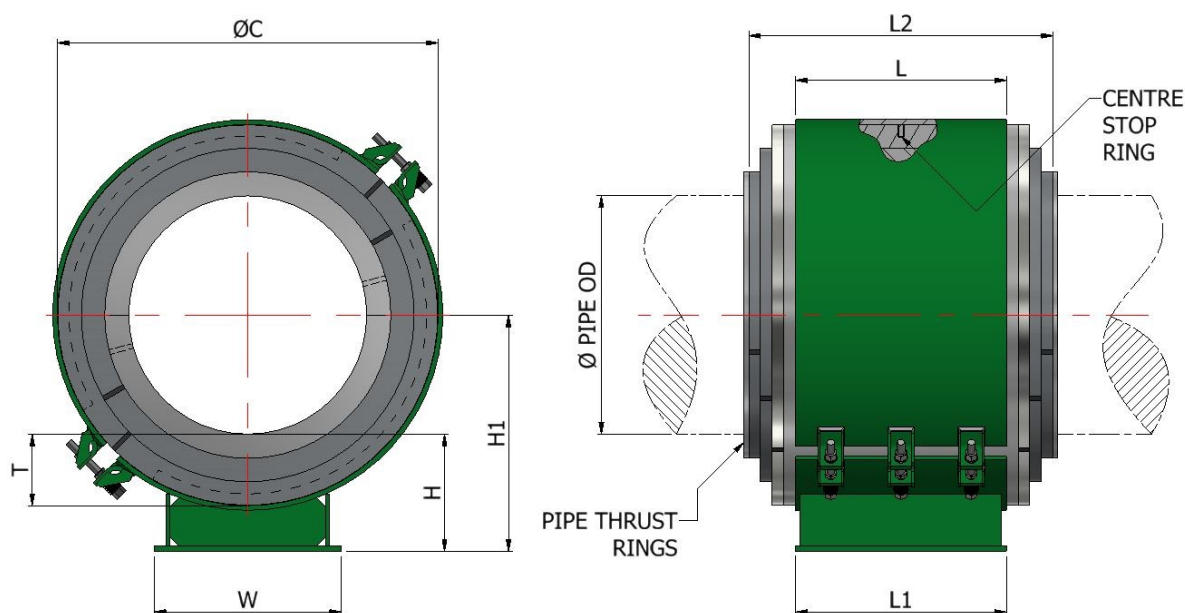
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³		Den. = 224 kg/m³		Den. = 320 kg/m³	
									Max Vertical Load	Weight	Max Vertical Load	Weight	Max Vertical Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kg	kN	kg	kN	kg

Pipe Size 36" / 900 mm (OD 914.4 mm)	CS1-900/50-500-Den.	50	1019	500	500	600	150	607	500	166	210	265	210	543	220
	CS1-900/75-500-Den.	75	1069	500	500	650	175	632	500	166	220	265	230	543	250
	CS1-900/100-500-Den.	100	1119	500	500	650	200	657	550	166	240	265	260	543	280
	CS1-900/125-500-Den.	125	1169	500	500	700	225	682	550	166	260	265	280	543	300
	CS1-900/150-500-Den.	150	1219	500	500	700	250	707	600	166	280	265	300	543	340
	CS1-900/200-500-Den.	200	1319	500	500	700	300	757	650	166	320	265	350	543	400
	CS1-900/250-500-Den.	250	1419	500	500	700	350	807	700	166	370	265	400	543	460
	CS1-900/50-750-Den.	50	1019	750	750	850	150	607	500	249	300	398	310	815	330
	CS1-900/75-750-Den.	75	1069	750	750	900	175	632	500	249	330	398	340	815	370
	CS1-900/100-750-Den.	100	1119	750	750	900	200	657	550	249	360	398	370	815	400
	CS1-900/125-750-Den.	125	1169	750	750	950	225	682	550	249	380	398	400	815	440
	CS1-900/150-750-Den.	150	1219	750	750	950	250	707	600	249	410	398	440	815	490
	CS1-900/200-750-Den.	200	1319	750	750	950	300	757	650	249	470	398	510	815	570
	CS1-900/250-750-Den.	250	1419	750	750	950	350	807	700	249	530	398	580	815	660

Pipe Size 38" / 950 mm (OD 965.2 mm)	CS1-950/50-500-Den.	50	1071	500	500	600	150	633	500	175	210	280	220	573	240
	CS1-950/75-500-Den.	75	1121	500	500	650	175	658	550	175	240	280	240	573	270
	CS1-950/100-500-Den.	100	1171	500	500	650	200	683	550	175	250	280	260	573	290
	CS1-950/125-500-Den.	125	1221	500	500	700	225	708	600	175	280	280	290	573	320
	CS1-950/150-500-Den.	150	1271	500	500	700	250	733	600	175	290	280	310	573	350
	CS1-950/200-500-Den.	200	1371	500	500	700	300	783	650	175	330	280	360	573	410
	CS1-950/250-500-Den.	250	1471	500	500	700	350	833	700	175	380	280	410	573	480
	CS1-950/50-750-Den.	50	1071	750	750	850	150	633	500	263	320	420	320	860	350
	CS1-950/75-750-Den.	75	1121	750	750	900	175	658	550	263	350	420	360	860	390
	CS1-950/100-750-Den.	100	1171	750	750	900	200	683	550	263	370	420	390	860	430
	CS1-950/125-750-Den.	125	1221	750	750	950	225	708	600	263	400	420	420	860	470
	CS1-950/150-750-Den.	150	1271	750	750	950	250	733	600	263	430	420	450	860	510
	CS1-950/200-750-Den.	200	1371	750	750	950	300	783	650	263	490	420	520	860	590
	CS1-950/250-750-Den.	250	1471	750	750	950	350	833	700	263	550	420	600	860	680

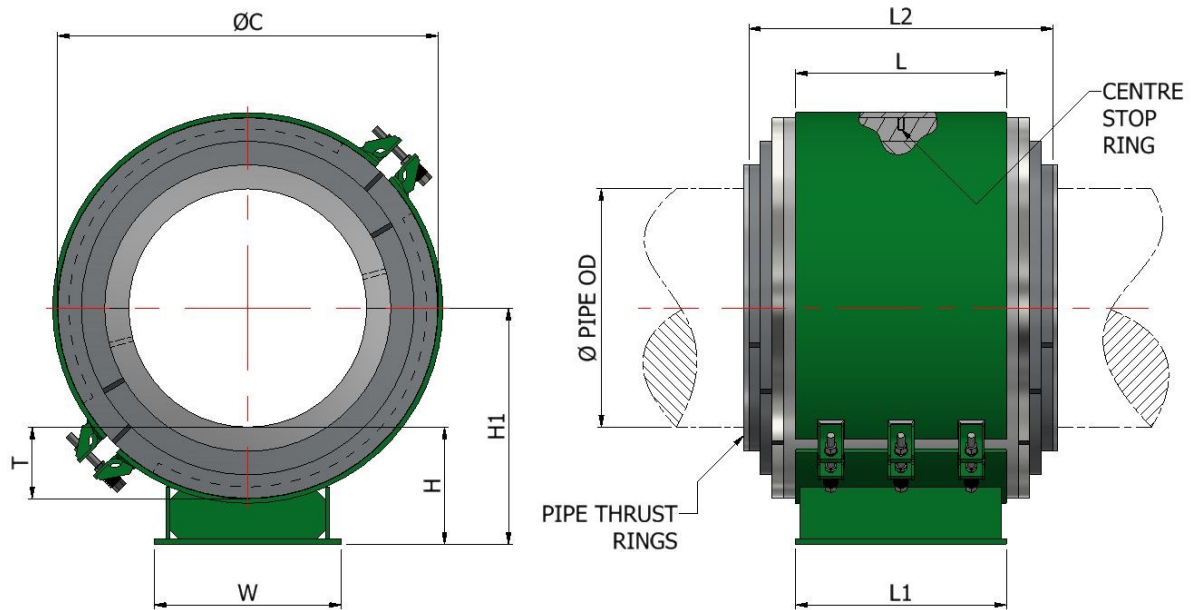
Pipe Size 40" / 1000 mm (OD 1016.0 mm)	CS1-1000/50-500-Den.	50	1122	500	500	600	150	658	550	185	230	295	230	603	250
	CS1-1000/75-500-Den.	75	1172	500	500	650	175	683	550	185	240	295	250	603	280
	CS1-1000/100-500-Den.	100	1222	500	500	650	200	708	600	185	270	295	280	603	310
	CS1-1000/125-500-Den.	125	1272	500	500	700	225	733	600	185	280	295	300	603	340
	CS1-1000/150-500-Den.	150	1322	500	500	700	250	758	650	185	310	295	330	603	370
	CS1-1000/200-500-Den.	200	1422	500	500	700	300	808	700	185	350	295	380	603	430
	CS1-1000/250-500-Den.	250	1522	500	500	700	350	858	750	185	390	295	430	603	500
	CS1-1000/50-750-Den.	50	1122	750	750	850	150	658	550	277	330	442	340	905	370
	CS1-1000/75-750-Den.	75	1172	750	750	900	175	683	550	277	360	442	370	905	400
	CS1-1000/100-750-Den.	100	1222	750	750	900	200	708	600	277	390	442	410	905	450
	CS1-1000/125-750-Den.	125	1272	750	750	950	225	733	600	277	410	442	440	905	490
	CS1-1000/150-750-Den.	150	1322	750	750	950	250	758	650	277	450	442	480	905	540
	CS1-1000/200-750-Den.	200	1422	750	750	950	300	808	700	277	510	442	550	905	630
	CS1-1000/250-750-Den.	250	1522	750	750	950	350	858	750	277	570	442	620	905	720

