

Edbro CS Catalogue

Edbro



Edbro CS Catalogue for
Truck & Trailer Cylinders

CS7

CS11

CS13

CS14

CS15

CS17

CS18

CS19

CS22

The Industry Standard

Since developing the first hydraulic tipping gear in 1916, Edbro has remained ahead of the competition producing technically superior cylinders which utilize the very latest technologies. A programme of continuous investment ensures that Edbro sets the industry standards, delivering developments in cylinder technology year on year. The CS range has been designed to operate in even the toughest of environments and deliver the reliability for which the brand is known and trusted.

Laser welding is central to our cylinder manufacturing and allows us to deliver numerous operator advantages which all result in increased profits for our customers. The Edbro CS series of cylinders is the lightest and most durable range of telescopic cylinders in the world and allows fast tipping when specified in combination with a Edbro hydraulic kit.



Blue Technology

Edbro Cylinders

Edbro has extensive experience in the design and manufacture of cylinders; the CS series of cylinders includes a wide range of sizes and options. Using the same basic cylinder technology Edbro also offers a range of combined cylinder and tanks: the CX range. The CX offers a neat and lightweight solution for rigid chassis. A full range of underbody cylinders and double acting telescopics are also available within the Edbro product range with information available at www.edbro.com.

Edbro Complete Kit Concept

In addition to the full range of cylinders Edbro offers a complete range of associated hydraulics and accessories such as pumps, valves, oil tanks etc., to provide you with the complete kit.

The Edbro complete kit concept offers you a number of advantages including:

- Guaranteed compatibility
- Safety and peace of mind with an Engineered solution from the industry experts
- Efficient & convenient way in which to source the complete solution
- Customized solutions to meet any hydraulic application



Flexible Manufacturing and Standard Components

Flexible production systems created by investment in new manufacturing technologies and automation combined with an extensive range of standard components allow Edbro to provide a fast and efficient design and manufacturing service. If you can't find the cylinder you need within this catalogue then contact Edbro and we can design a cylinder to meet your needs.

Application Engineering

Our unrivalled product knowledge and experience ensures a safe but optimized cylinder selection for even the most demanding of applications. A comprehensive cylinder selection programme is available on line at www.edbro.com which will present a range of suitable cylinders for your application.

Service and Spares

Edbro is supported by an extensive Global network of dedicated agents offering product support and spare parts whatever the age of your equipment.

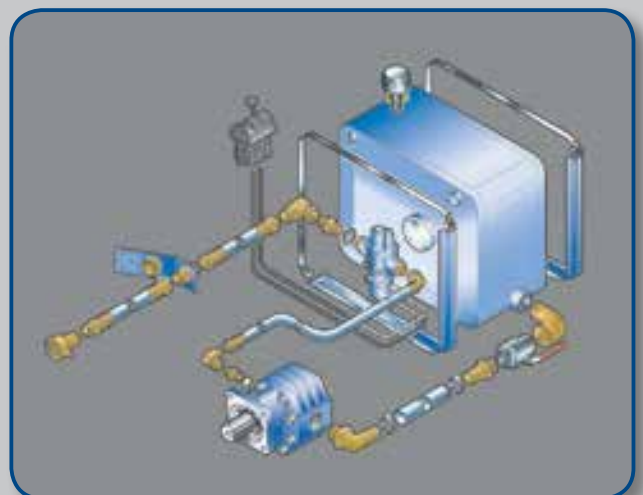
Quality

ISO 9001 certified and operating extensive on-line quality control systems, Edbro can guarantee that every cylinder built is to the highest standard and will deliver the "fit & forget" experience our customers have come to expect. With every cylinder being subjected to end of line testing to 150% of its maximum pressure you can trust in our quality.

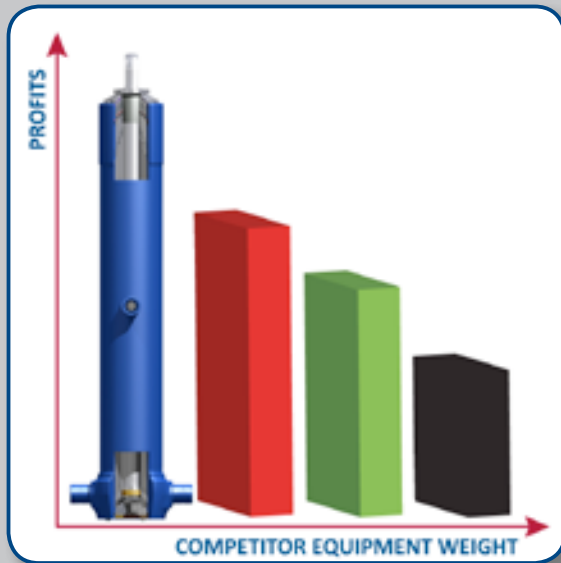
Engineering Expertise

With almost 100 years of industry experience you can be sure that Edbro have the expertise to produce world class designs with safety and reliability core to the design philosophy. Significant weight savings can also be achieved thanks to our state of the art manufacturing which allows us to put metal where it matters.

Our exhaustive pre-production testing program uses state of the art in-house test and development facilities, combined with international field testing programs working alongside some of our most demanding customers to produce cylinders of outstanding durability.



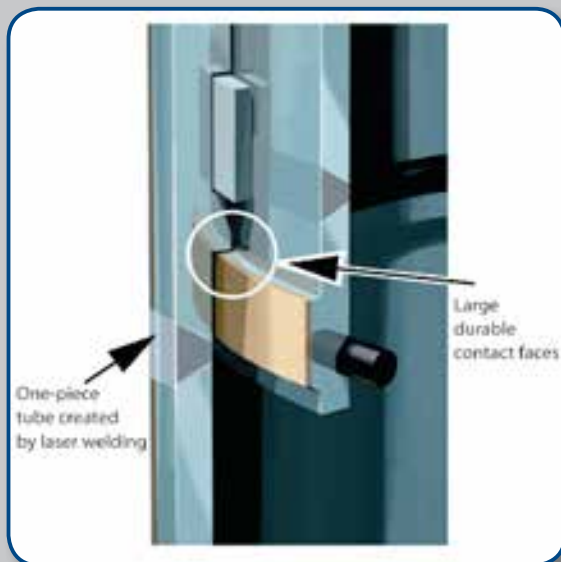
Benefits



Lighter

Increased Payloads

The world's lightest tipping cylinders with savings of up to 100kg available, providing increased payload and so increased operating profits.



Faster

Faster Tipping Speeds

One-piece tube construction and increased tube contact faces allow faster tipping speeds.

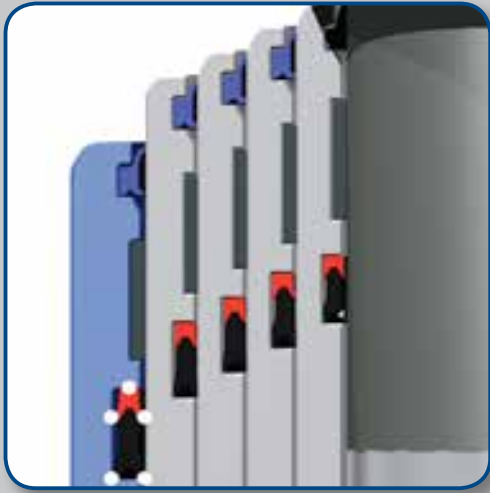


Stronger

Increased Lift & Side Load Capacity

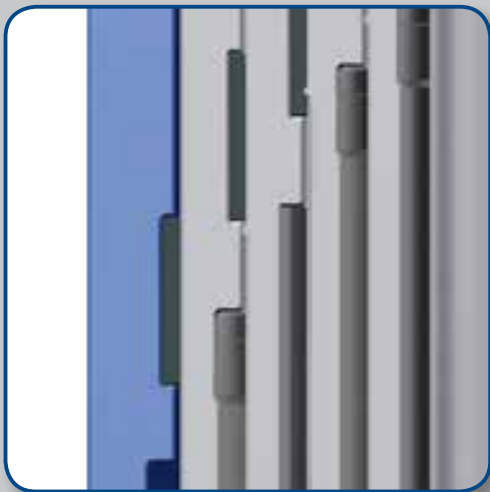
Advanced design and production engineering techniques, allow material to be added where it matters, providing increased lift capacity and side load resistance.

Features



Double lip wiper seal ensures efficient lubrication of each tube and prevents contamination of the cylinder.

Unique 5 point sealing system reduces friction for years of smooth, trouble-free operation.



Wear rings made from non-metallic, acetal material provide low friction and long service life.

One-piece tubes with large stop contact faces provide optimum durability for long life and reduced maintenance.



Thick one piece base design increases the strength and durability of the product.

Brass slider reduces risk of scoring and damage due to side load.



How to select your Edbro cylinder

Make a decision about the style of mounting:

Outer cover type



The outer cover design is very strong and suits simple square fronted body designs. Stroke variants do not affect mounting centres but the cylinder reduces the available body length because a cab gap is required. The extra strength has a weight penalty but it may facilitate a simple and light body design.

Plain eye type



This is the lightest possible cylinder but is not as strong as the outer cover type. The plain eye is welded to the smallest tube so is very robust and so provides some form of sideload resistance. However, the body design is now more challenging and normally dedicated to a unique cylinder installation.

Spherical eye type

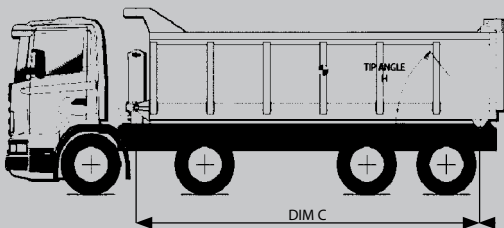


This variant of eye type will ensure that there is no bending stress imposed on the body and reduces cylinder side loading but it will allow more body movement under sideload conditions.

Decide the required tipping angle:

Edbro recommend for general mixed material tipping operations 48-50° with 45° as a minimum. Refer to www.edbro.com for a list of angles for specific materials (hyper link for web & memory stick versions).

Estimate the cylinder stroke:



$$\text{Approx stroke} = \text{Tip angle (H)} \times \text{Pivot length (Dim C)} / 59$$

Estimate the required body and payload:

Payload is normally estimated from the design capacity of the chassis and legal road requirements.

Maximum payload = body capacity x 1.5t/m³ x 1.5 (50% if overload is anticipated).

Add body mass for the total load to be lifted.

- Refer to the catalogue pages to select a cylinder of the chosen type with sufficient stroke and tipping capacity. For eye type, if the cylinder mounting centre A is too long for the body design, select a larger cylinder with more stages.
- When a suitable cylinder has been identified, a sales drawing can be requested from sales@edbro.co.uk. If a suitable cylinder is not listed e-mail your application details to Edbro.

Understanding the catalogue pages

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)	Rated capacity (tonnes)		Bodylength (mm)		A - Mtg Centre (mm)	B - Port Height (mm)	Port Type
					Min	Max	Min	Max			

No of Stages: The number of stages to extend when tipping.

Stroke: The total distance the cylinder extends when tipping.

Mass: This is the dry mass of the cylinder. Oil mass can be added at 0.87kg/litre.

Swept oil volume: This is the oil volume to extend the cylinder. Tipping time (s) = 60000 x Swept volume / (pump displacement (cc/rev) X rpm)

Maximum pressure: All hydraulic systems must be fitted with a relief valve. Edbro cylinders can be used with systems up to 190bar maximum pressure.

Tipping Capacity: The tipping capacity is calculated using a Working Pressure limit. Normally this is 175bar but it may be reduced if the base mounting is likely to be overloaded (very short stroke cylinders) or if the buckling (bending) limit is likely to be exceeded (long stroke cylinders). For each cylinder the Working Pressure is stated on the sales drawing. The Tipping Capacity and Working Pressure are based on many assumptions about body and load geometry. A more favourable geometry may give higher results, a cylinder selection tool is available at www.edbro.com

Bodylength: The tipping capacity is calculated assuming square body and a vertical cylinder installation. The max/min bodylength is therefore for guidance only.

Mounting centres: Recommended design mounting centre (includes an initial pull out of 10mm).

Port type: BSP (parallel) ports are standard CS11 = ¾" CS13-15 = 1" CS17-22 = 1 ¼". Options are available for 4 bolt SAE(S) and twin port BSP (T).

Cylinder specification notes:

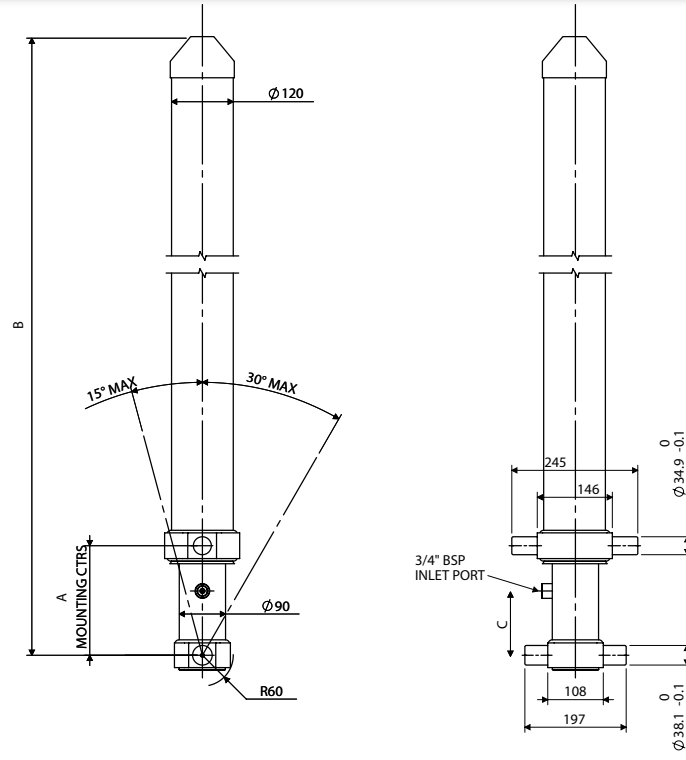
Chrome plating: Edbro uses a high performance micro-crack chrome plating system. For cylinders with top eye mounting, the smallest stage is always chrome plated. For other cylinders chrome plating is an option. The minimum guaranteed corrosion resistance is 40hrs neutral salt exposure to rating 10 ISO4406. Chrome plating is recommended where the cylinder is used in a corrosive or particularly dirty environment or where a very high tipping cycle count is envisaged.

Maximum pump size: The oil flow determines the speed of extension of the cylinder tubes. The maximum speed must be limited to 0.3m/s. Depending on cylinder size and number of stages, this can be converted into maximum flow rates as below:

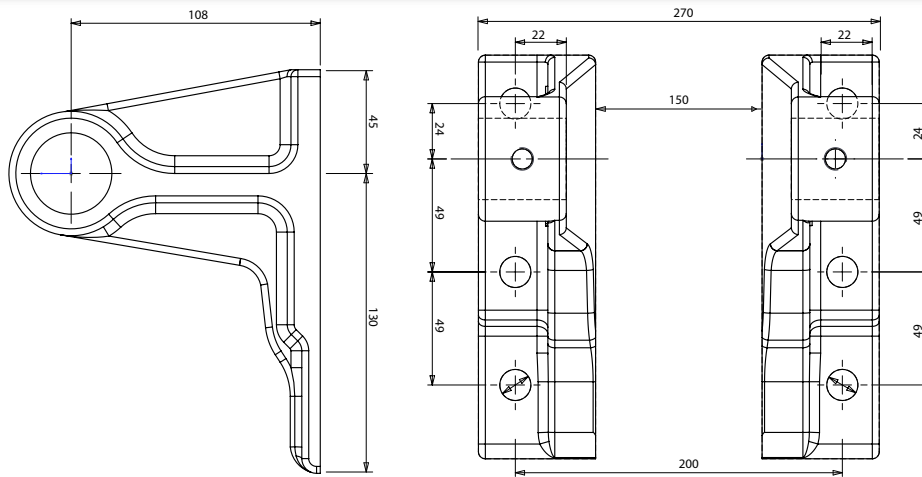
Model									small inner dia	max flow l/min
CS22	CS19	CS18	CS17	CS15	CS13	CS11	CS10	CS7	mm	
						4	3	3	63	60
			6	5	4	3			79	90
	6	5	5	4	3				98	135
	5	4	4	3					117	200
5	4								136	250

Note that the pump size = flow rate x 1000 / pump rpm

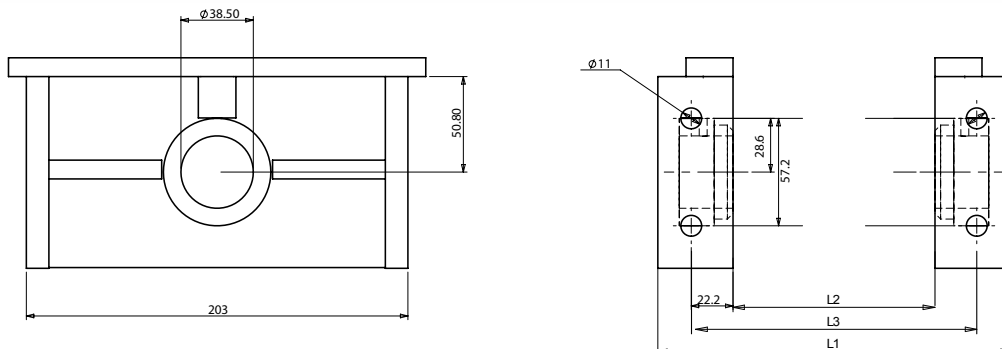
CS7 00



EB165/1-EB166/1



RB14A/FAB



Mass: 3kg x 2 = 6 kg

CS7 00

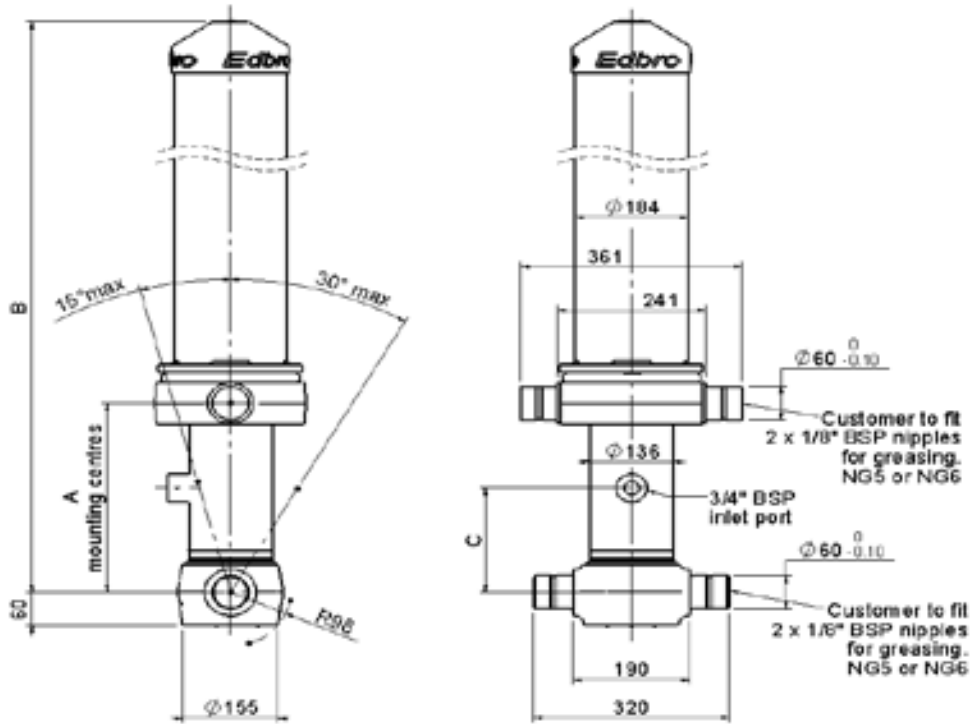
CYLINDERS WITH OUTER COVER

CS07														
Cylinders Codes			N° of stages	Stroke (mm)	Mass (kg)	Swept Oil Volume (l)					A - Mounting Centre (mm)	B - Overall Height (mm)	C - Port Height (mm)	Port Type
							capacity (tonnes)		Bodylength (mm)					
							Min	Max	Min	Max				
CS07 00 3	2130	N12 A28	3	2130	49	7	7	10	3000	3200	213	1010	125	BSP
CS07 00 3	2355	N12 A28	3	2355	52	7	7	11	3250	3650	213	1085	125	BSP
CS07 00 3	2595	N12 A28	3	2595	56	9	7	10	3500	3900	213	1165	125	BSP
CS07 00 3	2895	N12 A28	3	2895	60	11	7	11	3750	4250	213	1265	125	BSP
CS07 00 3	3195	N12 A28	3	3195	64	12	7	10	4250	4750	213	1365	125	BSP