SUPPORT TYPE CA1 (LINE STOP / FIXED POINT)



	Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³			Den. = 224 kg/m³			Den. = 320 kg/m³		
										Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight
		mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kg	kN	kN	kg	kN	kN	kg
Pipe Size 0.5" / 15 mm (OD 21.3 mm)	CA1-15/25-150-Den.	25	72	150	150	250	75	86	60	1.16	0.49	4.6	1.85	0.78	4.6	3.79	1.3	4.9
	CA1-15/50-150-Den.	50	122	150	150	250	100	111	80	1.16	0.9	7.1	1.85	1.45	7.2	3.79	2.41	7.8
	CA1-15/75-150-Den.	75	172	150	150	300	125	136	100	1.16	1.27	9.7	1.85	2.03	10	3.79	3.38	11
	CA1-15/100-150-Den.	100	222	150	150	300	150	161	100	1.16	1.69	12	1.85	2.7	13	3.79	3.15	14
	CA1-15/25-300-Den.	25	72	300	300	400	75	86	60	2.32	0.49	7.4	3.71	0.78	7.5	7.59	1.3	7.8
	CA1-15/50-300-Den.	50	122	300	300	400	100	111	80	2.32	0.9	11	3.71	1.45	12	7.59	2.41	12
	CA1-15/75-300-Den.	75	172	300	300	450	125	136	100	2.32	1.27	16	3.71	2.03	16	7.59	3.38	18
CA1-15/100-300-Den.	100	222	300	300	450	150	161	100	2.32	1.69	20	3.71	2.7	21	7.59	3.15	23	
Pipe Size 0.75" / 20 mm (OD 26.7 mm)	CA1-20/25-150-Den.	25	78	150	150	250	75	88	60	1.45	0.56	4.8	2.32	0.9	4.9	4.75	1.5	5.2
	CA1-20/50-150-Den.	50	128	150	150	250	100	113	80	1.45	1.02	7.4	2.32	1.64	7.5	4.75	2.73	8.2
	CA1-20/75-150-Den.	75	178	150	150	300	125	138	100	1.45	1.42	10	2.32	2.27	10	4.75	3.77	12
	CA1-20/100-150-Den.	100	228	150	150	300	150	163	100	1.45	1.87	13	2.32	2.99	13	4.75	3.9	15
	CA1-20/25-300-Den.	25	78	300	300	400	75	88	60	2.91	0.56	7.8	4.65	0.9	7.9	9.51	1.5	8.3
	CA1-20/50-300-Den.	50	128	300	300	400	100	113	80	2.91	1.02	12	4.65	1.64	12	9.51	2.73	13
	CA1-20/75-300-Den.	75	178	300	300	450	125	138	100	2.91	1.42	16	4.65	2.27	17	9.51	3.77	18
CA1-20/100-300-Den.	100	228	300	300	450	150	163	100	2.91	1.87	20	4.65	2.99	21	9.51	3.9	24	
Pipe Size 1" / 25 mm (OD 33.4 mm)	CA1-25/25-150-Den.	25	85	150	150	250	75	92	60	1.83	0.66	5.1	2.93	1.06	5.2	6	1.77	5.5
	CA1-25/50-150-Den.	50	135	150	150	250	100	117	80	1.83	1.18	7.7	2.93	1.88	7.9	6	3.14	8.6
	CA1-25/75-150-Den.	75	185	150	150	300	125	142	100	1.83	1.61	10	2.93	2.58	11	6	4.29	12
	CA1-25/100-150-Den.	100	235	150	150	300	150	167	120	1.83	2.1	14	2.93	3.36	14	6	5.58	16
	CA1-25/125-150-Den.	125	285	150	150	350	175	192	120	1.83	2.64	17	2.93	4.23	18	6	5.5	21
	CA1-25/25-300-Den.	25	85	300	300	400	75	92	60	3.67	0.66	8.2	5.87	1.06	8.4	12	1.77	8.9
	CA1-25/50-300-Den.	50	135	300	300	400	100	117	80	3.67	1.18	12	5.87	1.88	13	12	3.14	14
	CA1-25/75-300-Den.	75	185	300	300	450	125	142	100	3.67	1.61	17	5.87	2.58	17	12	4.29	19
	CA1-25/100-300-Den.	100	235	300	300	450	150	167	120	3.67	2.1	22	5.87	3.36	23	12	5.58	25
CA1-25/125-300-Den.	125	285	300	300	500	175	192	120	3.67	2.64	27	5.87	4.23	29	12	5.5	32	
Pipe Size 1.5" / 40 mm (OD 48.3 mm)	CA1-40/25-150-Den.	25	100	150	150	250	75	99	60	2.63	0.87	5.8	4.2	1.4	5.9	8.6	2.33	6.4
	CA1-40/50-150-Den.	50	150	150	150	250	100	124	80	2.63	1.5	8.3	4.2	2.4	8.5	8.6	3.99	9.4
	CA1-40/75-150-Den.	75	200	150	150	300	125	149	100	2.63	2.01	11	4.2	3.22	12	8.6	5.35	13
	CA1-40/100-150-Den.	100	250	150	150	300	150	174	120	2.63	2.58	15	4.2	4.13	15	8.6	6.86	17
	CA1-40/125-150-Den.	125	300	150	150	350	175	199	150	2.63	3.2	19	4.2	5.12	20	8.6	8.52	23
	CA1-40/25-300-Den.	25	100	300	300	400	75	99	60	5.26	0.87	9.4	8.41	1.4	9.4	17.2	2.33	10
	CA1-40/50-300-Den.	50	150	300	300	400	100	124	80	5.26	1.5	13	8.41	2.4	14	17.2	3.99	15
	CA1-40/75-300-Den.	75	200	300	300	450	125	149	100	5.26	2.01	18	8.41	3.22	19	17.2	5.35	21
	CA1-40/100-300-Den.	100	250	300	300	450	150	174	120	5.26	2.58	24	8.41	4.13	25	17.2	6.86	27
CA1-40/125-300-Den.	125	300	300	300	500	175	199	150	5.26	3.2	30	8.41	5.12	31	17.2	8.52	35	

SUPPORT TYPE CA1 (LINE STOP / FIXED POINT)



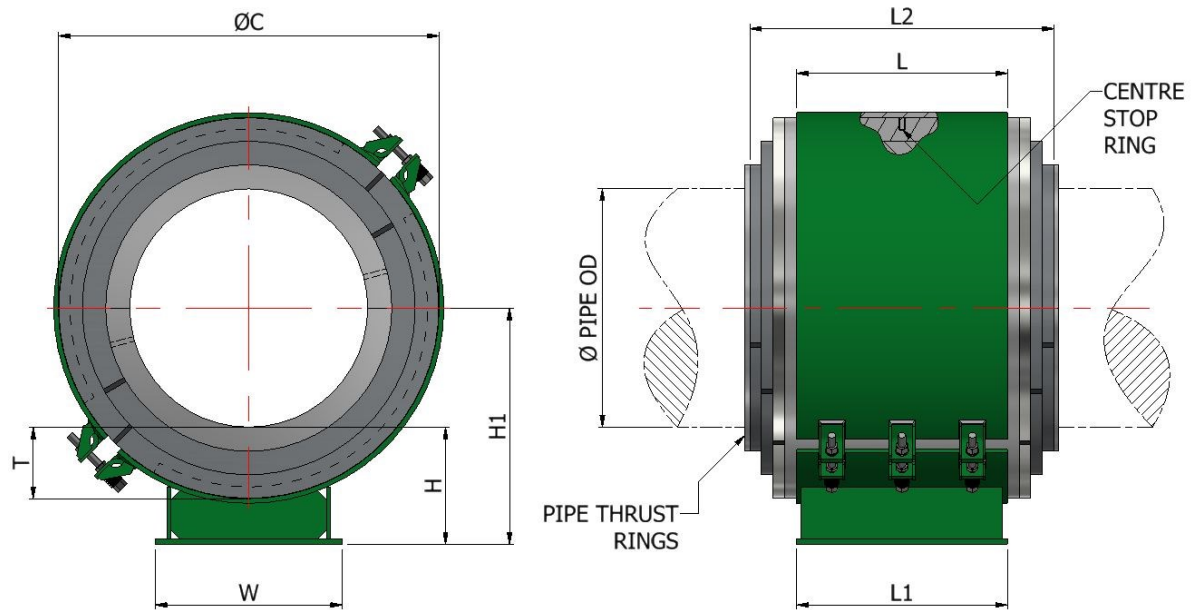
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³			Den. = 224 kg/m³			Den. = 320 kg/m³		
									Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kg	kN	kN	kg	kN	kN	kg

Pipe Size 2" / 50 mm (OD 60.3 mm)	CA1-50/25-150-Den.	25	112	150	150	250	75	105	80	3.28	1.04	6.5	5.25	1.67	6.7	10.7	2.78	7.2
	CA1-50/50-150-Den.	50	162	150	150	250	100	130	80	3.28	1.76	9	5.25	2.82	9.2	10.7	4.69	10
	CA1-50/75-150-Den.	75	212	150	150	300	125	155	120	3.28	2.34	13	5.25	3.75	13	10.7	6.23	14
	CA1-50/100-150-Den.	100	262	150	150	300	150	180	120	3.28	2.98	16	5.25	4.76	16	10.7	7.92	18
	CA1-50/125-150-Den.	125	312	150	150	350	175	205	150	3.28	3.67	20	5.25	5.86	21	10.7	9.75	24
	CA1-50/150-150-Den.	150	362	150	150	350	200	230	150	3.28	5.21	24	5.25	8.33	25	10.7	10	29
	CA1-50/25-300-Den.	25	112	300	300	400	75	105	80	6.57	1.04	11	10.5	1.67	11	21.5	2.78	12
	CA1-50/50-300-Den.	50	162	300	300	400	100	130	80	6.57	1.76	14	10.5	2.82	15	21.5	4.69	16
	CA1-50/75-300-Den.	75	212	300	300	450	125	155	120	6.57	2.34	20	10.5	3.75	21	21.5	6.23	23
	CA1-50/100-300-Den.	100	262	300	300	450	150	180	120	6.57	2.98	25	10.5	4.76	26	21.5	7.92	29

Pipe Size 3" / 80 mm (OD 88.9 mm)	CA1-80/25-150-Den.	25	141	150	150	250	75	119	80	4.84	1.45	8.5	7.74	2.33	8.7	15.8	3.87	9.3
	CA1-80/50-150-Den.	50	191	150	150	250	100	144	120	4.84	2.39	12	7.74	3.83	12	15.8	6.36	13
	CA1-80/75-150-Den.	75	241	150	150	300	125	169	120	4.84	3.13	15	7.74	5	15	15.8	8.32	17
	CA1-80/100-150-Den.	100	291	150	150	300	150	194	150	4.84	3.92	19	7.74	6.27	19	15.8	10.4	22
	CA1-80/125-150-Den.	125	341	150	150	350	175	219	150	4.84	4.77	23	7.74	7.62	24	15.8	12.7	27
	CA1-80/150-150-Den.	150	391	150	150	350	200	244	200	4.84	6.63	28	7.74	10.6	30	15.8	17.6	34
	CA1-80/25-300-Den.	25	141	300	300	400	75	119	80	9.68	1.45	14	15.5	2.33	14	31.7	3.87	15
	CA1-80/50-300-Den.	50	191	300	300	400	100	144	120	9.68	2.39	19	15.5	3.83	19	31.7	6.36	21
	CA1-80/75-300-Den.	75	241	300	300	450	125	169	120	9.68	3.13	24	15.5	5	24	31.7	8.32	26
	CA1-80/100-300-Den.	100	291	300	300	450	150	194	150	9.68	3.92	29	15.5	6.27	31	31.7	10.4	34

Pipe Size 4" / 100 mm (OD 114.3 mm)	CA1-100/25-200-Den.	25	166	200	200	300	75	132	80	8.3	1.82	12	13.3	2.91	12	27.2	4.83	13
	CA1-100/50-200-Den.	50	216	200	200	300	100	157	100	8.3	2.95	15	13.3	4.72	16	27.2	7.85	18
	CA1-100/75-200-Den.	75	266	200	200	350	125	182	120	8.3	3.83	20	13.3	6.12	20	27.2	10.2	22
	CA1-100/100-200-Den.	100	316	200	200	350	150	207	150	8.3	4.76	24	13.3	7.61	25	27.2	12.7	28
	CA1-100/125-200-Den.	125	366	200	200	400	175	232	150	8.3	5.75	29	13.3	9.19	31	27.2	15.3	35
	CA1-100/150-200-Den.	150	416	200	200	400	200	257	200	8.3	7.89	36	13.3	12.6	38	27.2	21	43
	CA1-100/200-200-Den.	200	516	200	200	400	250	307	250	8.3	11.5	48	13.3	18.4	52	27.2	30.6	61
	CA1-100/25-400-Den.	25	166	400	400	500	75	132	100	16.6	1.82	20	26.5	2.91	21	54.3	4.83	23
	CA1-100/50-400-Den.	50	216	400	400	500	100	157	100	16.6	2.95	25	26.5	4.72	26	54.3	7.85	29
	CA1-100/75-400-Den.	75	266	400	400	550	125	182	120	16.6	3.83	32	26.5	6.12	33	54.3	10.2	36
	CA1-100/100-400-Den.	100	316	400	400	550	150	207	150	16.6	4.76	39	26.5	7.61	41	54.3	12.7	45
	CA1-100/125-400-Den.	125	366	400	400	600	175	232	150	16.6	5.75	47	26.5	9.19	49	54.3	15.3	55

SUPPORT TYPE CA1 (LINE STOP / FIXED POINT)



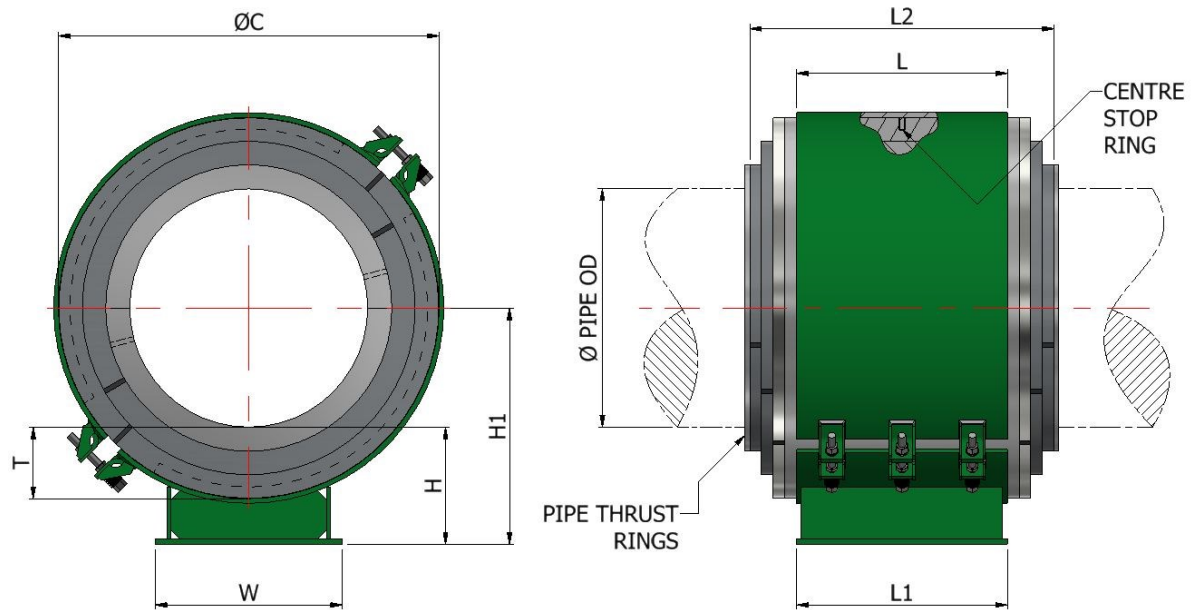
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³			Den. = 224 kg/m³			Den. = 320 kg/m³		
									Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kg	kN	kN	kg	kN	kN	kg