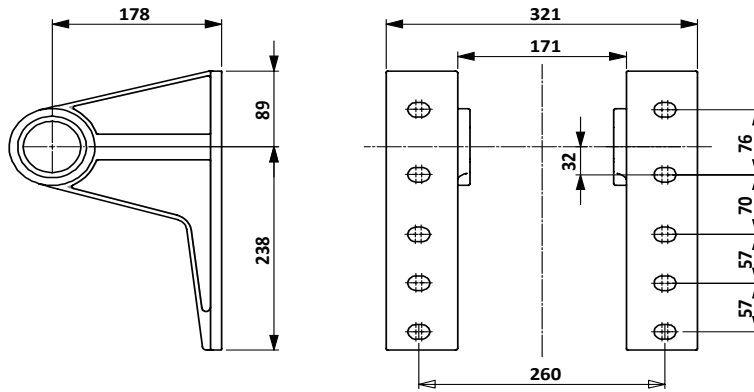
CYLINDERS WITH EYE MOUNTING

CS07 0E 3	2595	N12 A02	3	2595	44	9	7	11	3500	3900	1225	1294	125	BSP
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CS11 00

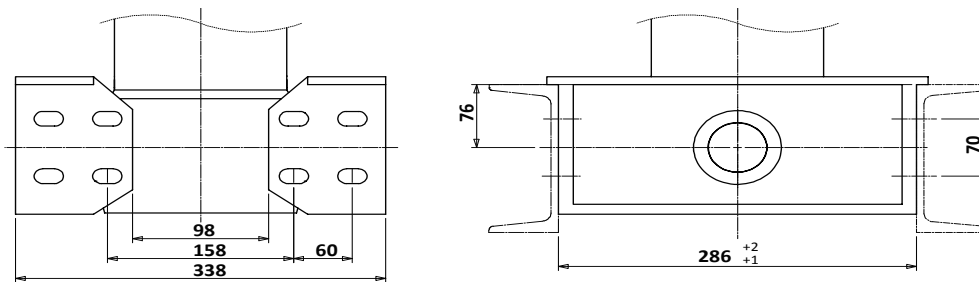


LB108-LB109



Mass: 7kg x 2 = 14 kg

BB103



Mass: 11kg x 2 = 22 kg

CS11 00

CYLINDERS WITH OUTER COVER

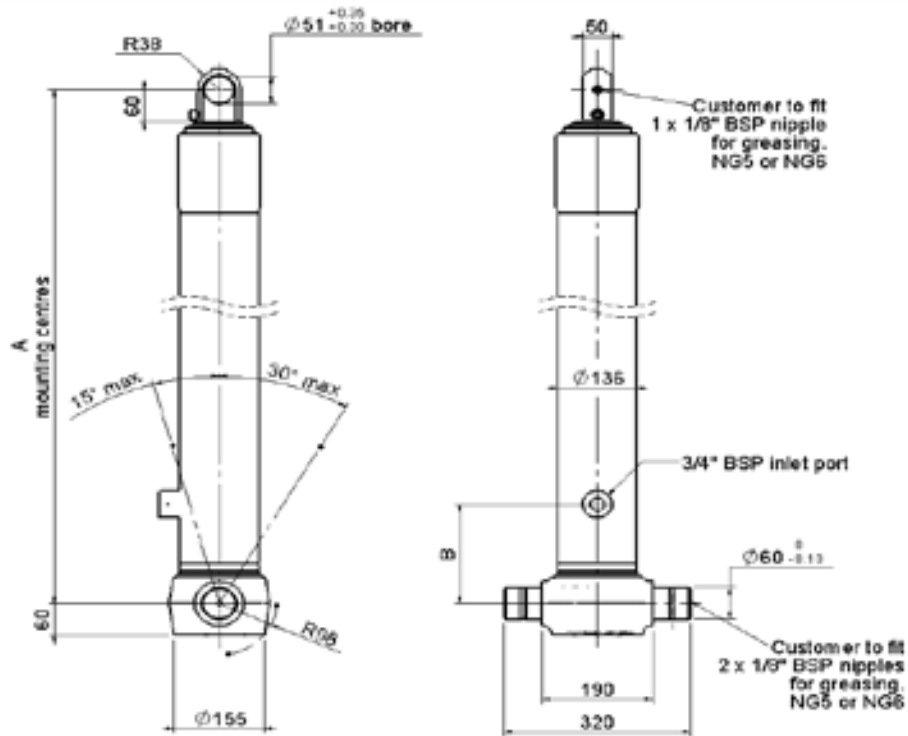
CS11 Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Overall Height (mm)	C - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)					
					Min	Max	Min	Max				
CS11 00 3 3194 B19 A11	3	3194	110	24	22	35	4400	4650	345	1331	190	BSP
CS11 00 3 3344 B19 A11	3	3344	113	26	21	34	4550	4800	345	1381	190	BSP
CS11 00 3 3494 B19 A11	3	3494	116	27	21	33	4700	4950	345	1431	190	BSP
CS11 00 3 3644 B19 A11	3	3644	120	28	21	32	4850	5100	345	1481	190	BSP
CS11 00 3 3794 B19 A11	3	3794	123	29	21	32	5000	5250	345	1531	190	BSP
CS11 00 3 3944 B19 A11	3	3944	126	30	21	31	5150	5400	345	1581	190	BSP
CS11 00 3 4094 B19 A11	3	4094	130	32	21	30	5300	5500	345	1631	190	BSP

CS11 00 4 3271 B19 A11	4	3271	98	22	17	31	4400	4700	345	1086	190	BSP
CS11 00 4 3471 B19 A11	4	3471	102	23	17	31	4550	4850	345	1136	190	BSP
CS11 00 4 3671 B19 A11	4	3671	105	25	17	30	4700	5200	345	1186	190	BSP
CS11 00 4 3871 B19 A11	4	3871	109	25	17	30	4850	5350	345	1236	190	BSP
CS11 00 4 4071 B19 A11	4	4071	112	27	17	29	5000	5500	345	1286	190	BSP
CS11 00 4 4271 B19 A11	4	4271	116	27	17	27	5250	5750	345	1336	190	BSP
CS11 00 4 4471 B19 A11	4	4471	120	30	16	26	5500	6000	345	1386	190	BSP
CS11 00 4 4671 B19 A11	4	4671	123	31	16	24	5750	6250	345	1436	190	BSP
CS11 00 4 4871 B19 A11	4	4871	127	32	16	23	6000	6500	345	1486	190	BSP
CS11 00 4 5071 B19 A11	4	5071	130	33	16	23	6250	6750	345	1536	190	BSP
CS11 00 4 5271 B19 A11	4	5271	134	34	16	22	6500	7000	345	1586	190	BSP
CS11 00 4 5471 B19 A11	4	5471	138	36	16	21	6750	7250	345	1636	190	BSP

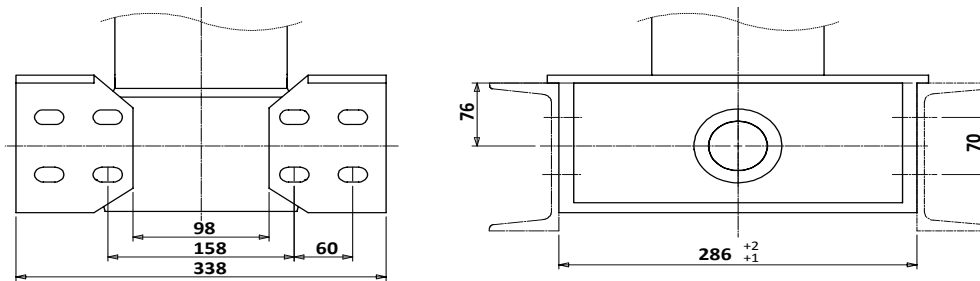
SPECIALS

CS11 00 4 4271 B19 A21	4	4271	116	27	17	27	5250	5750	345	1336	190	BSP
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CS11 0E

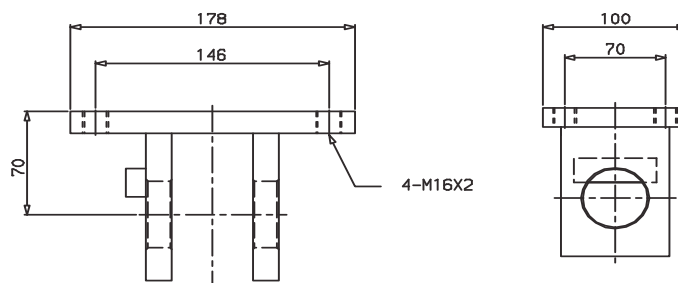


BB103



Mass: 11kg x 2 = 22 kg

OMK1



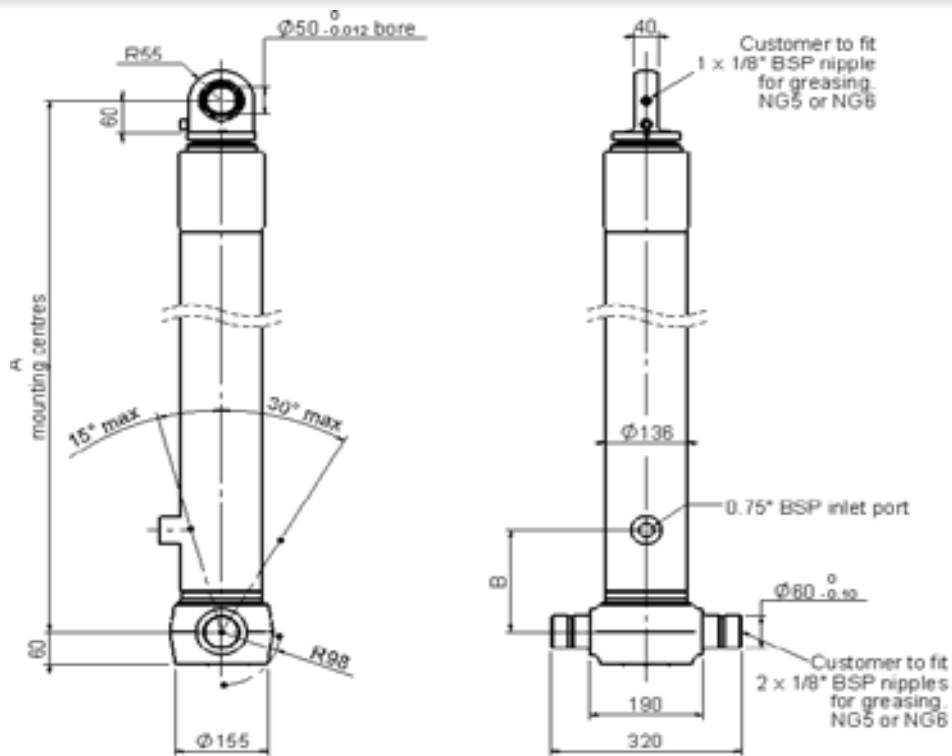
OMK1 for 3-4 stages ; Mass : 5 kg

CS11 OE

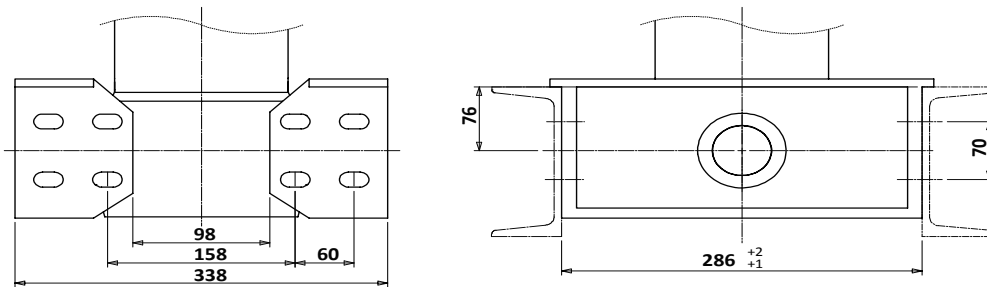
CYLINDERS WITH EYE MOUNTING

CS11 OE												
Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type	
					Tipping capacity		Bodylength (mm)					
					Min	Max	Min	Max				
CS11 OE 3 2444 B19 A01	3	2444	61	19	23	33	3900	4100	1049	190	BSP	
CS11 OE 3 2594 B19 A01	3	2594	63	20	22	32	4000	4200	1099	190	BSP	
CS11 OE 3 2744 B19 A01	3	2744	66	22	19	32	4100	4300	1149	190	BSP	
CS11 OE 3 2894 B19 A01	3	2894	68	22	19	32	4200	4400	1199	190	BSP	
CS11 OE 3 3044 B19 A01	3	3044	71	24	19	32	4300	4500	1249	190	BSP	
CS11 OE 3 3194 B19 A01	3	3194	74	24	19	31	4400	4650	1299	190	BSP	
CS11 OE 3 3344 B19 A01	3	3344	76	26	19	30	4550	4800	1349	190	BSP	
CS11 OE 3 3494 B19 A01	3	3494	79	27	19	29	4700	4950	1399	190	BSP	
CS11 OE 3 3644 B19 A01	3	3644	81	28	19	29	4850	5100	1449	190	BSP	
CS11 OE 3 3794 B19 A01	3	3794	84	29	18	28	5000	5250	1499	190	BSP	
CS11 OE 3 3944 B19 A01	3	3944	87	30	18	27	5150	5400	1549	190	BSP	
CS11 OE 3 4094 B19 A01	3	4094	89	32	18	27	5300	5500	1599	190	BSP	

CS11 0S



BB103



Mass: 11kg x 2 = 22 kg

CS11 OS

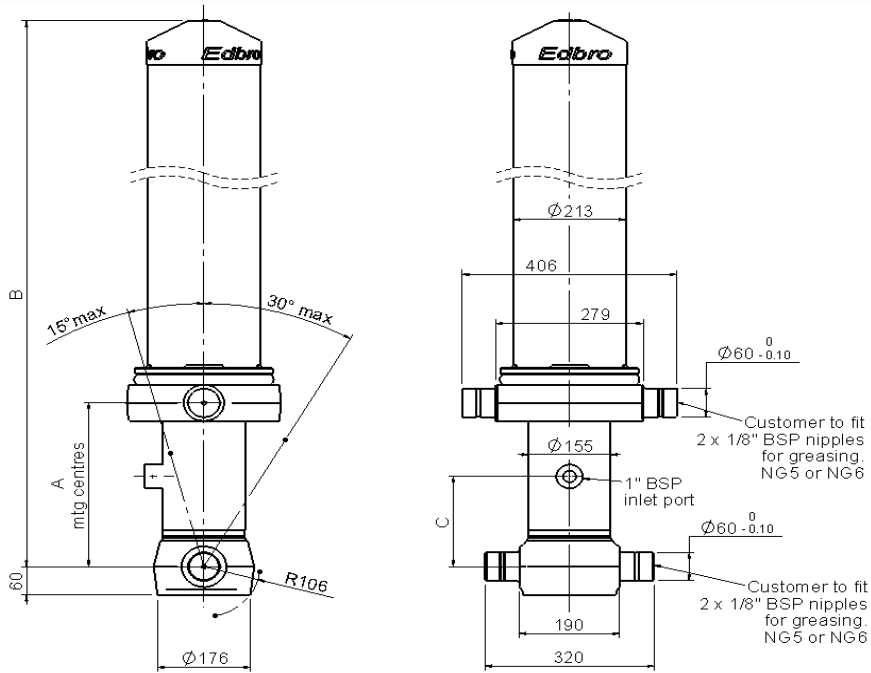
CYLINDERS WITH SPHERICAL MOUNTING

CS11 OS			N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
Cylinders Codes							Tipping capacity		Bodylength (mm)				
							Min	Max	Min	Max			
CS11 OS 3	2444	B19 A01	3	2444	64	19	23	33	3900	4100	1059	190	BSP
CS11 OS 3	2594	B19 A01	3	2594	67	20	22	32	4000	4200	1109	190	BSP
CS11 OS 3	2744	B19 A01	3	2744	69	22	19	32	4100	4300	1159	190	BSP
CS11 OS 3	2894	B19 A01	3	2894	72	23	19	32	4200	4400	1209	190	BSP
CS11 OS 3	3044	B19 A01	3	3044	75	24	19	32	4300	4500	1259	190	BSP
CS11 OS 3	3194	B19 A01	3	3194	77	25	19	31	4400	4650	1309	190	BSP
CS11 OS 3	3344	B19 A01	3	3344	80	26	19	30	4550	4800	1359	190	BSP
CS11 OS 3	3494	B19 A01	3	3494	82	27	19	29	4700	4950	1409	190	BSP
CS11 OS 3	3644	B19 A01	3	3644	85	28	19	29	4850	5100	1459	190	BSP
CS11 OS 3	3794	B19 A01	3	3794	87	29	18	28	5000	5250	1509	190	BSP
CS11 OS 3	3944	B19 A01	3	3944	90	30	18	27	5150	5400	1559	190	BSP
CS11 OS 3	4094	B19 A01	3	4094	93	32	18	27	5300	5500	1609	190	BSP

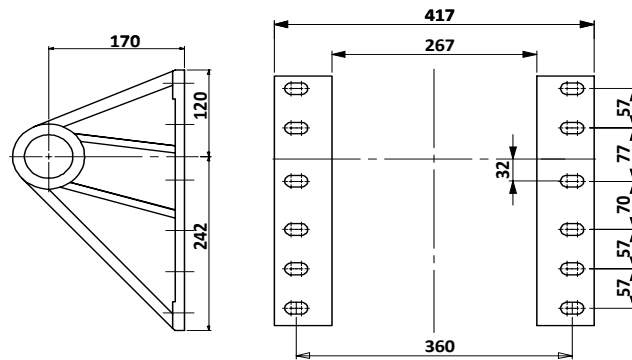
SPECIALS

CS11 OS 3	3494	B19 A04	3	3494	79	27	20	32	4750	5000	1474	190	BSP
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CS13 00