Pipe Size 6" / 150 mm (OD 168.3 mm)	CA1-150/25-200-Den.	25	220	200	200	300	75	159	100	12.2	2.59	17	19.5	4.14	17	40	6.89	18
	CA1-150/50-200-Den.	50	270	200	200	300	100	184	120	12.2	4.14	21	19.5	6.62	22	40	11	23
	CA1-150/75-200-Den.	75	320	200	200	350	125	209	150	12.2	5.31	27	19.5	8.5	28	40	14.1	30
	CA1-150/100-200-Den.	100	370	200	200	350	150	234	160	12.2	6.54	32	19.5	10.5	33	40	17.4	37
	CA1-150/125-200-Den.	125	420	200	200	400	175	259	200	12.2	7.83	39	19.5	12.5	41	40	20.8	46
	CA1-150/150-200-Den.	150	470	200	200	400	200	284	200	12.2	10.6	45	19.5	16.9	48	40	28.1	54
	CA1-150/200-200-Den.	200	570	200	200	400	250	334	250	12.2	15.1	60	19.5	24.1	64	40	40.1	75
	CA1-150/25-400-Den.	25	220	400	400	500	75	159	120	24.5	2.59	29	39.1	4.14	29	80	6.89	30
	CA1-150/50-400-Den.	50	270	400	400	500	100	184	120	24.5	4.14	36	39.1	6.62	37	80	11	39
	CA1-150/75-400-Den.	75	320	400	400	550	125	209	150	24.5	5.31	45	39.1	8.5	46	80	14.1	50
	CA1-150/100-400-Den.	100	370	400	400	550	150	234	160	24.5	6.54	53	39.1	10.5	55	80	17.4	61
	CA1-150/125-400-Den.	125	420	400	400	600	175	259	200	24.5	7.83	64	39.1	12.5	67	80	20.8	74

Pipe Size 8" / 200 mm (OD 219.1 mm)	CA1-200/25-200-Den.	25	271	200	200	300	100	210	140	15.9	3.32	22	25.4	5.3	22	52.1	8.82	23
	CA1-200/50-200-Den.	50	321	200	200	300	125	235	160	15.9	5.26	29	25.4	8.41	29	52.1	14	30
	CA1-200/75-200-Den.	75	371	200	200	350	150	260	160	15.9	6.71	35	25.4	10.7	35	52.1	17.8	38
	CA1-200/100-200-Den.	100	421	200	200	350	175	285	200	15.9	8.22	42	25.4	13.1	43	52.1	21.9	46
	CA1-200/125-200-Den.	125	471	200	200	400	200	310	200	15.9	9.79	49	25.4	15.6	51	52.1	26	55
	CA1-200/150-200-Den.	150	521	200	200	400	225	335	250	15.9	13.1	59	25.4	20.9	62	52.1	34.8	66
	CA1-200/200-200-Den.	200	621	200	200	400	275	385	300	15.9	18.4	77	25.4	29.5	82	52.1	49	91
	CA1-200/25-400-Den.	25	271	400	400	500	100	210	140	31.8	3.32	37	50.9	5.3	38	104	8.82	38
	CA1-200/50-400-Den.	50	321	400	400	500	125	235	160	31.8	5.26	47	50.9	8.41	48	104	14	49
	CA1-200/75-400-Den.	75	371	400	400	550	150	260	160	31.8	6.71	56	50.9	10.7	58	104	17.8	61
	CA1-200/100-400-Den.	100	421	400	400	550	175	285	200	31.8	8.22	67	50.9	13.1	69	104	21.9	74
	CA1-200/125-400-Den.	125	471	400	400	600	200	310	200	31.8	9.79	77	50.9	15.6	81	104	26	87

Pipe Size 10" / 250 mm (OD 273.0 mm)	CA1-250/25-300-Den.	25	325	300	300	400	100	237	160	29.8	4.09	35	47.6	6.54	36	97.3	10.9	37
	CA1-250/50-300-Den.	50	375	300	300	400	125	262	160	29.8	6.45	43	47.6	10.3	44	97.3	17.1	47
	CA1-250/75-300-Den.	75	425	300	300	450	150	287	200	29.8	8.2	53	47.6	13.1	54	97.3	21.8	58
	CA1-250/100-300-Den.	100	475	300	300	450	175	312	200	29.8	10	61	47.6	16	63	97.3	26.6	68
	CA1-250/125-300-Den.	125	525	300	300	500	200	337	250	29.8	11.9	73	47.6	19	76	97.3	31.5	83
	CA1-250/150-300-Den.	150	575	300	300	500	225	362	250	29.8	15.8	84	47.6	25.2	88	97.3	41.8	96
	CA1-250/200-300-Den.	200	675	300	300	500	275	412	300	29.8	22	110	47.6	35.2	120	97.3	58.4	130
	CA1-250/25-500-Den.	25	325	500	500	600	100	237	160	49.6	4.09	54	79.3	6.54	55	162	10.9	57
	CA1-250/50-500-Den.	50	375	500	500	600	125	262	160	49.6	6.45	65	79.3	10.3	66	162	17.1	70
	CA1-250/75-500-Den.	75	425	500	500	650	150	287	200	49.6	8.2	79	79.3	13.1	81	162	21.8	86
	CA1-250/100-500-Den.	100	475	500	500	650	175	312	200	49.6	10	90	79.3	16	93	162	26.6	100
	CA1-250/125-500-Den.	125	525	500	500	700	200	337	250	49.6	11.9	110	79.3	19	110	162	31.5	120

SUPPORT TYPE CA1 (LINE STOP / FIXED POINT)



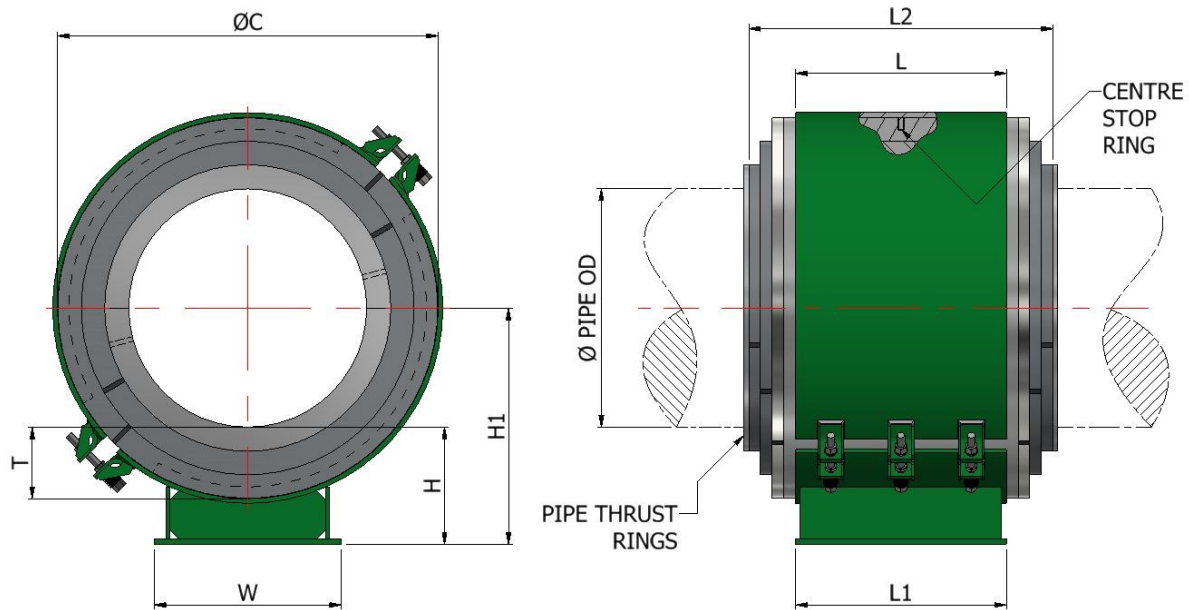
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³			Den. = 224 kg/m³			Den. = 320 kg/m³		
									Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kg	kN	kN	kg	kN	kN	kg

Pipe Size 12" / 300 mm (OD 323.9 mm)	CA1-300/25-300-Den.	25	376	300	300	400	100	262	160	35.3	4.82	49	56.4	7.7	49	115	12.8	51
	CA1-300/50-300-Den.	50	426	300	300	400	125	287	200	35.3	7.57	59	56.4	12.1	60	115	20.1	63
	CA1-300/75-300-Den.	75	476	300	300	450	150	312	200	35.3	9.6	69	56.4	15.3	70	115	25.5	75
	CA1-300/100-300-Den.	100	526	300	300	450	175	337	250	35.3	11.7	80	56.4	18.7	82	115	31	88
	CA1-300/125-300-Den.	125	576	300	300	500	200	362	250	35.3	13.8	91	56.4	22.1	95	115	36.7	100
	CA1-300/150-300-Den.	150	626	300	300	500	225	387	300	35.3	18.3	110	56.4	29.2	110	115	48.5	120
	CA1-300/200-300-Den.	200	726	300	300	500	275	437	350	35.3	25.4	130	56.4	40.5	140	115	67.4	150
	CA1-300/25-500-Den.	25	376	500	500	600	100	262	160	58.8	4.82	75	94	7.7	75	192	12.8	79
	CA1-300/50-500-Den.	50	426	500	500	600	125	287	200	58.8	7.57	90	94	12.1	91	192	20.1	95
	CA1-300/75-500-Den.	75	476	500	500	650	150	312	200	58.8	9.6	100	94	15.3	110	192	25.5	110
	CA1-300/100-500-Den.	100	526	500	500	650	175	337	250	58.8	11.7	120	94	18.7	120	192	31	130
	CA1-300/125-500-Den.	125	576	500	500	700	200	362	250	58.8	13.8	130	94	22.1	140	192	36.7	150
	CA1-300/150-500-Den.	150	626	500	500	700	225	387	300	58.8	18.3	160	94	29.2	160	192	48.5	180
	CA1-300/200-500-Den.	200	726	500	500	700	275	437	350	58.8	25.4	190	94	40.5	200	192	67.4	220

Pipe Size 14" / 350 mm (OD 355.6 mm)	CA1-350/25-300-Den.	25	408	300	300	400	125	303	200	38.8	5.27	55	61.9	8.43	56	127	14	58
	CA1-350/50-300-Den.	50	458	300	300	400	150	328	200	38.8	8.26	65	61.9	13.2	66	127	22	70
	CA1-350/75-300-Den.	75	508	300	300	450	175	353	250	38.8	10.5	77	61.9	16.7	79	127	27.8	84
	CA1-350/100-300-Den.	100	558	300	300	450	200	378	250	38.8	12.7	87	61.9	20.4	89	127	33.8	96
	CA1-350/125-300-Den.	125	608	300	300	500	225	403	300	38.8	15	100	61.9	24.1	100	127	40	110
	CA1-350/150-300-Den.	150	658	300	300	500	250	428	300	38.8	19.8	120	61.9	31.7	120	127	52.7	130
	CA1-350/200-300-Den.	200	758	300	300	500	300	478	350	38.8	27.4	140	61.9	43.9	150	127	72.9	170
	CA1-350/25-500-Den.	25	408	500	500	600	125	303	200	64.6	5.27	85	103	8.43	86	211	14	89
	CA1-350/50-500-Den.	50	458	500	500	600	150	328	200	64.6	8.26	98	103	13.2	100	211	22	100
	CA1-350/75-500-Den.	75	508	500	500	650	175	353	250	64.6	10.5	120	103	16.7	120	211	27.8	120
	CA1-350/100-500-Den.	100	558	500	500	650	200	378	250	64.6	12.7	130	103	20.4	130	211	33.8	140
	CA1-350/125-500-Den.	125	608	500	500	700	225	403	300	64.6	15	150	103	24.1	150	211	40	160
	CA1-350/150-500-Den.	150	658	500	500	700	250	428	300	64.6	19.8	170	103	31.7	170	211	52.7	190
	CA1-350/200-500-Den.	200	758	500	500	700	300	478	350	64.6	27.4	200	103	43.9	220	211	72.9	240

Pipe Size 16" / 400 mm (OD 406.4 mm)	CA1-400/50-300-Den.	50	509	300	300	400	150	353	250	44.3	9.38	74	70.8	15	75	145	24.9	80
	CA1-400/75-300-Den.	75	559	300	300	450	175	378	250	44.3	11.9	85	70.8	19	87	145	31.5	93
	CA1-400/100-300-Den.	100	609	300	300	450	200	403	300	44.3	14.4	99	70.8	23	100	145	38.3	110
	CA1-400/125-300-Den.	125	659	300	300	500	225	428	300	44.3	17	110	70.8	27.2	120	145	45.2	120
	CA1-400/150-300-Den.	150	709	300	300	500	250	453	350	44.3	22.4	130	70.8	35.7	130	145	59.4	140
	CA1-400/200-300-Den.	200	809	300	300	500	300	503	400	44.3	30.8	160	70.8	49.2	170	145	81.8	180
	CA1-400/250-300-Den.	250	909	300	300	500	350	553	450	44.3	36.7	190	70.8	58.7	200	145	97.5	220
	CA1-400/50-500-Den.	50	509	500	500	600	150	353	250	73.8	9.38	110	118	15	110	241	24.9	120
	CA1-400/75-500-Den.	75	559	500	500	650	175	378	250	73.8	11.9	130	118	19	130	241	31.5	140
	CA1-400/100-500-Den.	100	609	500	500	650	200	403	300	73.8	14.4	150	118	23	150	241	38.3	160
	CA1-400/125-500-Den.	125	659	500	500	700	225	428	300	73.8	17	160	118	27.2	170	241	45.2	180
	CA1-400/150-500-Den.	150	709	500	500	700	250	453	350	73.8	22.4	190	118	35.7	190	241	59.4	210
	CA1-400/200-500-Den.	200	809	500	500	700	300	503	400	73.8	30.8	220	118	49.2	240	241	81.8	260
	CA1-400/250-500-Den.	250	909	500	500	700	350	553	450	73.8	36.7	270	118	58.7	280	241	97.5	310

SUPPORT TYPE CA1 (LINE STOP / FIXED POINT)



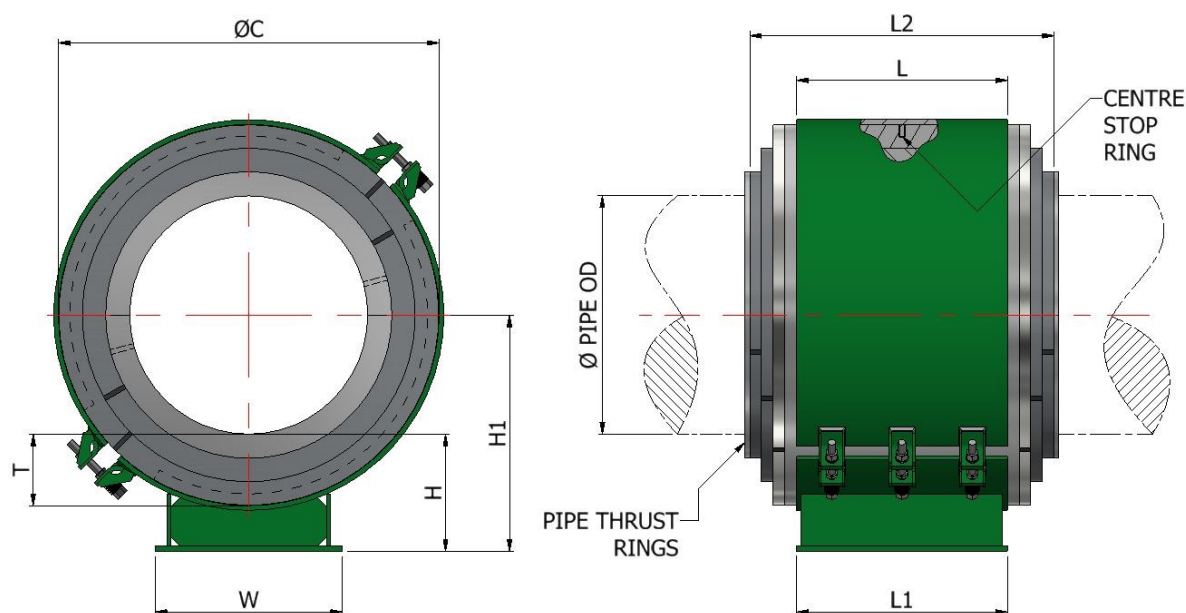
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³			Den. = 224 kg/m³			Den. = 320 kg/m³		
									Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kg	kN	kN	kg	kN	kN	kg

Pipe Size 18" / 450 mm (OD 457.2 mm)	CA1-450/50-300-Den.	50	560	300	300	400	150	379	250	49.8	10.5	81	79.6	16.8	82	163	27.9	88
	CA1-450/75-300-Den.	75	610	300	300	450	175	404	300	49.8	13.3	95	79.6	21.2	98	163	35.3	100
	CA1-450/100-300-Den.	100	660	300	300	450	200	429	300	49.8	16.1	110	79.6	25.7	110	163	42.7	120
	CA1-450/125-300-Den.	125	710	300	300	500	225	454	350	49.8	19	120	79.6	30.3	130	163	50.4	140
	CA1-450/150-300-Den.	150	760	300	300	500	250	479	350	49.8	24.9	140	79.6	39.8	140	163	66.1	160
	CA1-450/200-300-Den.	200	860	300	300	500	300	529	400	49.8	34.2	170	79.6	54.6	180	163	90.7	200
	CA1-450/250-300-Den.	250	960	300	300	500	350	579	450	49.8	40.6	200	79.6	64.9	210	163	108	240
	CA1-450/50-500-Den.	50	560	500	500	600	150	379	250	83.1	10.5	120	133	16.8	120	272	27.9	130
	CA1-450/75-500-Den.	75	610	500	500	650	175	404	300	83.1	13.3	140	133	21.2	150	272	35.3	150
	CA1-450/100-500-Den.	100	660	500	500	650	200	429	300	83.1	16.1	160	133	25.7	160	272	42.7	180
	CA1-450/125-500-Den.	125	710	500	500	700	225	454	350	83.1	19	180	133	30.3	190	272	50.4	200
	CA1-450/150-500-Den.	150	760	500	500	700	250	479	350	83.1	24.9	200	133	39.8	210	272	66.1	230