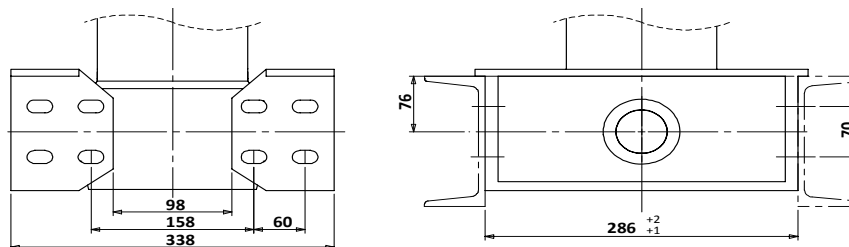


LB104-LB105



Mass: 8.5kg x 2 = 16 kg

BB103



Mass: 11kg x 2 = 22 kg

CS13 00

CYLINDERS WITH OUTER COVER

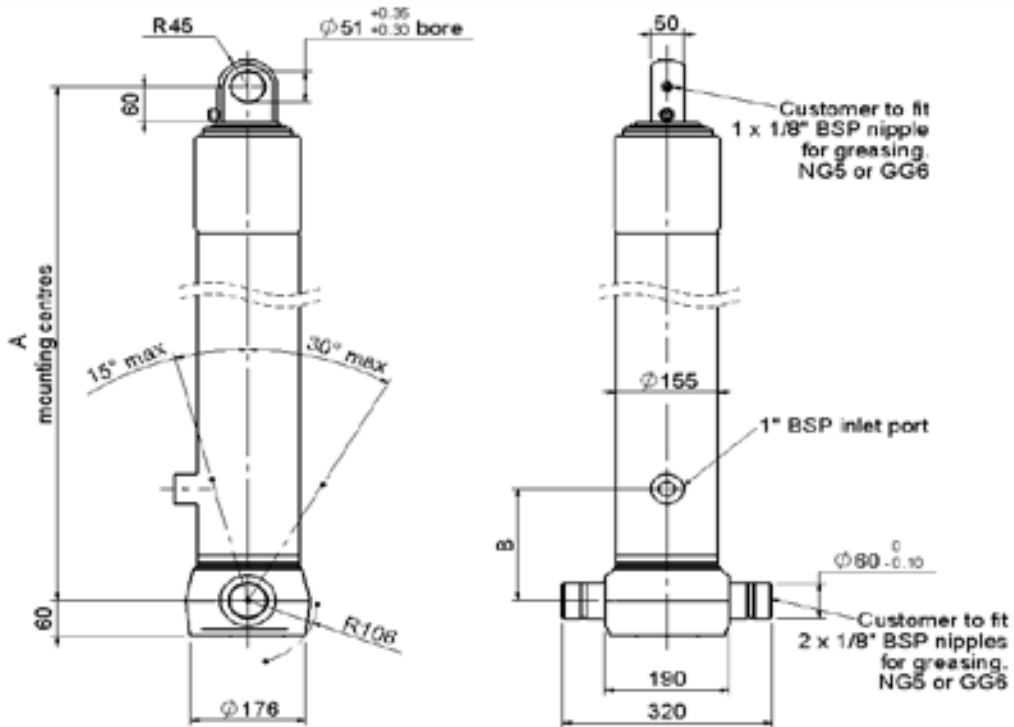
Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Overall Height (mm)	C - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)					
					Min	Max	Min	Max				
CS13 00 3 3169 B19 A11	3	3169	151	34	27	49	4200	4450	345	1332	190	BSP
CS13 00 3 3319 B19 A11	3	3319	155	36	27	47	4350	4600	345	1382	190	BSP
CS13 00 3 3469 B19 A11	3	3469	159	37	27	45	4500	4750	345	1432	190	BSP
CS13 00 3 3619 B19 A11	3	3619	163	39	27	43	4650	4900	345	1482	190	BSP
CS13 00 3 3769 B19 A11	3	3769	168	42	27	42	4800	5050	345	1532	190	BSP
CS13 00 3 3919 B19 A11	3	3919	172	43	27	41	4950	5200	345	1582	190	BSP

CS13 00 4 3841 B19 A11	4	3841	151	36	27	42	4750	5250	345	1242	190	BSP
CS13 00 4 4041 B19 A11	4	4041	155	38	27	42	4900	5400	345	1292	190	BSP
CS13 00 4 4241 B19 A11	4	4241	160	39	26	42	5250	5750	345	1342	190	BSP
CS13 00 4 4441 B19 A11	4	4441	165	42	26	40	5500	6000	345	1392	190	BSP
CS13 00 4 4641 B19 A11	4	4641	169	43	25	38	5750	6250	345	1442	190	BSP
CS13 00 4 4841 B19 A11	4	4841	174	45	25	37	6000	6500	345	1492	190	BSP
CS13 00 4 5041 B19 A11	4	5041	179	48	25	35	6250	6750	345	1542	190	BSP
CS13 00 4 5241 B19 A11	4	5241	183	49	25	34	6500	7000	345	1592	190	BSP
CS13 00 4 5441 B19 A11	4	5441	188	51	23	33	6750	7750	345	1642	190	BSP
CS13 00 4 5641 B19 A11	4	5641	192	53	23	32	7000	8000	345	1692	190	BSP
CS13 00 4 5841 B19 A11	4	5841	197	55	23	32	7250	8250	345	1742	190	BSP

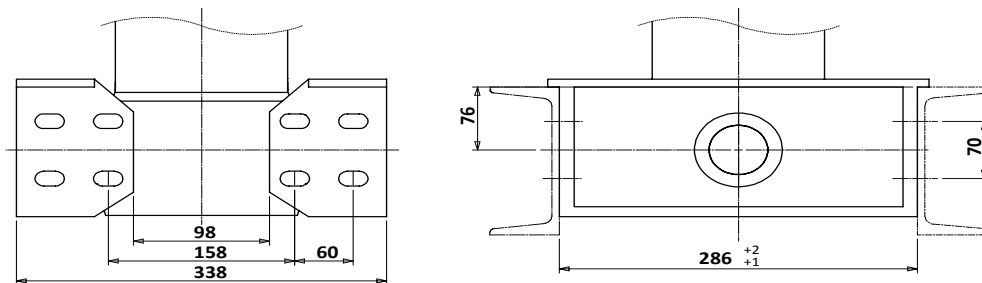
SPECIALS

CS13 00 4 3441 B19 J11	4	3441	148	34	24	45	4350	4550	345	1242	190	BSP
CS13 00 4 4441 B19 J11	4	4441	165	43	27	37	5500	6000	345	1492	190	BSP
CS13 00 4 4891 B19 H11	4	4891	174	50	26	40	6000	6500	345	1592	190	BSP
CS13 00 4 5441 B19 A21	4	5441	188	51	24	36	6500	7500	340	1637	190	BSP
CS13 00 5 4068 B19 A11	5	4068	142	33	17	28	5000	5500	345	1097	190	BSP
CS13 00 5 4568 B19 A11	5	4568	152	38	17	25	5600	6100	345	1197	190	BSP

CS13 0E

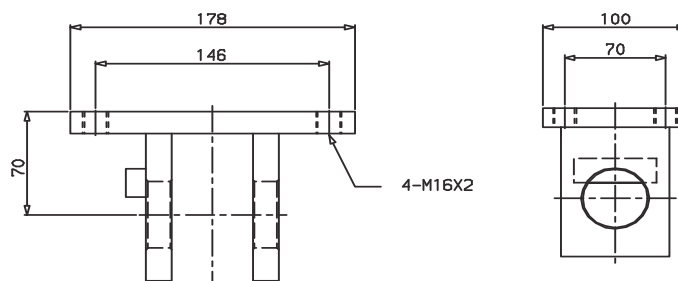


BB103



Mass: 11kg x 2 = 22 kg

OMK1



OMK1 for 3-4 stages ; Mass : 5 kg

CS13 OE

CYLINDERS WITH EYE MOUNTING

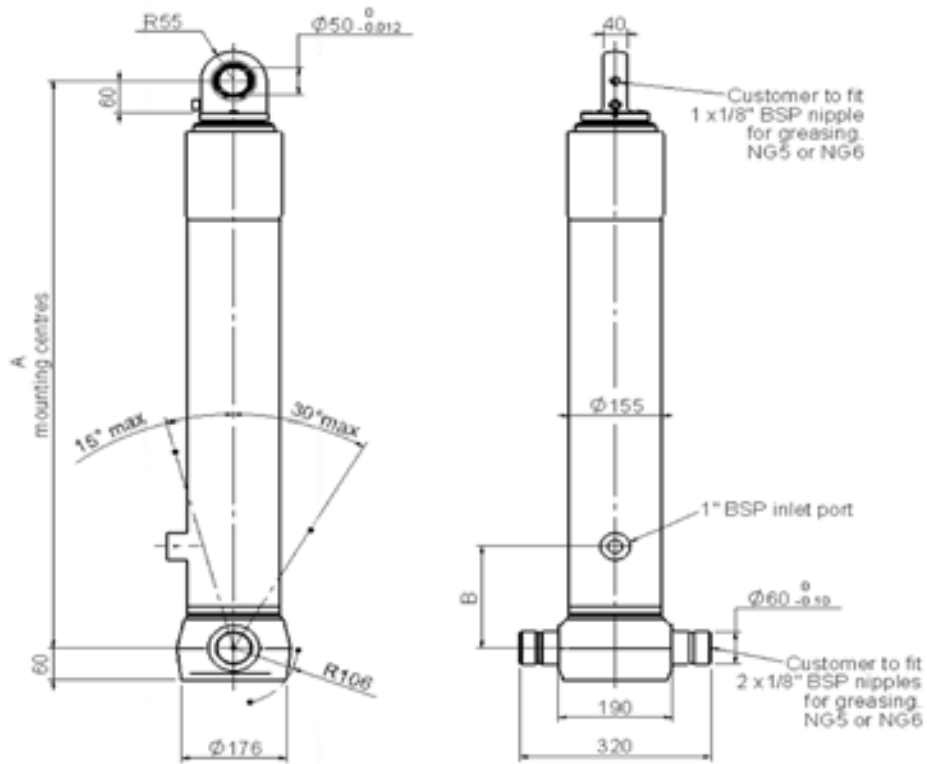
CS13 OE											
Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS13 OE 3 2419 B19 A01	3	2419	85	26	35	54	3800	4000	1049	190	BSP
CS13 OE 3 2569 B19 A01	3	2569	89	28	30	53	3900	4100	1099	190	BSP
CS13 OE 3 2719 B19 A01	3	2719	92	30	30	53	4000	4200	1149	190	BSP
CS13 OE 3 2869 B19 A01	3	2869	95	31	29	52	4100	4350	1199	190	BSP
CS13 OE 3 3019 B19 A01	3	3019	98	33	29	52	4200	4450	1249	190	BSP
CS13 OE 3 3169 B19 A01	3	3169	101	34	28	51	4300	4700	1299	190	BSP
CS13 OE 3 3319 B19 A01	3	3319	105	36	28	49	4450	4850	1349	190	BSP
CS13 OE 3 3469 B19 A01	3	3469	108	38	28	47	4600	5000	1399	190	BSP
CS13 OE 3 3619 B19 A01	3	3619	111	39	28	46	4750	5150	1449	190	BSP
CS13 OE 3 3769 B19 A01	3	3769	114	42	28	44	4900	5300	1499	190	BSP
CS13 OE 3 3919 B19 A01	3	3919	118	43	28	43	5050	5450	1549	190	BSP

CS13 OE 4 3441 B19 A01	4	3441	97	32	25	47	4600	5000	1104	190	BSP
CS13 OE 4 3641 B19 A01	4	3641	100	35	25	43	4850	5250	1154	190	BSP
CS13 OE 4 3841 B19 A01	4	3841	104	36	25	40	5100	5500	1204	190	BSP
CS13 OE 4 4041 B19 A01	4	4041	108	38	24	38	5350	5750	1254	190	BSP
CS13 OE 4 4241 B19 A01	4	4241	111	39	24	36	5600	6000	1304	190	BSP
CS13 OE 4 4441 B19 A01	4	4441	115	42	24	35	5850	6350	1354	190	BSP
CS13 OE 4 4641 B19 A01	4	4641	118	44	22	32	6100	6600	1404	190	BSP
CS13 OE 4 4841 B19 A01	4	4841	122	45	20	28	6350	6850	1454	190	BSP
CS13 OE 4 5041 B19 A01	4	5041	126	48	18	24	6600	7100	1504	190	BSP
CS13 OE 4 5241 B19 A01	4	5241	129	49	16	21	6850	7350	1554	190	BSP
CS13 OE 4 5441 B19 A01	4	5441	133	51	16	21	7100	7600	1604	190	BSP

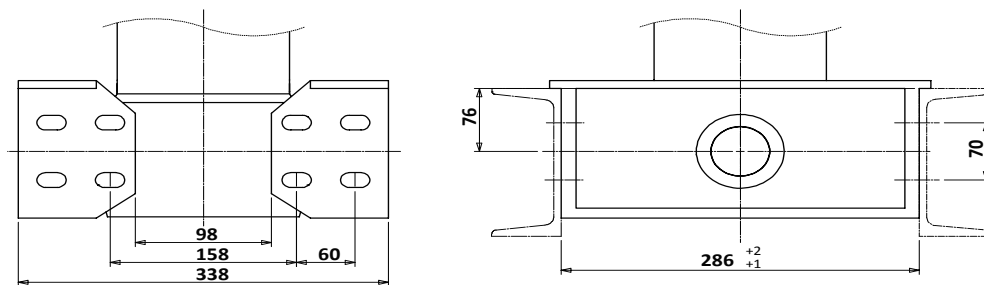
SPECIALS

CS13 OE 4 5241 B70 A01	4	5241	129	49	16	21	6850	7350	1554	700	BSP
CS13 OE 4 5241 B70 N01	4	5241	129	52	17	24	6800	7300	1554	700	BSP

CS13 05



BB103



Mass: 11kg x 2 = 22 kg

CS13 OS

CYLINDERS WITH SPHERICAL MOUNTING

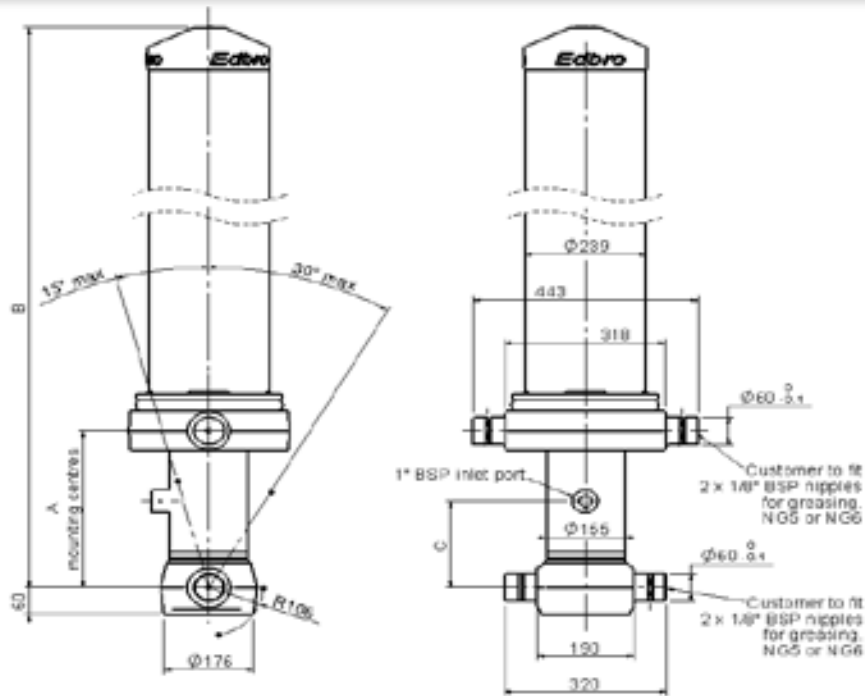
CS 13 OS			N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
Cylinders Codes							Tipping capacity		Bodylength (mm)				
							Min	Max	Min	Max			
CS13 OS 3	2419	B19 A01	3	2419	89	26	35	54	3800	4000	1059	190	BSP
CS13 OS 3	2569	B19 A01	3	2569	92	28	30	53	3900	4100	1109	190	BSP
CS13 OS 3	2719	B19 A01	3	2719	95	30	30	53	4000	4200	1159	190	BSP
CS13 OS 3	2869	B19 A01	3	2869	99	31	29	52	4100	4350	1209	190	BSP
CS13 OS 3	3019	B19 A01	3	3019	102	33	29	52	4200	4450	1259	190	BSP
CS13 OS 3	3169	B19 A01	3	3169	105	34	28	51	4300	4700	1309	190	BSP
CS13 OS 3	3319	B19 A01	3	3319	108	36	28	49	4450	4850	1359	190	BSP
CS13 OS 3	3469	B19 A01	3	3469	112	38	28	47	4600	5000	1409	190	BSP
CS13 OS 3	3619	B19 A01	3	3619	115	39	28	46	4750	5150	1459	190	BSP
CS13 OS 3	3769	B19 A01	3	3769	118	42	28	44	4900	5300	1509	190	BSP
CS13 OS 3	3919	B19 A01	3	3919	121	43	28	43	5050	5450	1559	190	BSP

CS13 OS 4	3441	B19 A01	4	3441	100	32	25	47	4600	5000	1114	190	BSP
CS13 OS 4	3641	B19 A01	4	3641	103	35	25	43	4850	5250	1164	190	BSP
CS13 OS 4	3841	B19 A01	4	3841	107	36	25	40	5100	5500	1214	190	BSP
CS13 OS 4	4041	B19 A01	4	4041	110	38	24	38	5350	5750	1264	190	BSP
CS13 OS 4	4241	B19 A01	4	4241	114	39	24	36	5600	6000	1314	190	BSP
CS13 OS 4	4441	B19 A01	4	4441	120	42	24	35	5850	6350	1364	190	BSP
CS13 OS 4	4641	B19 A01	4	4641	121	44	22	32	6100	6600	1414	190	BSP
CS13 OS 4	4841	B19 A01	4	4841	125	45	20	28	6350	6850	1464	190	BSP
CS13 OS 4	5041	B19 A01	4	5041	128	48	18	24	6600	7100	1514	190	BSP
CS13 OS 4	5241	B19 A01	4	5241	132	49	16	21	6850	7350	1564	190	BSP
CS13 OS 4	5441	B19 A01	4	5441	136	51	16	21	7100	7600	1614	190	BSP

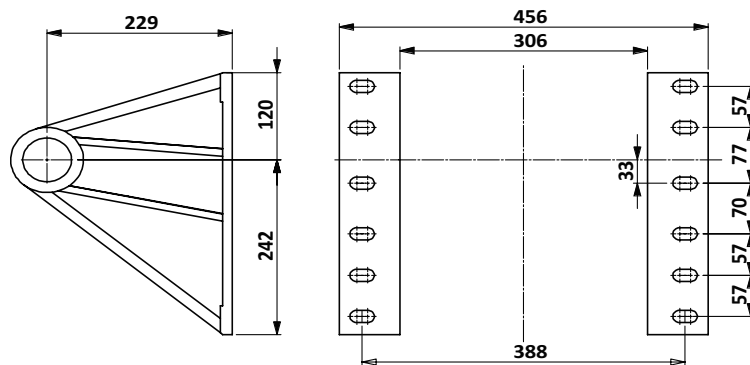
SPECIALS

CS13 OS 3	3469	S19 A01	3	3469	112	38	28	47	4600	5000	1410	190	SAE
CS13 OS 3	3469	S19 A02	3	3468	114	38	28	47	4600	5000	1435	190	SAE
CS13 OS 3	3919	B19 A03	3	3919	124	43	28	41	5150	5550	1611	190	BSP

CS14 00

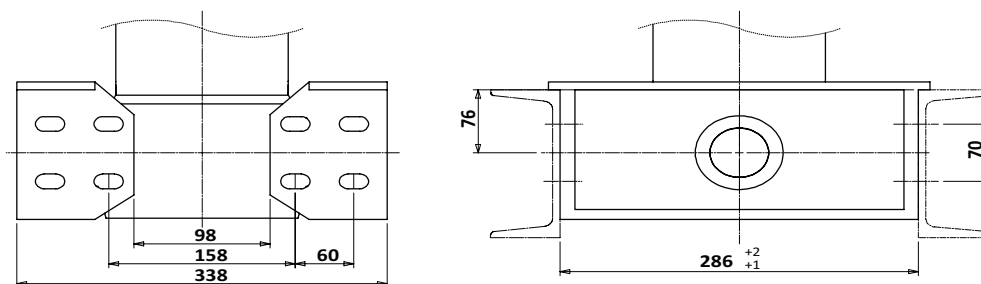


LB200-LB201



Mass: 8kg x 2 = 16 kg

BB103



Mass: 11kg x 2 = 22 kg

CS14 00

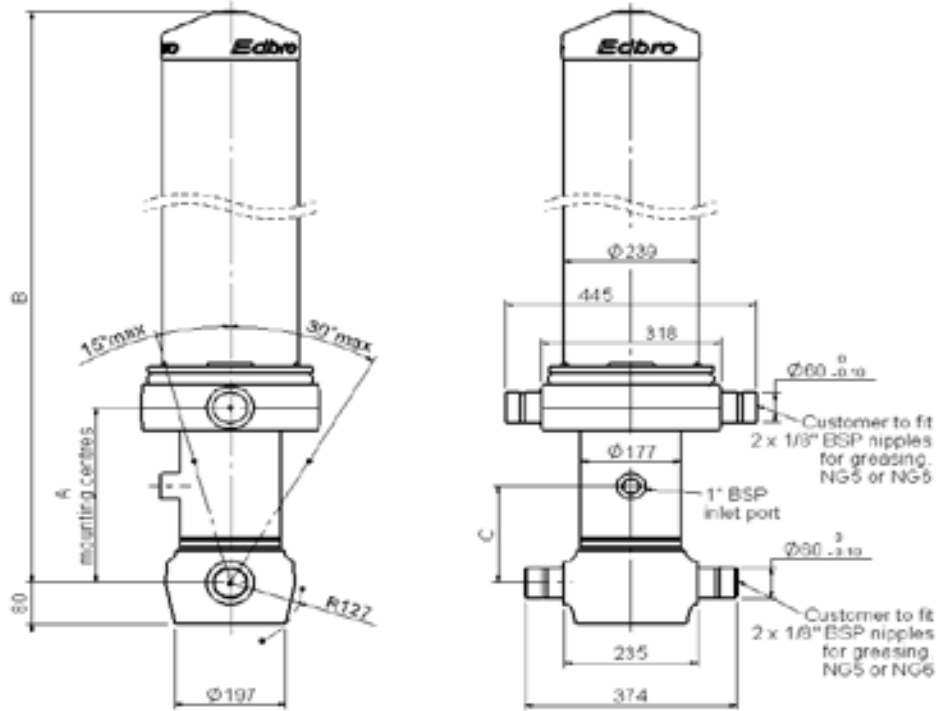
CYLINDERS WITH OUTER COVER

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Overall Height (mm)	C - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)					
					Min	Max	Min	Max				
CS14 00 4 4641 B19 A11	4	4641	201	43	25	38	5750	6250	345	1442	190	BSP
CS14 00 4 5041 B19 A11	4	5041	208	48	25	35	6250	6750	345	1542	190	BSP
CS14 00 4 5441 B19 A11	4	5441	216	51	24	36	6500	7500	345	1642	190	BSP
CS14 00 4 5841 B19 A11	4	5841	223	55	24	33	7000	8000	345	1742	190	BSP

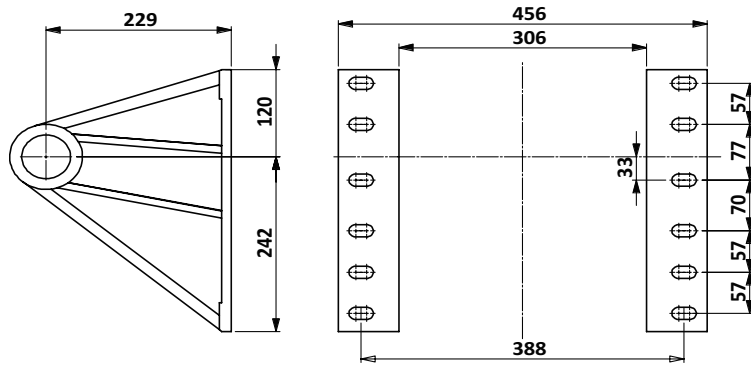
SHORT COVER

CS14 00 4 4641 B25 A15	4	4641	187	43	25	38	5750	6250	1035	1442	250	BSP
CS14 00 4 5041 B25 A15	4	5041	194	48	25	35	6250	6750	1035	1542	250	BSP
CS14 00 4 5441 B25 A15	4	5441	202	51	24	35	6550	7550	1035	1642	250	BSP
CS14 00 4 5841 B25 A15	4	5841	209	55	22	31	7000	8000	1035	1742	250	BSP

CS15 00

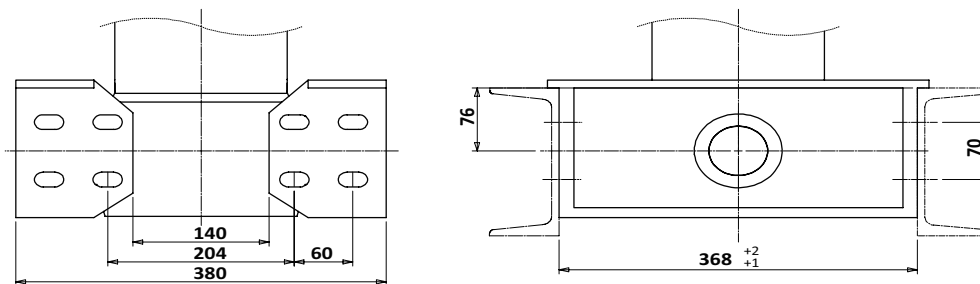


LB100-LB101



Mass: 10kg x 2 = 20 kg

BB200



Mass: 10.8kg x 2 = 21.6 kg

CS15 00

CYLINDERS WITH OUTER COVER

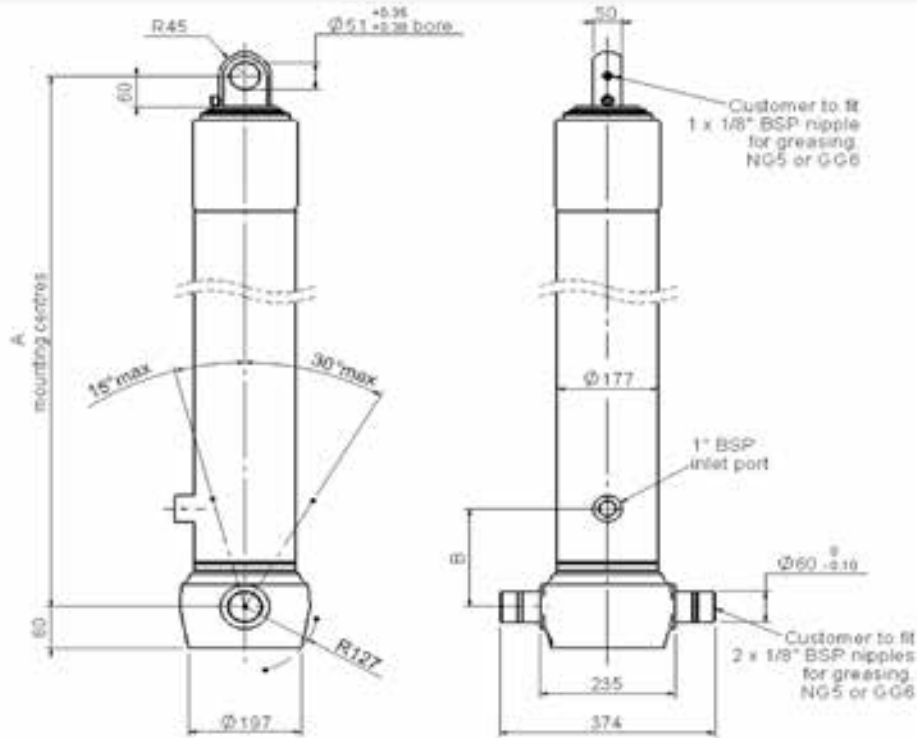
CS15 00 Cylinders Codes	N° of stages	Stroke (mm)	Mass (kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Overall Height (mm)	C - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)					
					Min	Max	Min	Max				
CS15 00 4 4006 B19 A11	4	4006	199	51	37	57	5250	5750	345	1270	190	BSP
CS15 00 4 4206 B19 A11	4	4206	203	53	37	57	5400	5900	345	1320	190	BSP
CS15 00 4 4406 B19 A11	4	4406	211	56	37	56	5550	6050	345	1370	190	BSP
CS15 00 4 4606 B19 A11	4	4606	215	59	37	56	5700	6200	345	1420	190	BSP
CS15 00 4 4806 B19 A11	4	4806	222	61	37	55	5850	6350	345	1470	190	BSP
CS15 00 4 5006 B19 A11	4	5006	228	65	35	55	6000	7000	345	1520	190	BSP
CS15 00 4 5206 B19 A11	4	5206	234	67	35	53	6250	7250	345	1570	190	BSP
CS15 00 4 5406 B19 A11	4	5406	240	70	35	53	6500	7500	345	1620	190	BSP
CS15 00 4 5606 B19 A11	4	5606	245	72	37	53	6750	7750	345	1670	190	BSP
CS15 00 4 5806 B19 A11	4	5806	251	75	37	51	7000	8000	345	1720	190	BSP
CS15 00 4 6006 B19 A11	4	6006	257	77	36	50	7250	8250	345	1770	190	BSP

CS15 00 5 4277 B19 A11	5	4277	190	48	26	41	5500	6000	345	1125	190	BSP
CS15 00 5 4527 B19 A11	5	4527	196	52	26	40	5750	6250	345	1175	190	BSP
CS15 00 5 4777 B19 A11	5	4777	202	53	26	39	6000	6500	345	1225	190	BSP
CS15 00 5 5027 B19 A11	5	5027	209	56	26	38	6250	6750	345	1275	190	BSP
CS15 00 5 5277 B19 A11	5	5277	215	58	24	37	6500	7500	345	1325	190	BSP
CS15 00 5 5527 B19 A11	5	5527	220	62	24	36	6750	7750	345	1375	190	BSP
CS15 00 5 5777 B19 A11	5	5777	227	65	24	35	7000	8000	345	1425	190	BSP
CS15 00 5 6027 B19 A11	5	6027	233	67	24	35	7250	8250	345	1475	190	BSP
CS15 00 5 6277 B19 A11	5	6277	239	71	24	34	7500	8500	345	1525	190	BSP

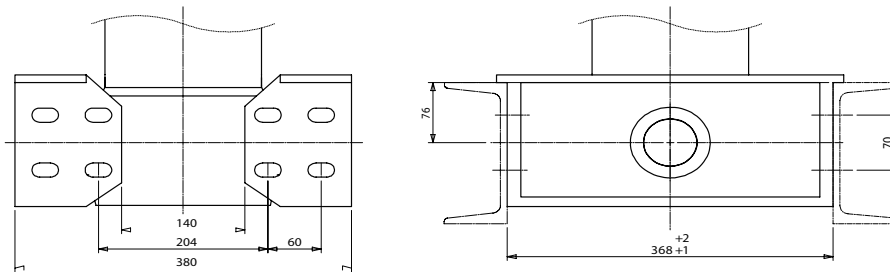
SPECIALS

CS15 00 4 4206 N19 A11	4	4206	203	53	37	57	5400	5900	345	1320	190	BSP
CS15 00 4 4206 S19 A11	4	4206	203	53	37	57	5400	5900	345	1320	190	SAE
CS15 00 4 4606 N19 A11	4	4606	215	59	37	56	5700	6200	345	1420	190	BSP
CS15 00 4 5006 B25 A15	4	5006	212	65	35	55	6000	7000	1035	1520	250	BSP
CS15 00 4 5206 N19 A11	4	5206	234	67	35	53	6250	7250	345	1570	190	BSP
CS15 00 4 5606 B25 A14	4	5606	230	72	36	52	6750	7750	900	1670	250	BSP
CS15 00 4 5806 B19 A12	4	5806	247	75	36	51	7000	8000	550	1720	190	BSP
CS15 00 5 4277 S19 A11	5	4277	190	48	26	41	6000	6500	345	1125	190	SAE
CS15 00 5 4527 S19 A11	5	4527	196	52	26	40	5750	6250	345	1175	190	SAE
CS15 00 5 5027 B19 A13	5	5027	197	56	26	38	6250	7250	775	1271	190	BSP
CS15 00 5 5027 B25 A13	5	5027	199	56	26	38	6250	7250	775	1275	250	BSP
CS15 00 5 5277 S19 A11	5	5277	215	58	24	37	6500	7500	345	1325	190	SAE
CS15 00 5 6527 B19 F21	5	6527	246	76	25	36	7500	8500	345	1625	190	BSP
CS15 00 5 6277 T19 A11	5	6277	239	71	24	34	7500	8500	345	1525	190	BSP
CS15 00 5 6527 B19 F11	5	6527	251	76	25	36	7500	8500	345	1625	190	BSP
CS15 00 5 6777 B19 A11	5	6777	249	76	24	33	8000	9000	345	1625	190	BSP

CS15 0E

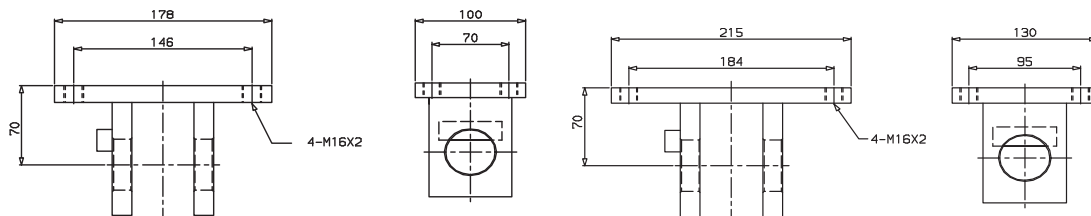


BB200



Mass: 10.8kg x 2 = 21.6 kg

OMK1 & OMK2



OMK1 for 4-5 stages ; Mass : 5 kg

OMK2 for 3 stages ; Mass : 6 kg

CS15 0E

CYLINDERS WITH EYE MOUNTING

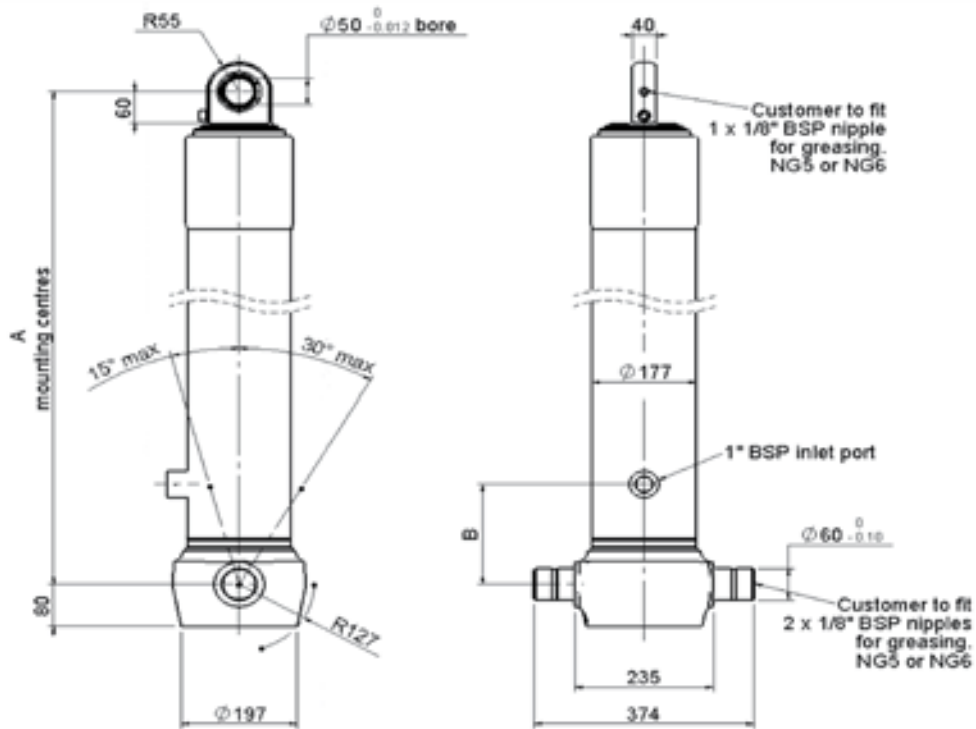
Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS15 0E 3 3439 B19 A01	3	3439	141	50	35	56	4700	5200	1380	190	BSP
CS15 0E 3 3589 B19 A01	3	3589	145	52	35	55	4850	5350	1430	190	BSP
CS15 0E 3 3739 B19 A01	3	3739	149	55	35	53	5000	5500	1480	190	BSP
CS15 0E 3 3889 B19 A01	3	3889	153	57	35	53	5200	5700	1530	190	BSP
CS15 0E 3 4039 B19 A01	3	4039	157	60	35	53	5250	5750	1580	190	BSP
CS15 0E 3 4189 B19 A01	3	4189	161	61	38	53	5600	6100	1630	190	BSP
CS15 0E 3 4339 B19 A01	3	4339	165	64	38	53	5750	6250	1680	190	BSP
CS15 0E 3 4489 B19 A01	3	4489	169	66	38	53	5900	6400	1730	190	BSP
CS15 0E 3 4639 B19 A01	3	4639	173	68	38	51	6050	6550	1780	190	BSP
CS15 0E 3 4789 B19 A01	3	4789	177	70	38	51	6200	6700	1830	190	BSP