Pipe Size 20" / 500 mm (OD 508.0 mm)	CA1-500/50-400-Den.	50	611	400	400	500	150	404	300	73.8	11.6	110	118	18.6	110	241	30.9	120
	CA1-500/75-400-Den.	75	661	400	400	550	175	429	300	73.8	14.7	130	118	23.4	130	241	39	140
	CA1-500/100-400-Den.	100	711	400	400	550	200	454	350	73.8	17.8	140	118	28.4	150	241	47.2	160
	CA1-500/125-400-Den.	125	761	400	400	600	225	479	350	73.8	20.9	160	118	33.4	170	241	55.6	180
	CA1-500/150-400-Den.	150	811	400	400	600	250	504	400	73.8	27.4	180	118	43.8	190	241	72.8	210
	CA1-500/200-400-Den.	200	911	400	400	600	300	554	450	73.8	37.5	220	118	60	230	241	99.7	250
	CA1-500/250-400-Den.	250	1011	400	400	600	350	604	500	73.8	44.5	260	118	71.2	270	241	118	300
	CA1-500/50-600-Den.	50	611	600	600	700	150	404	300	111	11.6	160	177	18.6	160	362	30.9	170
	CA1-500/75-600-Den.	75	661	600	600	750	175	429	300	111	14.7	180	177	23.4	180	362	39	200
	CA1-500/100-600-Den.	100	711	600	600	750	200	454	350	111	17.8	200	177	28.4	210	362	47.2	220
	CA1-500/125-600-Den.	125	761	600	600	800	225	479	350	111	20.9	220	177	33.4	230	362	55.6	250
	CA1-500/150-600-Den.	150	811	600	600	800	250	504	400	111	27.4	250	177	43.8	260	362	72.8	280

Pipe Size 22" / 550 mm (OD 558.8 mm)	CA1-550/50-400-Den.	50	662	400	400	500	150	429	300	81.2	12.7	120	130	20.4	120	266	33.9	130
	CA1-550/75-400-Den.	75	712	400	400	550	175	454	350	81.2	16.1	140	130	25.7	140	266	42.7	150
	CA1-550/100-400-Den.	100	762	400	400	550	200	479	350	81.2	19.4	160	130	31.1	160	266	51.7	180
	CA1-550/125-400-Den.	125	812	400	400	600	225	504	400	81.2	22.9	180	130	36.6	180	266	60.8	200
	CA1-550/150-400-Den.	150	862	400	400	600	250	529	400	81.2	29.9	190	130	47.8	200	266	79.5	220
	CA1-550/200-400-Den.	200	962	400	400	600	300	579	450	81.2	40.9	230	130	65.3	250	266	109	270
	CA1-550/250-400-Den.	250	1062	400	400	600	350	629	500	81.2	48.5	280	130	77.4	290	266	129	330
	CA1-550/50-600-Den.	50	662	600	600	700	150	429	300	122	12.7	170	195	20.4	180	398	33.9	190
	CA1-550/75-600-Den.	75	712	600	600	750	175	454	350	122	16.1	200	195	25.7	200	398	42.7	220
	CA1-550/100-600-Den.	100	762	600	600	750	200	479	350	122	19.4	220	195	31.1	220	398	51.7	240
	CA1-550/125-600-Den.	125	812	600	600	800	225	504	400	122	22.9	240	195	36.6	250	398	60.8	280
	CA1-550/150-600-Den.	150	862	600	600	800	250	529	400	122	29.9	270	195	47.8	280	398	79.5	310

SUPPORT TYPE CA1 (LINE STOP / FIXED POINT)



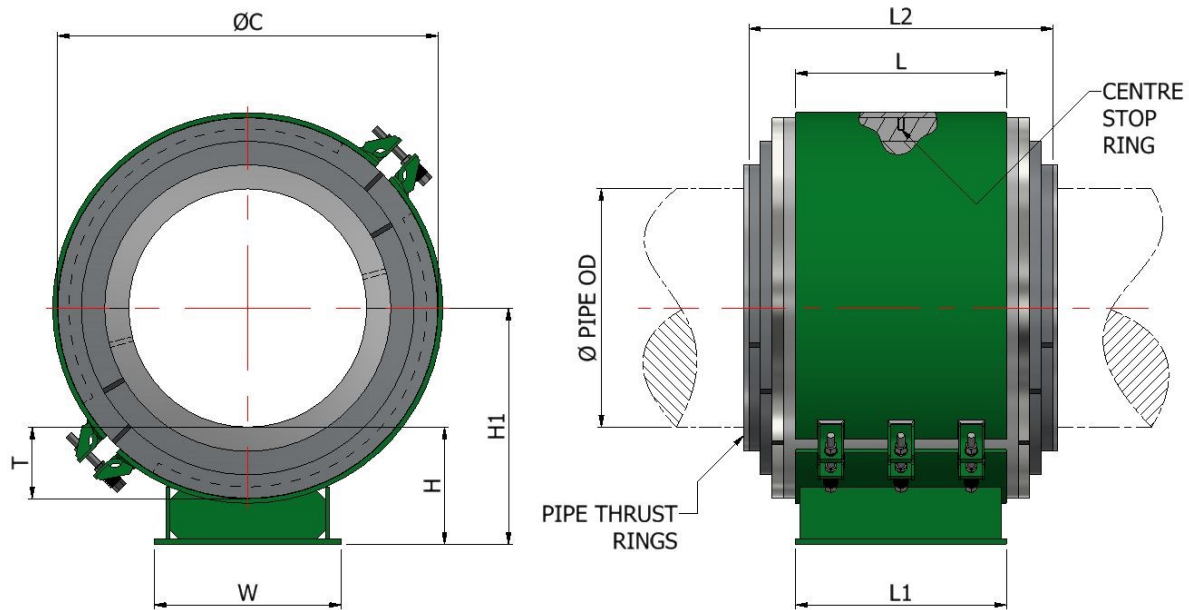
Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³			Den. = 224 kg/m³			Den. = 320 kg/m³		
									Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kg	kN	kN	kg	kN	kN	kg

Pipe Size 24" / 600 mm (OD 609.6 mm)	CA1-600/50-400-Den.	50	713	400	400	500	150	455	350	88.6	13.9	130	142	22.2	140	290	36.8	150
	CA1-600/75-400-Den.	75	763	400	400	550	175	480	350	88.6	17.5	150	142	27.9	150	290	46.4	170
	CA1-600/100-400-Den.	100	813	400	400	550	200	505	400	88.6	21.1	170	142	33.8	170	290	56.1	190
	CA1-600/125-400-Den.	125	863	400	400	600	225	530	400	88.6	24.8	190	142	39.7	190	290	66	210
	CA1-600/150-400-Den.	150	913	400	400	600	250	555	450	88.6	32.4	210	142	51.8	220	290	86.1	240
	CA1-600/200-400-Den.	200	1013	400	400	600	300	605	500	88.6	44.2	250	142	70.7	260	290	117	290
	CA1-600/250-400-Den.	250	1113	400	400	600	350	655	550	88.6	52.4	290	142	83.7	310	290	139	350
	CA1-600/50-600-Den.	50	713	600	600	700	150	455	350	133	13.9	190	212	22.2	190	434	36.8	210
	CA1-600/75-600-Den.	75	763	600	600	750	175	480	350	133	17.5	210	212	27.9	220	434	46.4	240
	CA1-600/100-600-Den.	100	813	600	600	750	200	505	400	133	21.1	240	212	33.8	240	434	56.1	260
	CA1-600/125-600-Den.	125	863	600	600	800	225	530	400	133	24.8	260	212	39.7	270	434	66	300
	CA1-600/150-600-Den.	150	913	600	600	800	250	555	450	133	32.4	290	212	51.8	300	434	86.1	330

Pipe Size 26" / 650 mm (OD 660.4 mm)	CA1-650/50-400-Den.	50	764	400	400	500	150	480	350	96	15	140	153	23.9	150	314	39.8	160
	CA1-650/75-400-Den.	75	814	400	400	550	175	505	400	96	18.9	160	153	30.1	170	314	50.1	180
	CA1-650/100-400-Den.	100	864	400	400	550	200	530	400	96	22.8	180	153	36.4	180	314	60.6	200
	CA1-650/125-400-Den.	125	914	400	400	600	225	555	450	96	26.8	200	153	42.8	210	314	71.2	230
	CA1-650/150-400-Den.	150	964	400	400	600	250	580	450	96	34.9	220	153	55.8	230	314	92.8	260
	CA1-650/200-400-Den.	200	1064	400	400	600	300	630	500	96	47.6	260	153	76	280	314	126	310
	CA1-650/250-400-Den.	250	1164	400	400	600	350	680	550	96	56.3	310	153	89.9	330	314	150	370
	CA1-650/50-600-Den.	50	764	600	600	700	150	480	350	144	15	200	230	23.9	210	471	39.8	220
	CA1-650/75-600-Den.	75	814	600	600	750	175	505	400	144	18.9	230	230	30.1	240	471	50.1	260
	CA1-650/100-600-Den.	100	864	600	600	750	200	530	400	144	22.8	250	230	36.4	260	471	60.6	280
	CA1-650/125-600-Den.	125	914	600	600	800	225	555	450	144	26.8	280	230	42.8	290	471	71.2	320
	CA1-650/150-600-Den.	150	964	600	600	800	250	580	450	144	34.9	310	230	55.8	320	471	92.8	360

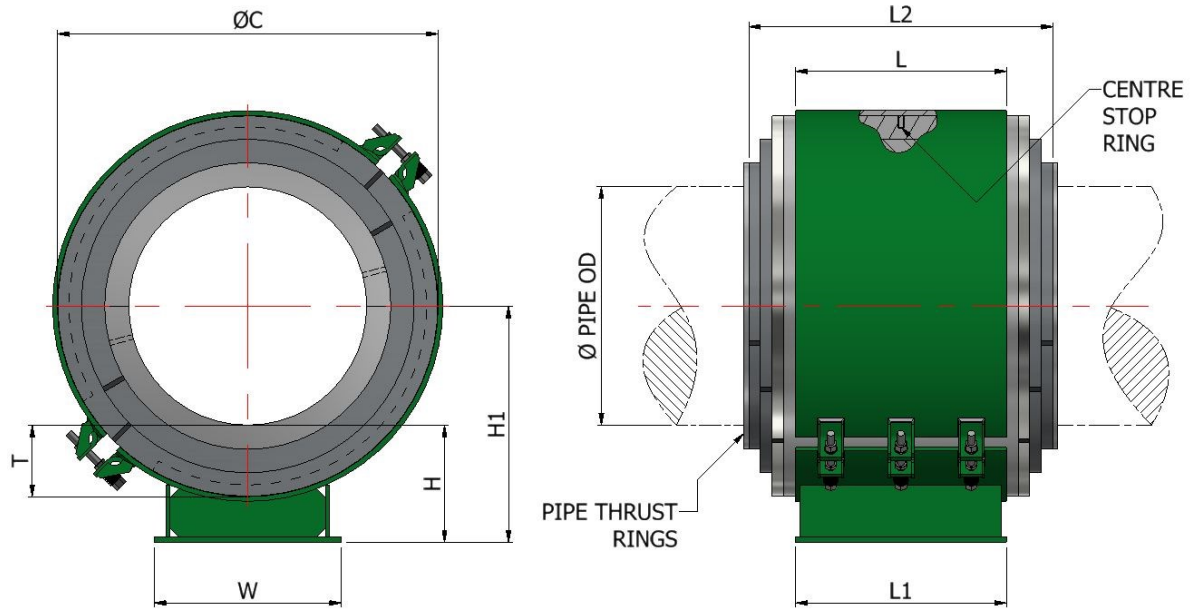
Pipe Size 28" / 700 mm (OD 711.2 mm)	CA1-700/50-400-Den.	50	815	400	400	500	150	506	400	103	16.1	160	165	25.7	160	338	42.8	180
	CA1-700/75-400-Den.	75	865	400	400	550	175	531	400	103	20.3	170	165	32.4	180	338	53.8	210
	CA1-700/100-400-Den.	100	915	400	400	550	200	556	450	103	24.5	190	165	39.1	200	338	65	230
	CA1-700/125-400-Den.	125	965	400	400	600	225	581	450	103	28.7	210	165	45.9	220	338	76.4	250
	CA1-700/150-400-Den.	150	1015	400	400	600	250	606	500	103	37.5	240	165	59.9	250	338	99.5	280
	CA1-700/200-400-Den.	200	1115	400	400	600	300	656	550	103	50.9	280	165	81.4	300	338	135	340
	CA1-700/250-400-Den.	250	1215	400	400	600	350	706	600	103	60.2	330	165	96.2	350	338	160	400
	CA1-700/50-600-Den.	50	815	600	600	700	150	506	400	155	16.1	220	248	25.7	220	507	42.8	240
	CA1-700/75-600-Den.	75	865	600	600	750	175	531	400	155	20.3	240	248	32.4	250	507	53.8	270
	CA1-700/100-600-Den.	100	915	600	600	750	200	556	450	155	24.5	270	248	39.1	280	507	65	310
	CA1-700/125-600-Den.	125	965	600	600	800	225	581	450	155	28.7	290	248	45.9	300	507	76.4	340
	CA1-700/150-600-Den.	150	1015	600	600	800	250	606	500	155	37.5	330	248	59.9	340	507	99.5	380

SUPPORT TYPE CA1 (LINE STOP / FIXED POINT)



Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³			Den. = 224 kg/m³			Den. = 320 kg/m³		
									Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kg	kN	kN	kg	kN	kN	kg
CA1-750/50-500-Den.	50	866	500	500	600	150	531	400	138	17.2	200	221	27.5	200	453	45.7	220
CA1-750/75-500-Den.	75	916	500	500	650	175	556	450	138	21.7	220	221	34.6	230	453	57.5	250
CA1-750/100-500-Den.	100	966	500	500	650	200	581	450	138	26.2	240	221	41.8	250	453	69.5	280
CA1-750/125-500-Den.	125	1016	500	500	700	225	606	500	138	30.7	270	221	49.1	280	453	81.6	310
CA1-750/150-500-Den.	150	1066	500	500	700	250	631	500	138	40	290	221	63.9	310	453	106	340
CA1-750/200-500-Den.	200	1166	500	500	700	300	681	550	138	54.3	340	221	86.8	360	453	144	410
CA1-750/250-500-Den.	250	1266	500	500	700	350	731	600	138	64.1	400	221	102	420	453	170	480
CA1-750/50-750-Den.	50	866	750	750	850	150	531	400	208	17.2	280	332	27.5	280	679	45.7	300
CA1-750/75-750-Den.	75	916	750	750	900	175	556	450	208	21.7	310	332	34.6	320	679	57.5	350
CA1-750/100-750-Den.	100	966	750	750	900	200	581	450	208	26.2	340	332	41.8	350	679	69.5	380
CA1-750/125-750-Den.	125	1016	750	750	950	225	606	500	208	30.7	370	332	49.1	390	679	81.6	430
CA1-750/150-750-Den.	150	1066	750	750	950	250	631	500	208	40	400	332	63.9	420	679	106	470
CA1-750/200-750-Den.	200	1166	750	750	950	300	681	550	208	54.3	470	332	86.8	500	679	144	570
CA1-750/250-750-Den.	250	1266	750	750	950	350	731	600	208	64.1	540	332	102	580	679	170	660
CA1-800/50-500-Den.	50	917	500	500	600	150	556	450	148	18.3	210	236	29.3	220	483	48.7	240
CA1-800/75-500-Den.	75	967	500	500	650	175	581	450	148	23.1	240	236	36.8	240	483	61.2	270
CA1-800/100-500-Den.	100	1017	500	500	650	200	606	500	148	27.8	260	236	44.5	270	483	73.9	300
CA1-800/125-500-Den.	125	1067	500	500	700	225	631	500	148	32.7	280	236	52.2	290	483	86.8	330
CA1-800/150-500-Den.	150	1117	500	500	700	250	656	550	148	42.5	310	236	67.9	330	483	113	370
CA1-800/200-500-Den.	200	1217	500	500	700	300	706	600	148	57.6	370	236	92.1	390	483	153	440
CA1-800/250-500-Den.	250	1317	500	500	700	350	756	650	148	68	430	236	109	450	483	181	510
CA1-800/50-750-Den.	50	917	750	750	850	150	556	450	221	18.3	300	354	29.3	310	724	48.7	330
CA1-800/75-750-Den.	75	967	750	750	900	175	581	450	221	23.1	330	354	36.8	340	724	61.2	370
CA1-800/100-750-Den.	100	1017	750	750	900	200	606	500	221	27.8	360	354	44.5	380	724	73.9	410
CA1-800/125-750-Den.	125	1067	750	750	950	225	631	500	221	32.7	390	354	52.2	410	724	86.8	460
CA1-800/150-750-Den.	150	1117	750	750	950	250	656	550	221	42.5	430	354	67.9	450	724	113	500
CA1-800/200-750-Den.	200	1217	750	750	950	300	706	600	221	57.6	500	354	92.1	530	724	153	600
CA1-800/250-750-Den.	250	1317	750	750	950	350	756	650	221	68	580	354	109	620	724	181	700
CA1-850/50-500-Den.	50	968	500	500	600	150	582	450	157	19.5	220	251	31.1	230	513	51.7	250
CA1-850/75-500-Den.	75	1018	500	500	650	175	607	500	157	24.5	250	251	39.1	260	513	65	280
CA1-850/100-500-Den.	100	1068	500	500	650	200	632	500	157	29.5	270	251	47.2	280	513	78.4	310
CA1-850/125-500-Den.	125	1118	500	500	700	225	657	550	157	34.6	300	251	55.3	310	513	92	350
CA1-850/150-500-Den.	150	1168	500	500	700	250	682	550	157	45	330	251	71.9	340	513	120	380
CA1-850/200-500-Den.	200	1268	500	500	700	300	732	600	157	61	380	251	97.5	400	513	162	460
CA1-850/250-500-Den.	250	1368	500	500	700	350	782	650	157	71.9	440	251	115	470	513	191	540
CA1-850/50-750-Den.	50	968	750	750	850	150	582	450	235	19.5	310	376	31.1	320	769	51.7	350
CA1-850/75-750-Den.	75	1018	750	750	900	175	607	500	235	24.5	350	376	39.1	360	769	65	400
CA1-850/100-750-Den.	100	1068	750	750	900	200	632	500	235	29.5	380	376	47.2	390	769	78.4	440
CA1-850/125-750-Den.	125	1118	750	750	950	225	657	550	235	34.6	420	376	55.3	430	769	92	490
CA1-850/150-750-Den.	150	1168	750	750	950	250	682	550	235	45	450	376	71.9	470	769	120	530
CA1-850/200-750-Den.	200	1268	750	750	950	300	732	600	235	61	520	376	97.5	550	769	162	640
CA1-850/250-750-Den.	250	1368	750	750	950	350	782	650	235	71.9	600	376	115	640	769	191	740