CS15 0E 4 4206 B19 A01	4	4206	148	53	35	54	5750	6250	1285	190	BSP
CS15 0E 4 4406 B19 A01	4	4406	152	56	35	52	5900	6400	1335	190	BSP
CS15 0E 4 4606 B19 A01	4	4606	157	59	35	52	6050	6550	1385	190	BSP
CS15 0E 4 4806 B19 A01	4	4808	162	61	35	52	6200	6700	1435	190	BSP
CS15 0E 4 5006 B19 A01	4	5006	166	65	35	49	6350	6850	1485	190	BSP
CS15 0E 4 5206 B19 A01	4	5206	171	67	30	44	6500	7500	1535	190	BSP
CS15 0E 4 5406 B19 A01	4	5406	175	70	27	38	6750	7750	1585	190	BSP
CS15 0E 4 5606 B19 A01	4	5606	180	72	27	37	7000	8000	1635	190	BSP
CS15 0E 4 5806 B19 A01	4	5806	185	75	24	32	7250	8250	1685	190	BSP
CS15 0E 4 6006 B19 A01	4	6006	189	77	24	32	7500	8500	1735	190	BSP

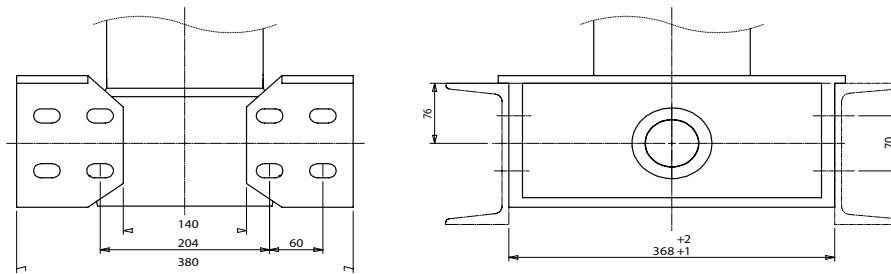
SPECIALS

CS15 0E 4 5206 T19 A01	4	5206	171	67	30	44	6500	7500	1535	190	BSP
CS15 0E 5 3778 B19 A01	5	3778	123	43	26	46	5000	5500	990	190	BSP
CS15 0E 5 4528 B19 A01	5	4528	138	52	25	39	5800	6300	1140	190	BSP
CS15 0E 5 4778 B19 A01	5	4778	143	53	25	38	6050	6550	1190	190	BSP
CS15 0E 5 5778 B19 A01	5	5778	164	65	16	26	7150	8150	1390	190	BSP
CS15 0E 5 6028 B19 A01	5	6028	164	67	16	22	7500	8500	1440	190	BSP

CS15 0S



BB200



Mass: 10.8kg x 2 = 21.6 kg

CS15 OS

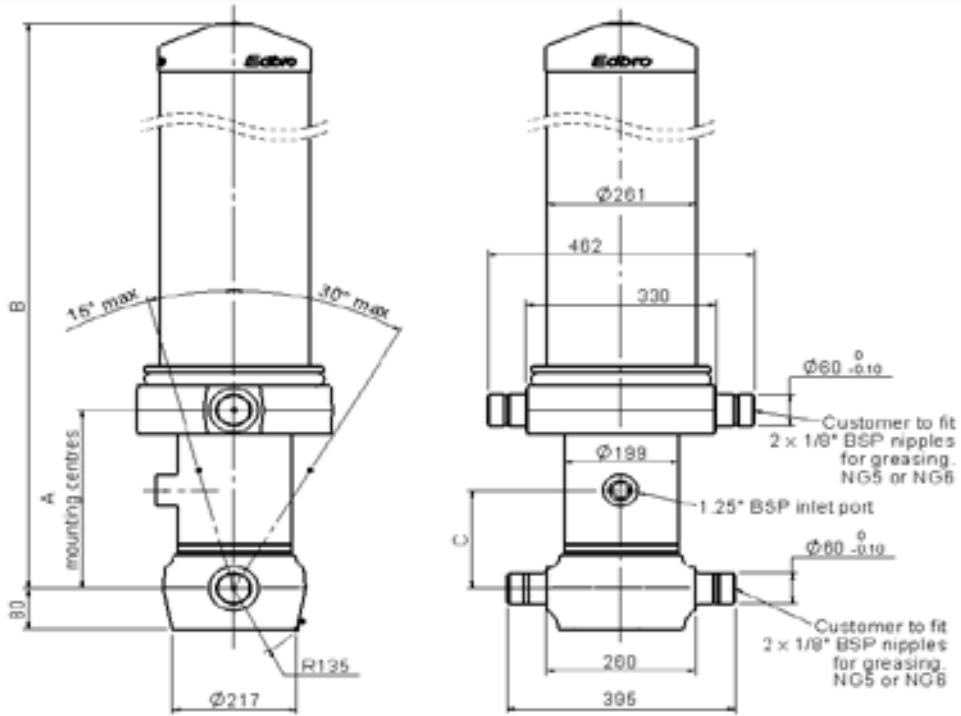
CYLINDERS WITH SPHERICAL MOUNTING

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS15 OS 4 4206 B19 A01	4	4206	151	53	35	54	5750	6250	1295	190	BSP
CS15 OS 4 4406 B19 A01	4	4406	156	56	35	52	5900	6400	1345	190	BSP
CS15 OS 4 4606 B19 A01	4	4606	161	59	35	52	6050	6550	1395	190	BSP
CS15 OS 4 4806 B19 A01	4	4806	165	61	35	52	6200	6700	1445	190	BSP
CS15 OS 4 5006 B19 A01	4	5006	170	65	35	49	6350	6850	1495	190	BSP
CS15 OS 4 5206 B19 A01	4	5206	173	67	30	44	6500	7500	1545	190	BSP
CS15 OS 4 5406 B19 A01	4	5406	179	70	27	38	6750	7750	1595	190	BSP
CS15 OS 4 5606 B19 A01	4	5606	184	72	27	37	7000	8000	1645	190	BSP
CS15 OS 4 5806 B19 A01	4	5806	188	75	24	32	7250	8250	1695	190	BSP
CS15 OS 4 6006 B19 A01	4	6006	193	77	24	32	7500	8500	1745	190	BSP

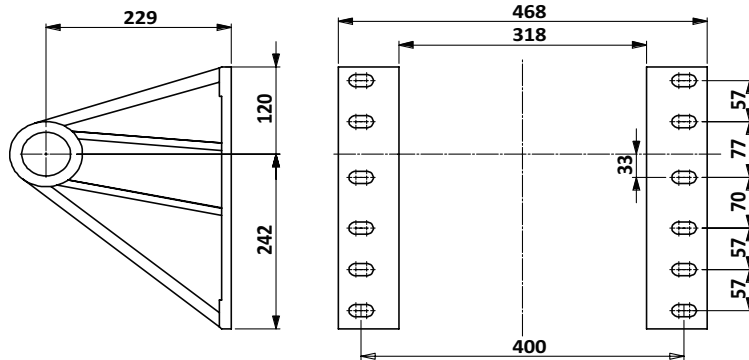
SPECIALS

CS15 OS 3 4639 B19 A01	3	4639	174	68	36	52	6000	7000	1780	190	BSP
CS15 OS 4 4606 B19 A04	4	4606	161	59	36	52	6050	6550	1470	190	BSP
CS15 OS 4 4606 B19 A05	4	4606	160	59	36	52	6050	6550	1495	190	BSP
CS15 OS 4 4606 S19 A01	4	4606	160	59	36	52	6050	6550	1395	190	SAE
CS15 OS 4 4606 S19 A04	4	4606	162	59	36	52	6050	6550	1470	190	SAE
CS15 OS 4 5206 B70 A01	4	5206	173	67	30	44	6500	7500	1545	700	BSP
CS15 OS 4 5806 B70 A01	4	5806	188	75	24	32	7250	8250	1695	700	BSP
CS15 OS 5 5778 B19 A03	5	5778	170	65	16	23	7150	8150	1450	190	BSP

CS17 00

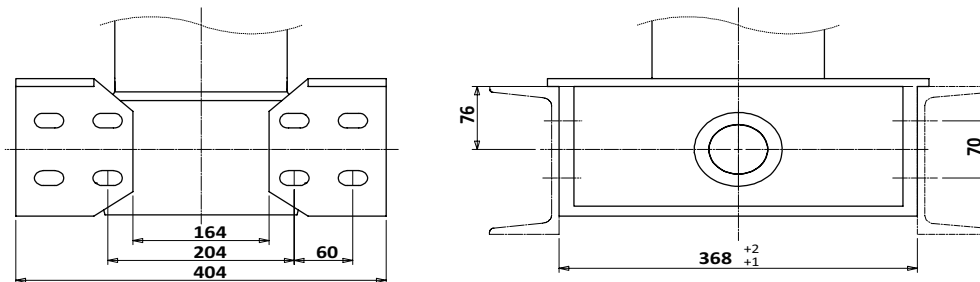


LB100-LB101



Mass: 10kg x 2 = 20 kg

BB200



Mass: 10.8kg x 2 = 21.6 kg

CS17 00

CYLINDERS WITH OUTER COVER

CS17 00 Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Overall Height (mm)	C - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)					
					Min	Max	Min	Max				
CS17 00 5 5233 B19 A11	5	5233	262	79	38	60	6500	7500	345	1326	190	BSP
CS17 00 5 5483 B19 A11	5	5483	269	83	38	59	6750	7750	345	1376	190	BSP
CS17 00 5 5733 B19 A11	5	5733	277	86	38	57	7000	8000	345	1426	190	BSP
CS17 00 5 5983 B19 A11	5	5983	285	89	38	56	7250	8250	345	1476	190	BSP
CS17 00 5 6233 B19 A11	5	6233	293	95	38	55	7500	8500	345	1526	190	BSP
CS17 00 5 6483 B19 A11	5	6483	300	98	38	54	7750	8750	345	1576	190	BSP
CS17 00 5 6733 B19 A11	5	6733	308	102	38	53	8000	9000	345	1626	190	BSP
CS17 00 5 6983 B19 A11	5	6983	316	105	38	52	8250	9250	345	1676	190	BSP
CS17 00 5 7233 B19 A11	5	7233	324	109	38	52	8500	9500	345	1726	190	BSP
CS17 00 5 7483 B19 A11	5	7483	331	113	38	51	8750	9750	345	1776	190	BSP
CS17 00 5 7733 B19 A11	5	7733	339	117	38	50	9000	10000	345	1826	190	BSP
CS17 00 5 7983 B19 A11	5	7983	347	120	38	50	9500	10000	345	1876	190	BSP
CS17 00 5 8233 B19 A11	5	8233	355	125	36	47	9500	10500	345	1926	190	BSP
CS17 00 5 8483 B19 A11	5	8483	362	128	29	38	9750	10750	345	1976	190	BSP
CS17 00 5 8733 B19 A11	5	8733	370	132	26	34	10000	11000	345	2026	190	BSP
CS17 00 5 8983 B19 A11	5	8983	378	136	24	30	10250	11250	345	2076	190	BSP

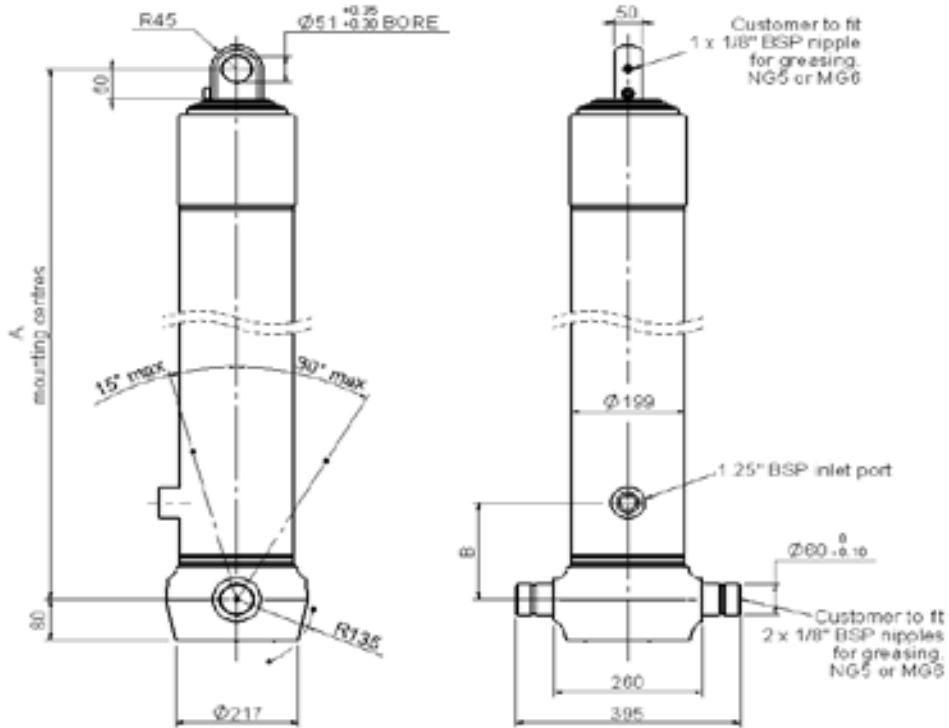
SHORT COVER

CS17 00 5 5733 B25 A15	5	5733	256	86	38	57	7000	8000	1035	1426	250	BSP
CS17 00 5 6233 B25 A15	5	6233	272	95	38	55	7500	8500	1035	1526	250	BSP
CS17 00 5 6733 B25 A15	5	6733	288	102	36	50	8000	9000	1035	1626	250	BSP
CS17 00 5 7233 B25 A15	5	7233	303	109	33	44	8500	9500	1035	1726	250	BSP
CS17 00 5 7733 B25 A15	5	7733	319	117	29	39	9000	10000	1035	1826	250	BSP
CS17 00 5 8233 B25 A15	5	8233	334	125	26	34	9500	10500	1035	1926	250	BSP

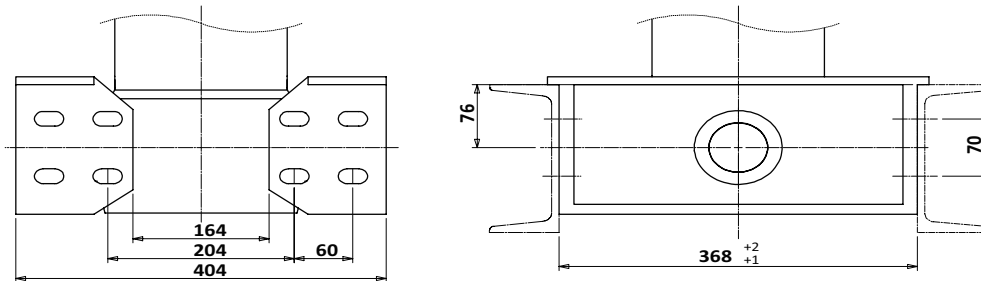
SPECIALS

CS17 00 5 5733 N14 A10	5	5733	278	86	39	58	7000	8000	300	1426	137	BSP
CS17 00 5 6233 N14 A10	5	6233	294	95	38	55	7500	8500	300	1526	137	BSP
CS17 00 5 6233 S19 A11	5	6233	292	95	38	55	7500	8500	345	1526	190	SAE
CS17 00 5 6233 S25 A14	5	6233	277	95	38	55	7500	8500	900	1526	250	SAE
CS17 00 5 6233 T19 A11	5	6233	293	95	38	55	7500	8500	345	1526	190	BSP
CS17 00 5 6483 B19 S11	5	6483	324	103	41	64	8000	9000	345	1726	190	BSP
CS17 00 5 6733 B19 L11	5	6733	324	105	40	59	8250	9250	345	1726	190	BSP
CS17 00 5 6733 N14 A10	5	6733	309	102	38	54	8000	9000	300	1626	137	BSP
CS17 00 5 7233 B25 A14	5	7233	307	109	33	44	9000	10000	900	1726	250	BSP
CS17 00 5 7233 S19 A11	5	7233	323	109	38	52	8500	9500	345	1726	190	SAE
CS17 00 5 7233 S19 A12	5	7233	318	109	38	47	9000	10000	550	1726	190	SAE
CS17 00 5 7233 S25 A14	5	7233	308	109	33	44	9000	10000	900	1726	250	SAE
CS17 00 5 7233 S25 A15	5	7233	301	109	33	44	8500	9500	1035	1726	250	SAE
CS17 00 5 7233 T19 A12	5	7233	318	109	38	47	9000	10000	550	1726	190	BSP
CS17 00 5 7233 N25 A16	5	7233	296	109	29	40	8500	9500	1200	1726	250	BSP
CS17 00 5 7733 S19 A12	5	7733	336	117	38	51	9000	10000	550	1826	190	SAE
CS17 00 5 8233 N25 S16	5	8233	353	130	33	42	9500	10500	1200	2076	250	BSP
CS17 00 5 8233 S19 A11	5	8233	354	125	38	47	10000	11000	345	1926	190	SAE
CS17 00 5 8233 S25 A14	5	8233	362	130	33	43	10000	11000	900	2076	250	SAE
CS17 00 5 8983 B19 L11	5	8983	393	141	24	30	11000	12000	345	2176	190	BSP
CS17 00 5 8983 S19 L12	5	8983	388	141	24	30	11000	12000	550	2176	190	SAE

CS17 0E

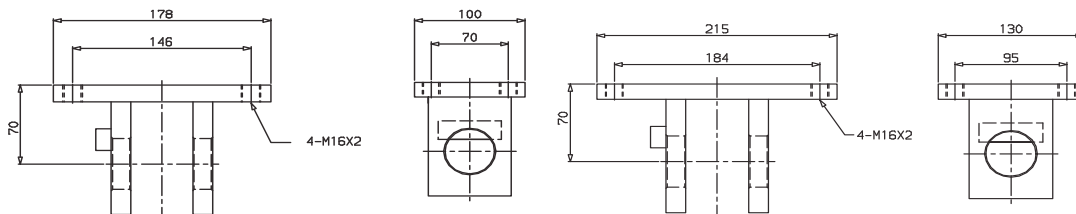


BB200



Mass: 10.8kg x 2 = 21.6 kg

OMK1 & OMK2



OMK1 for 5 stages ; Mass : 5 kg

OMK2 for 4 stages ; Mass : 6 kg

CS17 0E

CYLINDERS WITH EYE MOUNTING

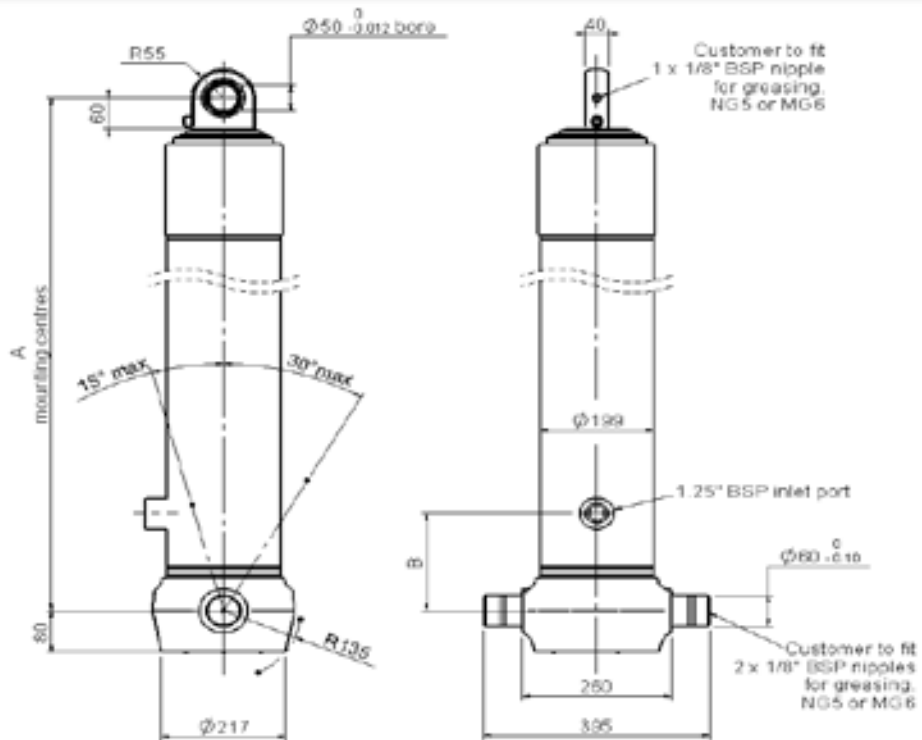
CS17 0E												
Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type	
					Tipping capacity		Bodylength (mm)					
					Min	Max	Min	Max				
CS17 0E 4 4566 B19 A01	4	4566	189	77	37	61	5750	6750	1385	190	BSP	
CS17 0E 4 4766 B19 A01	4	4766	195	80	37	61	6000	6000	1435	190	BSP	
CS17 0E 4 4966 B19 A01	4	4966	201	85	38	60	6250	7250	1485	190	BSP	
CS17 0E 4 5166 B19 A01	4	5166	206	88	39	60	6500	7500	1535	190	BSP	
CS17 0E 4 5366 B19 A01	4	5366	212	92	39	58	6750	7750	1585	190	BSP	
CS17 0E 4 5566 B19 A01	4	5566	217	94	39	56	7000	8000	1635	190	BSP	
CS17 0E 4 5766 B19 A01	4	5766	223	98	39	55	7250	8250	1685	190	BSP	
CS17 0E 4 5966 B19 A01	4	5966	230	102	39	53	7500	8500	1735	190	BSP	
CS17 0E 4 6166 B19 A01	4	6166	235	105	39	52	7750	8750	1785	190	BSP	
CS17 0E 4 6366 B19 A01	4	6366	242	108	34	46	8000	9000	1835	190	BSP	

CS17 0E 5 5233 B70 A01	5	5233	193	79	37	56	6750	7750	1290	700	BSP
CS17 0E 5 5483 B70 A01	5	5483	199	83	37	54	7000	8000	1340	700	BSP
CS17 0E 5 5733 B70 A01	5	5733	205	86	36	50	7250	8250	1390	700	BSP
CS17 0E 5 5983 B70 A01	5	5983	211	89	31	45	7500	8500	1440	700	BSP
CS17 0E 5 6233 B70 A01	5	6233	218	95	28	40	7750	8750	1490	700	BSP
CS17 0E 5 6483 B70 A01	5	6483	224	98	25	35	8000	9000	1540	700	BSP
CS17 0E 5 6733 B70 A01	5	6733	230	102	25	34	8250	9250	1590	700	BSP
CS17 0E 5 6983 B70 A01	5	6983	234	105	23	31	8500	9500	1640	700	BSP
CS17 0E 5 7233 B70 A01	5	7233	243	109	24	31	8750	9750	1690	700	BSP

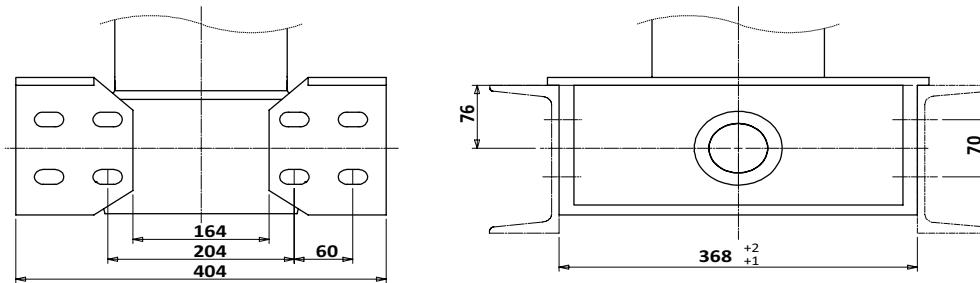
SPECIALS

CS17 0E 5 5733 B19 A01	5	5733	205	86	36	50	7250	8250	1390	190	BSP
CS17 0E 5 5733 S70 A01	5	5733	206	86	36	50	7250	8250	1390	700	SAE
CS17 0E 5 5733 S70 A06	5	5733	207	86	33	46	7250	8250	1515	700	SAE
CS17 0E 5 5733 S70 A08	5	5733	208	86	33	46	7250	8250	1565	700	SAE
CS17 0E 5 6233 B19 A03	5	6233	218	95	28	40	7750	8750	1540	190	BSP
CS17 0E 5 6233 B70 A02	5	6233	218	95	28	40	7750	8750	1515	700	BSP
CS17 0E 5 6233 B70 A03	5	6233	218	95	28	40	7750	8750	1540	700	BSP
CS17 0E 5 6233 S70 A01	5	6233	218	95	28	40	7750	8750	1490	700	SAE
CS17 0E 5 6233 S70 A02	5	6233	219	95	28	40	7750	8750	1515	700	SAE
CS17 0E 5 6483 S70 A01	5	6483	224	98	25	35	8000	9000	1540	700	SAE
CS17 0E 5 6483 T19 A01	5	6483	225	98	25	35	8000	9000	1540	190	BSP
CS17 0E 5 6733 B19 A01	5	6733	230	102	25	34	8250	9250	1590	190	BSP
CS17 0E 5 6983 B19 A01	5	6983	234	105	23	31	8500	9500	1640	190	BSP
CS17 0E 5 7033 B19 K02	5	7033	247	104	27	35	8500	9500	1765	190	BSP
CS17 0E 5 7033 S70 K02	5	7033	248	104	27	35	8500	9500	1765	700	SAE

CS17 0S



BB200



Mass: $10.8\text{kg} \times 2 = 21.6\text{ kg}$

CS17 OS

CYLINDERS WITH SPHERICAL MOUNTING

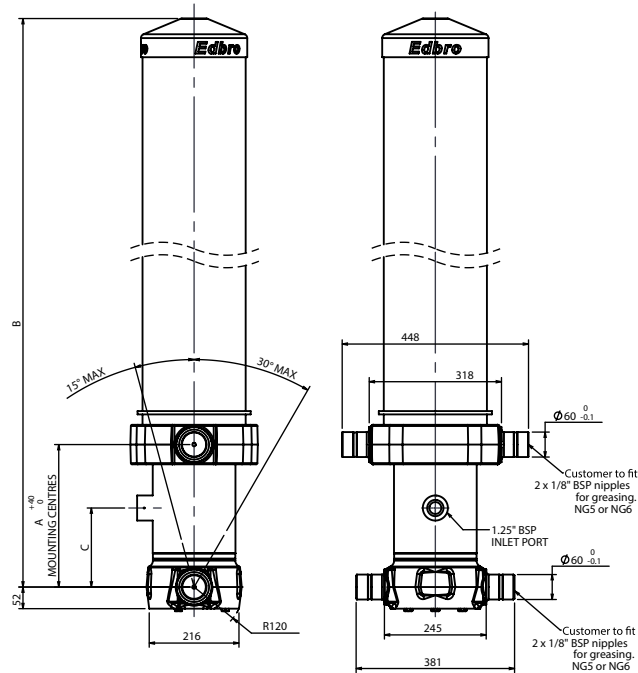
CS17 OS Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS17 OS 4 4566 B19 A01	4	4566	189	77	37	61	5750	6750	1385	190	BSP
CS17 OS 4 4766 B19 A01	4	4766	195	80	37	61	6000	6000	1435	190	BSP
CS17 OS 4 4966 B19 A01	4	4966	200	85	38	60	6250	7250	1485	190	BSP
CS17 OS 4 5166 B19 A01	4	5166	206	88	39	60	6500	7500	1535	190	BSP
CS17 OS 4 5366 B19 A01	4	5366	212	92	39	58	6750	7750	1585	190	BSP
CS17 OS 4 5566 B19 A01	4	5566	217	94	39	56	7000	8000	1635	190	BSP
CS17 OS 4 5766 B19 A01	4	5766	223	98	39	55	7250	8250	1685	190	BSP
CS17 OS 4 5966 B19 A01	4	5966	229	102	39	53	7500	8500	1735	190	BSP
CS17 OS 4 6166 B19 A01	4	6166	234	105	39	52	7750	8750	1785	190	BSP
CS17 OS 4 6366 B19 A01	4	6366	240	108	34	46	8000	9000	1835	190	BSP

CS17 OS 5 5233 B70 A01	5	5233	196	79	37	56	6750	7750	1300	700	BSP
CS17 OS 5 5483 B70 A01	5	5483	203	83	37	54	7000	8000	1350	700	BSP
CS17 OS 5 5733 B70 A01	5	5733	209	86	36	50	7250	8250	1400	700	BSP
CS17 OS 5 5983 B70 A01	5	5983	215	89	31	45	7500	8500	1450	700	BSP
CS17 OS 5 6233 B70 A01	5	6233	221	95	28	40	7750	8750	1500	700	BSP
CS17 OS 5 6483 B70 A01	5	6483	228	98	25	35	8000	9000	1550	700	BSP
CS17 OS 5 6733 B70 A01	5	6733	234	102	25	34	8250	9250	1600	700	BSP
CS17 OS 5 6983 B70 A01	5	6983	240	105	23	31	8500	9500	1650	700	BSP
CS17 OS 5 7233 B70 A01	5	7233	246	109	24	31	8750	9750	1700	700	BSP

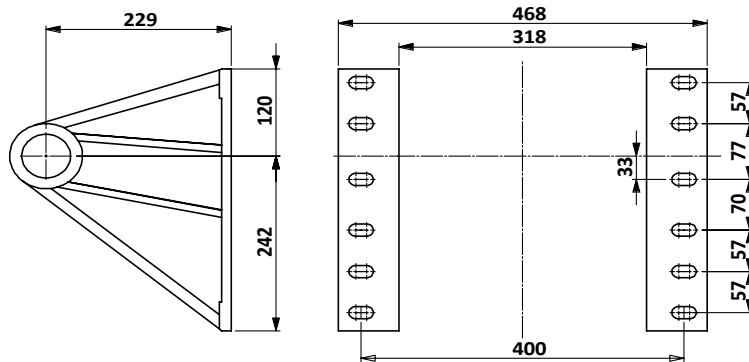
SPECIALS

CS17 OS 4 4566 B70 A05	4	4566	189	78	38	61	6000	7000	1485	700	BSP
CS17 OS 5 5183 B70 G01	5	5183	203	81	38	59	6750	7750	1350	700	BSP
CS17 OS 5 5233 B70 L08	5	5233	211	82	39	63	6750	7750	1575	700	BSP
CS17 OS 5 5483 B19 A02	5	5483	203	83	37	54	7000	8000	1375	190	BSP
CS17 OS 5 5483 B70 A07	5	5483	204	83	35	51	7000	8000	1500	700	BSP
CS17 OS 5 5733 B19 A01	5	5733	209	86	36	50	7250	8250	1400	190	BSP
CS17 OS 5 5733 B70 A08	5	5733	211	86	33	46	7250	8250	1575	700	BSP
CS17 OS 5 6233 B19 A02	5	6233	222	95	28	40	7750	8750	1525	190	BSP
CS17 OS 5 6233 B19 A03	5	6233	222	95	28	40	7750	8750	1550	190	BSP
CS17 OS 5 6233 B19 A05	5	6233	222	95	28	40	7750	8750	1600	190	BSP
CS17 OS 5 6233 B19 L01	5	6233	234	99	30	44	7750	8750	1600	190	BSP
CS17 OS 5 6283 B70 E02	5	6283	228	96	26	36	7750	8750	1575	700	BSP
CS17 OS 5 6283 S70 E02	5	6283	229	96	26	36	7750	8750	1575	700	SAE
CS17 OS 5 7033 B19 K01	5	7033	253	110	27	35	8500	9500	1745	190	BSP
CS17 OS 5 7033 B70 K01	5	7033	253	110	27	35	8500	9500	1745	700	BSP
CS17 OS 5 7033 B70 K02	5	7033	253	110	27	35	8500	9500	1775	700	BSP
CS17 OS 5 7033 S70 K02	5	7033	254	110	27	35	8500	9500	1775	700	SAE
CS17 OS 6 4805 B19 A01	6	4805	172	65	25	43	6150	7150	1055	190	BSP
CS 17 OS 6 5705 B70 N01	6	5705	203	78	27	46	7100	8100	1305	700	BSP

CS17 LO

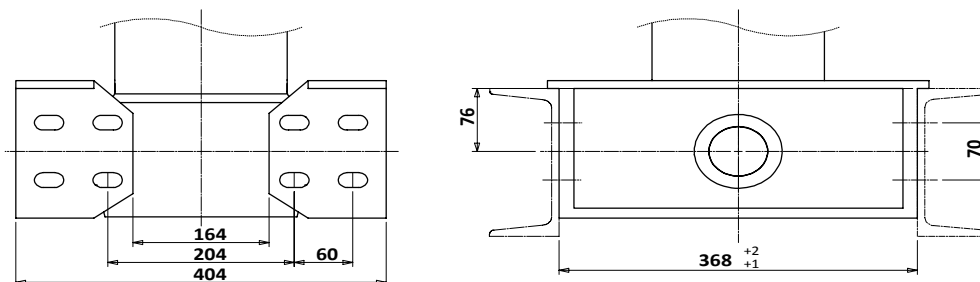


LB200-LB201



Mass: 10kg x 2 = 20 kg

BB200



Mass: 10.8kg x 2 = 21.6 kg

CS17 LO

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)	Rated capacity (tonnes)				Bodylength (mm)		A - Mtg Centre (mm)	B - Overall Height (mm)	C - Port Height (mm)	Port Type
					Rated capacity (tonnes)		Bodylength (mm)							
					Min	Max	Min	Max						
CS17 L0 5 5233 B19 A11	5	5233	240	79	32	47	6500	7500	345	1350	190	BSP		
CS17 L0 5 5483 B19 A11	5	5483	248	83	32	46	6750	7750	345	1400	190	BSP		
CS17 L0 5 5733 B19 A11	5	5733	255	86	30	45	7000	8000	345	1450	190	BSP		
CS17 L0 5 5983 B19 A11	5	5983	263	89	30	44	7250	8250	345	1500	190	BSP		
CS17 L0 5 6233 B19 A11	5	6233	270	95	33	48	7500	8500	345	1550	190	BSP		
CS17 L0 5 6483 B19 A11	5	6483	278	98	33	47	7750	8750	345	1600	190	BSP		
CS17 L0 5 6733 B19 A11	5	6733	285	102	33	46	8000	9000	345	1650	190	BSP		
CS17 L0 5 6983 B19 A11	5	6983	293	105	33	45	8250	9250	345	1700	190	BSP		
CS17 L0 5 7233 B19 A11	5	7233	305	109	33	45	8500	9500	345	1750	190	BSP		
CS17 L0 5 7483 B19 A11	5	7483	313	113	33	44	8750	9750	345	1800	190	BSP		
CS17 L0 5 7733 B19 A11	5	7733	320	117	33	44	9000	10000	345	1850	190	BSP		
CS17 L0 5 7983 B19 A11	5	7983	328	120	32	41	9500	10500	345	1900	190	BSP		
CS17 L0 5 8233 B19 A11	5	8233	336	125	33	43	9500	10500	345	1950	190	BSP		
CS17 L0 5 8483 B19 A11	5	8483	344	128	29	38	9750	10750	345	2000	190	BSP		
CS17 L0 5 8733 B19 A11	5	8733	351	132	26	34	10000	11000	345	2050	190	BSP		
CS17 L0 5 8983 B19 A11	5	8983	359	136	24	30	10250	11250	345	2100	190	BSP		

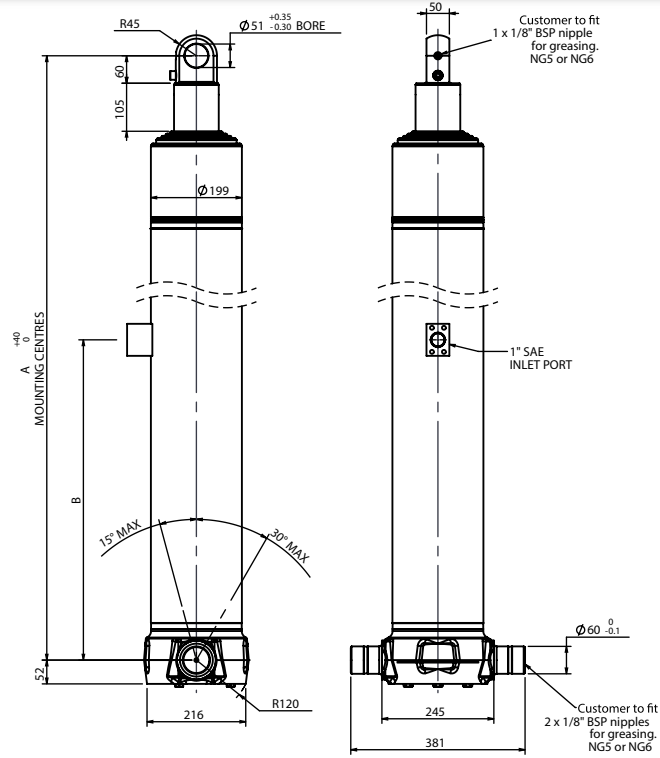
SHORT COVER

CS17 L0 5 5733 B25 A15	5	5733	239	86	33	49	7000	8000	1035	1450	250	BSP
CS17 L0 5 6233 B25 A15	5	6233	254	95	33	47	7500	8500	1035	1550	250	BSP
CS17 L0 5 6733 B25 A15	5	6733	268	102	33	46	8000	9000	1035	1650	250	BSP
CS17 L0 5 7233 B25 A15	5	7233	285	109	33	44	8500	9500	1035	1750	250	BSP
CS17 L0 5 7733 B25 A15	5	7733	300	117	29	39	9000	10000	1035	1850	250	BSP
CS17 L0 5 8233 B25 A15	5	8233	315	125	26	34	9500	10500	1035	1950	250	BSP