SUPPORT TYPE CA1 (LINE STOP / FIXED POINT)



Part Number	T Thick	ØC	L	L1	L2	H	H1	W	Den. = 160 kg/m³			Den. = 224 kg/m³			Den. = 320 kg/m³		
									Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight	Max Vertical Load	Max Axial Load	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kg	kN	kN	kg	kN	kN	kg

Pipe Size 36" / 900 mm (OD 914.4 mm)	CA1-900/50-500-Den.	50	1019	500	500	600	150	607	500	166	20.6	240	265	32.9	240	543	54.6	270
	CA1-900/75-500-Den.	75	1069	500	500	650	175	632	500	166	25.9	260	265	41.3	270	543	68.7	290
	CA1-900/100-500-Den.	100	1119	500	500	650	200	657	550	166	31.2	290	265	49.8	300	543	82.8	330
	CA1-900/125-500-Den.	125	1169	500	500	700	225	682	550	166	36.6	310	265	58.5	320	543	97.2	360
	CA1-900/150-500-Den.	150	1219	500	500	700	250	707	600	166	47.5	350	265	76	360	543	126	410
	CA1-900/200-500-Den.	200	1319	500	500	700	300	757	650	166	64.4	400	265	103	420	543	171	490
	CA1-900/250-500-Den.	250	1419	500	500	700	350	807	700	166	75.9	460	265	121	490	543	202	560
	CA1-900/50-750-Den.	50	1019	750	750	850	150	607	500	249	20.6	340	398	32.9	340	815	54.6	380
	CA1-900/75-750-Den.	75	1069	750	750	900	175	632	500	249	25.9	360	398	41.3	370	815	68.7	410
	CA1-900/100-750-Den.	100	1119	750	750	900	200	657	550	249	31.2	400	398	49.8	410	815	82.8	460
	CA1-900/125-750-Den.	125	1169	750	750	950	225	682	550	249	36.6	430	398	58.5	450	815	97.2	510
	CA1-900/150-750-Den.	150	1219	750	750	950	250	707	600	249	47.5	480	398	76	500	815	126	570
	CA1-900/200-750-Den.	200	1319	750	750	950	300	757	650	249	64.4	550	398	103	580	815	171	670
	CA1-900/250-750-Den.	250	1419	750	750	950	350	807	700	249	75.9	630	398	121	670	815	202	780

Pipe Size 38" / 950 mm (OD 965.2 mm)	CA1-950/50-500-Den.	50	1071	500	500	600	150	633	500	175	21.7	250	280	34.7	250	573	57.6	280
	CA1-950/75-500-Den.	75	1121	500	500	650	175	658	550	175	27.3	280	280	43.6	280	573	72.4	310
	CA1-950/100-500-Den.	100	1171	500	500	650	200	683	550	175	32.9	300	280	52.5	310	573	87.3	340
	CA1-950/125-500-Den.	125	1221	500	500	700	225	708	600	175	38.5	330	280	61.6	340	573	102	390
	CA1-950/150-500-Den.	150	1271	500	500	700	250	733	600	175	50	360	280	80	370	573	133	420
	CA1-950/200-500-Den.	200	1371	500	500	700	300	783	650	175	67.7	410	280	108	440	573	180	500
	CA1-950/250-500-Den.	250	1471	500	500	700	350	833	700	175	79.8	480	280	127	510	573	212	580
	CA1-950/50-750-Den.	50	1071	750	750	850	150	633	500	263	21.7	350	420	34.7	360	860	57.6	390
	CA1-950/75-750-Den.	75	1121	750	750	900	175	658	550	263	27.3	390	420	43.6	400	860	72.4	440
	CA1-950/100-750-Den.	100	1171	750	750	900	200	683	550	263	32.9	420	420	52.5	430	860	87.3	480
	CA1-950/125-750-Den.	125	1221	750	750	950	225	708	600	263	38.5	460	420	61.6	480	860	102	540
	CA1-950/150-750-Den.	150	1271	750	750	950	250	733	600	263	50	490	420	80	520	860	133	590
	CA1-950/200-750-Den.	200	1371	750	750	950	300	783	650	263	67.7	570	420	108	600	860	180	690
	CA1-950/250-750-Den.	250	1471	750	750	950	350	833	700	263	79.8	650	420	127	690	860	212	800

Pipe Size 40" / 1000 mm (OD 1016.0 mm)	CA1-1000/50-500-Den.	50	1122	500	500	600	150	658	550	185	22.8	260	295	36.5	270	603	60.6	310
	CA1-1000/75-500-Den.	75	1172	500	500	650	175	683	550	185	28.6	290	295	45.8	290	603	76.1	340
	CA1-1000/100-500-Den.	100	1222	500	500	650	200	708	600	185	34.5	320	295	55.2	330	603	91.8	380
	CA1-1000/125-500-Den.	125	1272	500	500	700	225	733	600	185	40.5	340	295	64.7	360	603	108	410
	CA1-1000/150-500-Den.	150	1322	500	500	700	250	758	650	185	52.6	380	295	84	390	603	140	460
	CA1-1000/200-500-Den.	200	1422	500	500	700	300	808	700	185	71.1	430	295	114	460	603	189	540
	CA1-1000/250-500-Den.	250	1522	500	500	700	350	858	750	185	83.7	500	295	134	530	603	222	630
	CA1-1000/50-750-Den.	50	1122	750	750	850	150	658	550	277	22.8	370	442	36.5	380	905	60.6	430
	CA1-1000/75-750-Den.	75	1172	750	750	900	175	683	550	277	28.6	400	442	45.8	410	905	76.1	470
	CA1-1000/100-750-Den.	100	1222	750	750	900	200	708	600	277	34.5	440	442	55.2	450	905	91.8	520
	CA1-1000/125-750-Den.	125	1272	750	750	950	225	733	600	277	40.5	470	442	64.7	490	905	108	570
	CA1-1000/150-750-Den.	150	1322	750	750	950	250	758	650	277	52.6	520	442	84	540	905	140	630
	CA1-1000/200-750-Den.	200	1422	750	750	950	300	808	700	277	71.1	590	442	114	630	905	189	740
	CA1-1000/250-750-Den.	250	1522	750	750	950	350	858	750	277	83.7	680	442	134	720	905	222	860



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