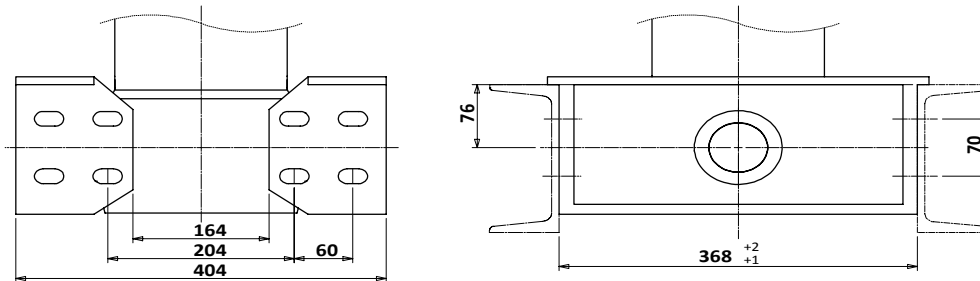
SPECIALS

CS17 L0 5 4766 B19 A12	5	4766	263	72	33	53	6000	7000	550	1257	190	BSP
CS17 L0 5 5033 B25 R15	5	5033	240	81	26	50	6250	7250	1033	1448	250	BSP
CS17 L0 5 5233 S19 A11	5	5233	242	79	32	47	6500	7500	343	1348	190	SAE
CS17 L0 5 5433 B25 G15	5	5433	240	84	30	48	6750	7750	1033	1448	250	BSP
CS17 L0 5 6233 N14 A10	5	6233	271	95	33	48	7500	8500	300	1550	137	BSP
CS17 L0 5 6233 S19 A11	5	6233	270	95	33	48	7500	8500	345	1550	190	SAE
CS17 L0 5 6233 S25 A14	5	6233	257	95	33	47	7500	8500	900	1550	250	SAE
CS17 L0 5 6233 T19 A11	5	6233	272	95	33	48	7500	8500	345	1550	190	BSP
CS17 L0 5 6733 N14 A10	5	6733	286	102	38	54	8000	9000	300	1650	137	BSP
CS17 L0 5 7233 B25 A14	5	7233	287	109	33	44	9000	10000	900	1750	250	BSP
CS17 L0 5 7233 S19 A11	5	7233	305	109	33	45	8500	9500	345	1750	190	SAE
CS17 L0 5 7233 T19 A11	5	7233	301	110	33	45	8500	9500	343	1748	190	BSP
CS17 L0 5 7233 S19 A12	5	7233	295	109	33	45	9000	10000	550	1750	190	SAE
CS17 L0 5 7233 S25 A14	5	7233	287	109	33	44	9000	10000	900	1750	250	SAE
CS17 L0 5 7233 S25 A15	5	7233	283	109	33	44	8500	9500	1035	1750	250	SAE
CS17 L0 5 7233 N25 A16	5	7233	279	109	29	40	8500	9500	1200	1750	250	BSP
CS17 L0 5 7733 S19 A12	5	7733	309	117	33	44	9000	10000	550	1850	190	SAE
CS17 L0 5 8233 N25 S16	5	8233	331	130	28	43	9500	10500	1200	2100	250	BSP
CS17 L0 5 8233 S19 A11	5	8233	335	125	34	43	10000	11000	345	1950	190	SAE
CS17 L0 5 8233 S25 S14	5	8233	340	130	26	34	10000	11000	900	2098	250	SAE
CS17 L0 5 8983 B19 L11	5	8983	375	141	25	32	11000	12000	345	2200	190	BSP
CS17 L0 5 8983 S19 L12	5	8983	367	141	23	29	11000	12000	550	2200	190	SAE

CS17 LE

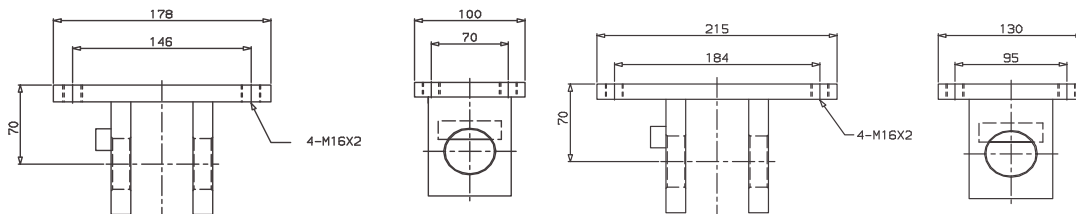


BB200



Mass: 10.8kg x 2 = 21.6 kg

OMK1 & OMK2



OMK1 for 5 stages ; Mass : 5 kg

OMK2 for 4 stages ; Mass : 6 kg

CS17 LE

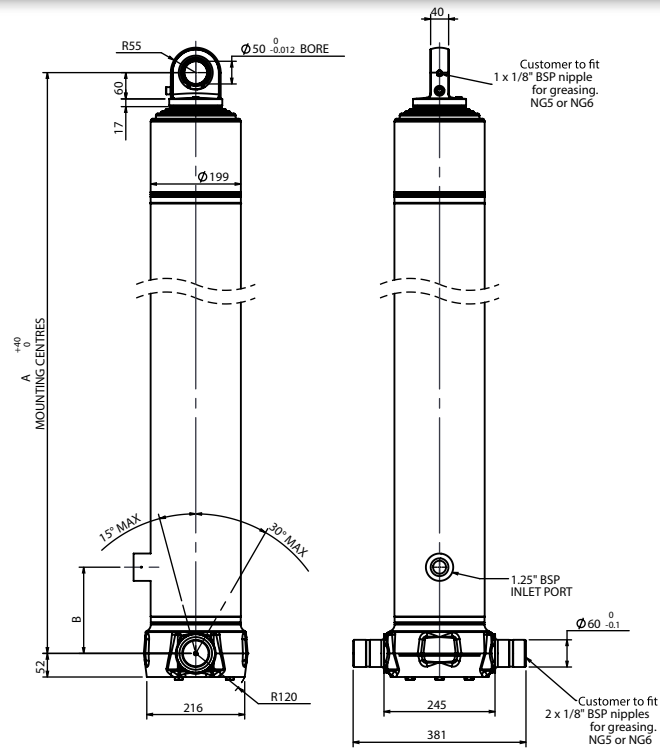
CYLINDERS WITH EYE MOUNTING

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mtg Centre (mm)	B - Port Height (mm)	Port Type
					Rated capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS17 LE 5 5233 B70 A02	5	5233	182	79	28	43	6750	7750	1290	700	BSP
CS17 LE 5 5483 B70 A02	5	5483	188	83	31	47	7000	8000	1340	700	BSP
CS17 LE 5 5733 B70 A02	5	5733	194	86	31	46	7250	8250	1390	700	BSP
CS17 LE 5 5983 B70 A02	5	5983	200	89	31	45	7500	8500	1440	700	BSP
CS17 LE 5 6233 B70 A02	5	6233	207	95	28	40	7750	8750	1490	700	BSP
CS17 LE 5 6483 B70 A02	5	6483	213	98	25	35	8000	9000	1540	700	BSP
CS17 LE 5 6733 B70 A02	5	6733	219	102	23	34	8250	9250	1590	700	BSP
CS17 LE 5 6983 B70 A02	5	6983	225	105	23	31	8500	9500	1640	700	BSP
CS17 LE 5 7233 B70 A02	5	7233	231	109	24	31	8750	9750	1690	700	BSP

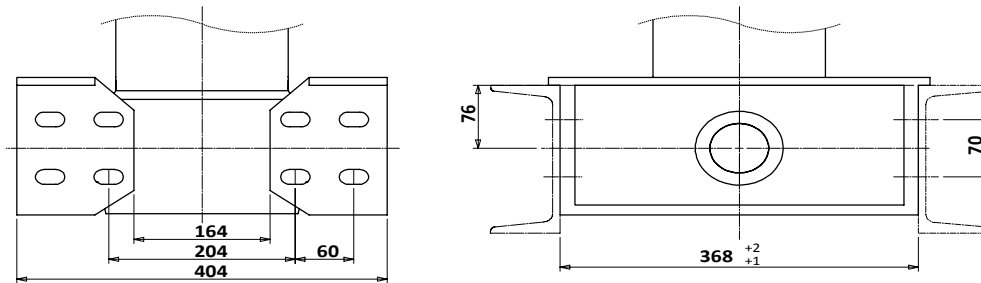
SPECIALS

CS17 LE 5 5566 B19 A02	5	5566	192	88	31	46	7000	8000	1382	190	BSP
CS17 LE 5 5733 B19 A02	5	5733	194	87	31	46	7250	8250	1415	190	BSP
CS17 LE 5 5733 B70 A08	5	5733	196	87	31	46	7250	8250	1565	700	BSP
CS17 LE 5 5733 S70 A06	5	5733	196	87	31	46	7250	8250	1515	700	SAE
CS17 LE 5 5733 S70 A08	5	5733	196	87	31	46	7250	8250	1565	700	SAE
CS17 LE 5 5733 S70 K02	5	5733	205	87	31	46	7250	8250	1505	700	SAE
CS17 LE 5 5966 S70 K02	5	5966	211	94	31	45	7500	8500	1552	700	SAE
CS17 LE 5 6233 B19 A03	5	6233	207	94	28	40	7750	8750	1540	190	BSP
CS17 LE 5 6233 B19 A02	5	6233	208	94	28	40	7750	8750	1515	190	BSP
CS17 LE 5 6233 B70 A03	5	6233	207	94	28	40	7750	8750	1540	700	BSP
CS17 LE 5 6233 S70 A02	5	6233	206	94	28	40	7750	8750	1515	700	SAE
CS17 LE 5 6366 B19 A02	5	6366	208	96	28	40	7800	8800	1542	190	BSP
CS17 LE 5 6483 S70 A02	5	6483	212	98	25	35	8000	9000	1565	700	SAE
CS17 LE 5 6483 T19 A02	5	6483	213	98	25	35	8000	9000	1565	190	BSP
CS17 LE 5 6733 B19 A02	5	6733	219	102	23	34	8250	9250	1615	190	BSP
CS17 LE 5 7033 B19 K02	5	7033	238	104	25	32	8500	9500	1765	190	BSP
CS17 LE 5 7033 S70 K02	5	7033	238	104	25	32	8500	9500	1765	700	SAE

CS17 LS



BB200



Mass: 10.8kg x 2 = 21.6 kg

CS17 LS

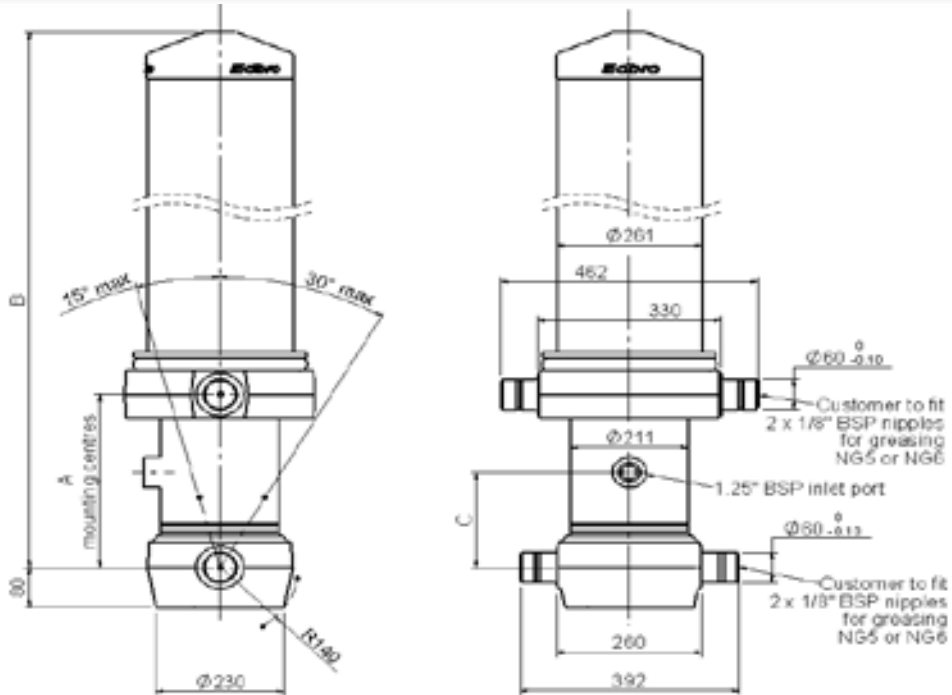
CYLINDERS WITH SPHERICAL MOUNTING

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mtg Centre (mm)	B - Port Height (mm)	Port Type
					Rated capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS17 LS 5 5233 B70 A02	5	5233	182	79	28	43	6750	7750	1300	700	BSP
CS17 LS 5 5483 B70 A02	5	5483	191	83	31	47	7000	8000	1350	700	BSP
CS17 LS 5 5733 B70 A02	5	5733	194	86	31	46	7250	8250	1400	700	BSP
CS17 LS 5 5983 B70 A02	5	5983	200	89	31	45	7500	8500	1450	700	BSP
CS17 LS 5 6233 B70 A02	5	6233	206	95	28	40	7750	8750	1500	700	BSP
CS17 LS 5 6483 B70 A02	5	6483	213	98	25	35	8000	9000	1550	700	BSP
CS17 LS 5 6733 B70 A02	5	6733	219	102	23	34	8250	9250	1600	700	BSP
CS17 LS 5 6983 B70 A02	5	6983	225	105	23	31	8500	9500	1650	700	BSP
CS17 LS 5 7233 B70 A02	5	7233	231	109	24	31	8750	9750	1700	700	BSP

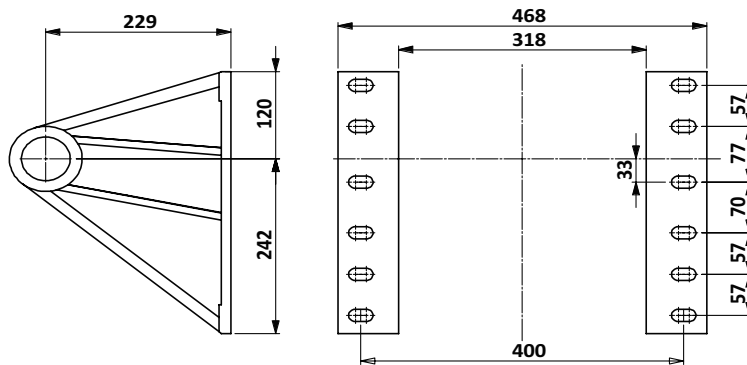
SPECIALS

CS17 LS 5 5233 B70 L08	5	5233	192	82	29	45	6750	7750	1575	700	BSP
CS17 LS 5 5483 B40 A02	5	5483	191	83	31	47	7000	8000	1375	400	BSP
CS17 LS 5 5483 B70 A07	5	5483	193	83	33	47	7000	8000	1500	700	BSP
CS17 LS 5 5733 B19 A02	5	5733	198	86	31	46	7250	8250	1425	190	BSP
CS17 LS 5 5733 R19 A06	5	5733	200	86	31	46	7250	8250	1525	190	SAE
CS17 LS 5 5733 B70 A08	5	5733	199	86	31	46	7250	8250	1575	700	BSP
CS17 LS 5 5883 S40 H03	5	5883	210	92	26	41	7250	8250	1550	400	SAE
CS17 LS 5 6233 B19 A02	5	6233	210	95	28	40	7750	8750	1525	190	BSP
CS17 LS 5 6233 B19 A03	5	6233	210	95	28	40	7750	8750	1550	190	BSP
CS17 LS 5 6233 S19 A03	5	6233	210	95	28	40	7750	8750	1550	190	SAE
CS17 LS 5 6233 R19 A02	5	6233	211	95	28	40	7750	8750	1525	190	SAE
CS17 LS 5 6283 B70 E02	5	6283	216	96	29	42	7750	8750	1575	700	BSP
CS17 LS 5 6733 B19 A02	5	6733	223	102	25	34	8250	9250	1625	190	BSP
CS17 LS 5 7033 B19 K02	5	7033	241	110	26	35	8500	9500	1775	190	BSP
CS17 LS 5 7033 B70 K02	5	7033	241	110	26	35	8500	9500	1775	700	BSP
CS17 LS 5 7033 S70 K02	5	7033	242	110	26	35	8500	9500	1775	700	SAE
CS17 LS 6 4805 B19 A02	6	4805	161	65	25	43	6150	7150	1080	190	BSP
CS17 LS 6 5705 B70 N02	6	5705	192	78	27	46	7100	8100	1330	700	BSP

CS18 00

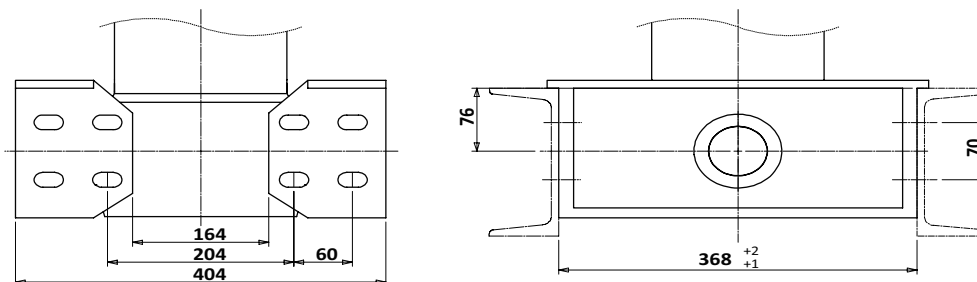


LB100-LB101



Mass: 10kg x 2 = 20 kg

BB200



Mass: 10.8kg x 2 = 21.6 kg

CS18 00

CYLINDERS WITH OUTER COVER

CS18 00 Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Overall Height (mm)	C - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)					
					Min	Max	Min	Max				
CS18 00 5 5733 B19 A11	5	5733	313	100	42	62	6750	7750	345	1426	190	BSP
CS18 00 5 5983 B19 A11	5	5983	322	104	42	61	7000	8000	345	1476	190	BSP
CS18 00 5 6233 B19 A11	5	6233	331	109	42	60	7250	8250	345	1526	190	BSP
CS18 00 5 6483 B19 A11	5	6483	340	113	42	59	7750	8750	345	1576	190	BSP
CS18 00 5 6733 B19 A11	5	6733	349	118	44	62	8000	9000	345	1626	190	BSP
CS18 00 5 6983 B19 A11	5	6983	358	122	44	61	8250	9250	345	1676	190	BSP
CS18 00 5 7233 B19 A11	5	7233	367	127	44	60	8500	9500	345	1726	190	BSP
CS18 00 5 7483 B19 A11	5	7483	376	131	44	59	8750	9750	345	1776	190	BSP
CS18 00 5 7733 B19 A11	5	7733	385	136	44	58	9000	10000	345	1826	190	BSP
CS18 00 5 7983 B19 A11	5	7983	394	139	44	58	9250	10250	345	1876	190	BSP
CS18 00 5 8233 B19 A11	5	8233	403	144	44	57	9500	10500	345	1926	190	BSP
CS18 00 5 8483 B19 A11	5	8483	412	149	44	57	9750	10750	345	1976	190	BSP
CS18 00 5 8733 B19 A11	5	8733	421	153	38	48	10000	11000	345	2026	190	BSP
CS18 00 5 8983 B19 A11	5	8983	430	158	34	43	10250	11250	345	2076	190	BSP
CS18 00 5 9233 B19 A11	5	9233	439	161	30	38	10500	11500	345	2126	190	BSP
CS18 00 5 9483 B19 A11	5	9483	448	165	29	36	11000	12000	345	2176	190	BSP

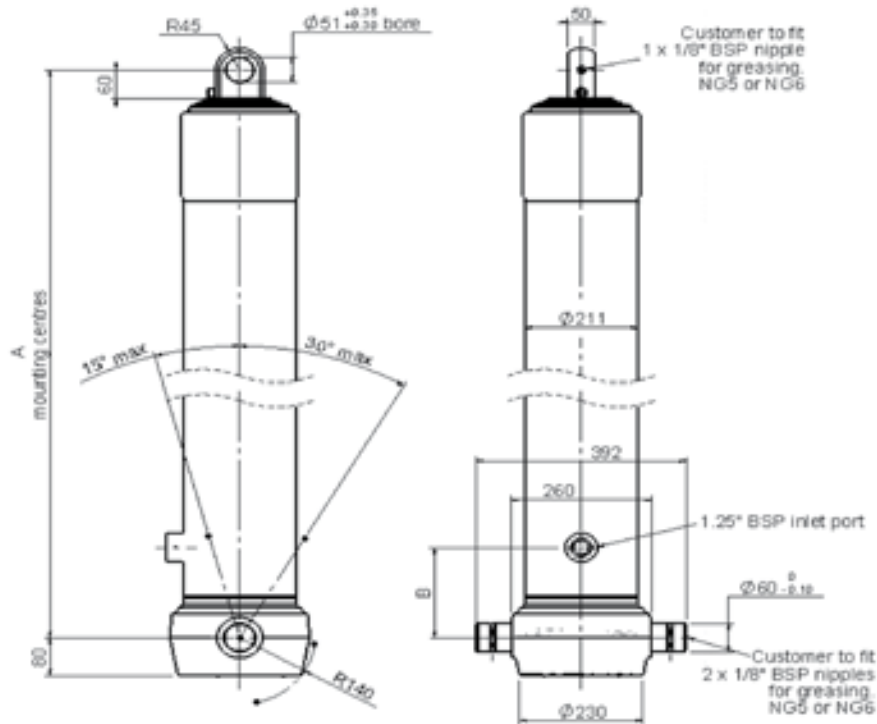
SHORT COVER

CS18 00 5 6233 B25 A15	5	6233	310	109	41	60	7500	8500	1035	1526	250	BSP
CS18 00 5 6733 B25 A15	5	6733	328	118	44	61	8000	9000	1035	1626	250	BSP
CS18 00 5 7233 B25 A15	5	7233	346	127	44	59	8500	9500	1035	1726	250	BSP
CS18 00 5 7733 B25 A15	5	7733	364	136	41	55	9000	10000	1035	1826	250	BSP
CS18 00 5 7733 S25 A15	5	7733	364	136	41	55	9000	10000	1035	1826	250	SAE
CS18 00 5 8233 B25 A15	5	8233	382	144	37	49	9500	10500	1035	1926	250	BSP

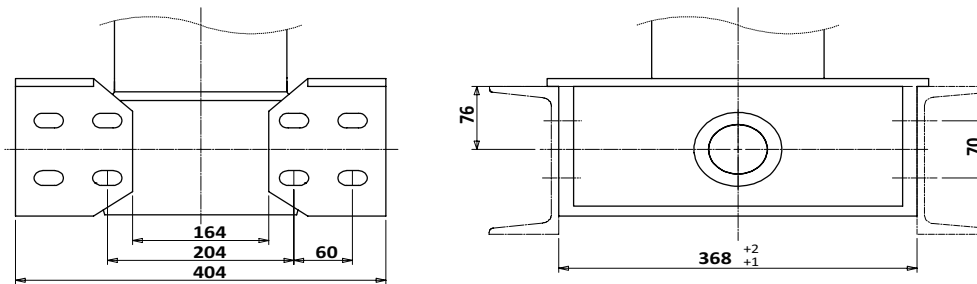
SPECIALS

CS18 00 5 6483 B25 A15	5	6483	309	113	43	59	8000	9000	1035	1576	250	BSP
CS18 00 5 6983 B25 A15	5	6983	328	122	43	57	8500	9500	1035	1676	250	BSP
CS18 00 5 7233 T19 A11	5	7233	367	127	44	60	8500	9500	345	1726	190	BSP
CS18 00 5 8233 B19 A12	5	8233	388	144	41	54	9000	10000	550	1926	190	BSP
CS18 00 5 8233 S19 A11	5	8233	403	144	44	57	9500	10500	345	1926	190	SAE
CS18 00 5 8983 B19 A12	5	8983	430	158	30	38	11000	12000	550	2076	190	BSP
CS18 00 5 8983 B19 AAA	5	8983	431	158	30	38	11000	12000	485	2076	190	BSP
CS18 00 5 8983 B25 A14	5	8983	431	158	30	38	11000	12000	900	2076	250	BSP
CS18 00 5 9233 B25 A16	5	9233	426	161	27	31	11500	12500	1200	2126	250	BSP
CS18 00 5 9233 N25 A16	5	9233	426	161	27	31	11500	12500	1200	2126	250	BSP
CS18 00 5 9233 S19 A11	5	9233	439	161	37	47	10500	11500	345	2126	190	SAE
CS18 00 5 9233 S25 A14	5	9233	424	161	27	35	11500	12500	900	2126	250	SAE
CS18 00 5 9483 B19 A12	5	9483	441	166	27	33	11500	12500	550	2176	190	BSP
CS18 00 5 9483 B19 AAB	5	9483	438	166	27	33	11500	12500	550	2176	190	BSP
CS18 00 5 9483 B25 A14	5	9483	426	166	27	31	11750	12750	900	2176	250	BSP

CS18 0E

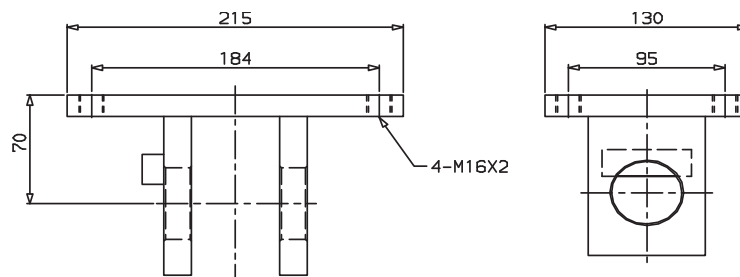


BB200



Mass: 10.8kg x 2 = 21.6 kg

OMK2



OMK2 for 4-5 stages ; Mass : 6 kg

CS18 0E

CYLINDERS WITH EYE MOUNTING

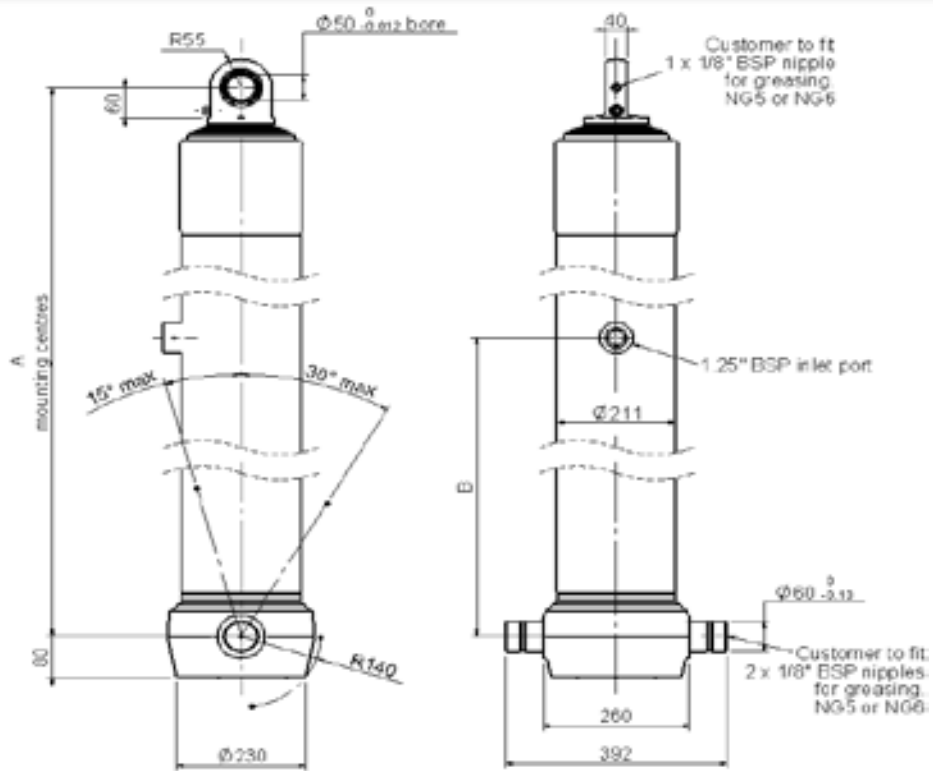
Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS18 0E 4 5166 B19 A01	4	5166	237	102	44	62	6750	7750	1535	190	BSP
CS18 0E 4 5366 B19 A01	4	5366	243	106	44	60	7000	8000	1585	190	BSP
CS18 0E 4 5566 B19 A01	4	5566	250	110	44	59	7250	8250	1635	190	BSP
CS18 0E 4 5766 B19 A01	4	5766	257	114	44	58	7500	8500	1685	190	BSP
CS18 0E 4 5966 B19 A01	4	5966	263	118	44	57	7750	8750	1735	190	BSP
CS18 0E 4 6166 B19 A01	4	6166	270	122	44	56	8000	9000	1785	190	BSP
CS18 0E 4 6366 B19 A01	4	6366	277	126	44	55	8250	9250	1835	190	BSP
CS18 0E 4 6566 B19 A01	4	6566	283	130	44	55	8500	9500	1885	190	BSP
CS18 0E 4 6766 B19 A01	4	6766	290	134	39	48	8750	9750	1935	190	BSP
CS18 0E 4 6966 B19 A01	4	6966	296	138	39	47	9000	10000	1985	190	BSP
CS18 0E 4 7166 B19 A01	4	7166	303	142	35	43	9250	10250	2035	190	BSP
CS18 0E 4 7366 B19 A01	4	7366	310	145	35	43	9500	10500	2085	190	BSP
CS18 0E 4 7566 B19 A01	4	7566	316	149	29	35	9750	10750	2135	190	BSP
CS18 0E 4 7766 B19 A01	4	7766	323	153	29	34	10000	11000	2185	190	BSP
CS18 0E 4 7966 B19 A01	4	7966	330	158	29	34	10250	11250	2235	190	BSP
CS18 0E 4 8166 B19 A01	4	8166	336	162	29	34	10500	11500	2285	190	BSP

CS18 0E 5 6233 B70 A01	5	6233	256	109	40	51	8250	9250	1490	700	BSP
CS18 0E 5 6483 B70 A01	5	6483	263	113	37	48	8500	9500	1540	700	BSP
CS18 0E 5 6733 B70 A01	5	6733	271	118	34	43	8750	9750	1590	700	BSP
CS18 0E 5 6983 B70 A01	5	6983	278	122	31	38	9000	10000	1640	700	BSP
CS18 0E 5 7233 B70 A01	5	7233	286	127	31	38	9250	10250	1690	700	BSP
CS18 0E 5 7483 B70 A01	5	7483	293	131	27	34	9500	10500	1740	700	BSP
CS18 0E 5 7733 B70 A01	5	7733	301	136	25	31	9750	10750	1790	700	BSP
CS18 0E 5 7983 B70 A01	5	7983	308	140	25	31	10000	11000	1840	700	BSP

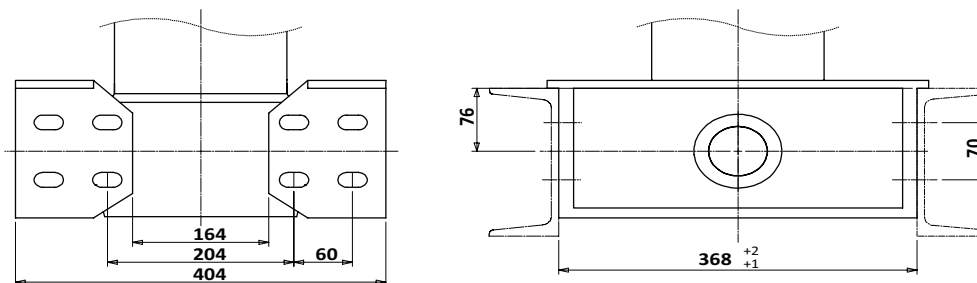
SPECIALS

CS18 0E 4 7616 S70 H01	4	7616	325	154	29	34	10000	11000	2235	700	SAE
CS18 0E 5 5483 B70 S02	5	5483	256	102	39	54	7000	8000	1515	700	BSP
CS18 0E 5 6233 B70 A02	5	6233	256	109	39	50	8000	9000	1515	700	BSP
CS18 0E 5 6983 B70 A02	5	6983	279	122	30	38	8750	9750	1665	700	BSP
CS18 0E 5 6983 S70 A06	5	6983	281	122	30	38	8720	9750	1765	700	SAE
CS18 0E 5 7483 B19 A01	5	7483	293	131	27	34	9000	10000	1740	190	BSP
CS18 0E 5 7633 S70 A01	5	7633	299	134	25	33	9250	10250	1772	700	SAE
CS18 0E 5 7983 B70 L01	5	7983	324	144	25	31	10000	11000	1940	700	BSP
CS18 0E 5 8233 B19 A01	5	8233	316	144	25	31	10500	11500	1892	190	BSP
CS18 0E 5 8233 S70 A01	5	8233	316	144	25	31	10500	11500	1892	700	SAE

CS18 0S



BB200



Mass: 10.8kg x 2 = 21.6 kg

CS18 0S

CYLINDERS WITH SPHERICAL MOUNTING

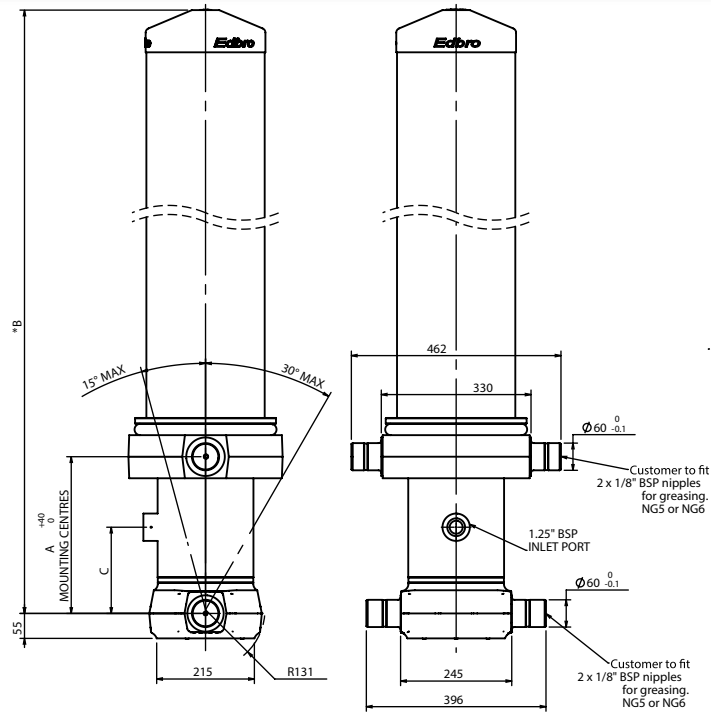
CS18 0S Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
					Tipping capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS18 0S 4 5166 B19 A01	4	5166	237	102	44	62	6750	7750	1535	190	BSP
CS18 0S 4 5366 B19 A01	4	5366	244	106	44	60	7000	8000	1585	190	BSP
CS18 0S 4 5566 B19 A01	4	5566	250	110	44	59	7250	8250	1635	190	BSP
CS18 0S 4 5766 B19 A01	4	5766	257	114	44	58	7500	8500	1685	190	BSP
CS18 0S 4 5966 B19 A01	4	5966	264	118	44	57	7750	8750	1735	190	BSP
CS18 0S 4 6166 B19 A01	4	6166	270	122	44	56	8000	9000	1785	190	BSP
CS18 0S 4 6366 B19 A01	4	6366	281	126	44	55	8250	9250	1835	190	BSP
CS18 0S 4 6566 B19 A01	4	6566	283	130	44	55	8500	9500	1885	190	BSP
CS18 0S 4 6766 B19 A01	4	6766	290	134	39	48	8750	9750	1935	190	BSP
CS18 0S 4 6966 B19 A01	4	6966	297	138	39	47	9000	10000	1985	190	BSP
CS18 0S 4 7166 B19 A01	4	7166	303	142	35	43	9250	10250	2035	190	BSP
CS18 0S 4 7366 B19 A01	4	7366	310	145	35	43	9500	10500	2085	190	BSP
CS18 0S 4 7566 B19 A01	4	7566	317	149	29	35	9750	10750	2135	190	BSP
CS18 0S 4 7766 B19 A01	4	7766	323	153	29	34	10000	11000	2185	190	BSP
CS18 0S 4 7966 B19 A01	4	7966	330	158	29	34	10250	11250	2235	190	BSP
CS18 0S 4 8166 B19 A01	4	8166	336	162	29	34	10500	11500	2285	190	BSP

CS18 0S 5 6233 B70 A01	5	6233	259	109	40	51	8250	9250	1500	700	BSP
CS18 0S 5 6483 B70 A01	5	6483	267	113	37	48	8500	9500	1550	700	BSP
CS18 0S 5 6733 B70 A01	5	6733	275	118	34	43	8750	9750	1600	700	BSP
CS18 0S 5 6983 B70 A01	5	6983	282	122	31	38	9000	10000	1650	700	BSP
CS18 0S 5 7233 B70 A01	5	7233	290	127	31	38	9250	10250	1700	700	BSP
CS18 0S 5 7483 B70 A01	5	7483	297	131	27	34	9500	10500	1750	700	BSP
CS18 0S 5 7733 B70 A01	5	7733	305	136	25	31	9750	10750	1800	700	BSP
CS18 0S 5 7983 B70 A01	5	7983	312	140	25	31	10000	11000	1850	700	BSP

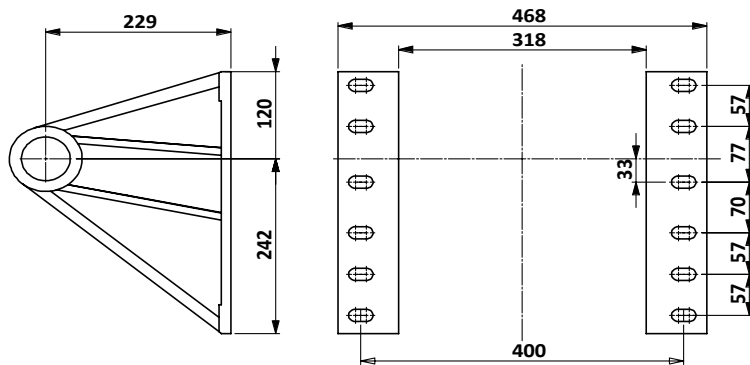
SPECIALS

CS18 0S 4 4416 B19 M01	4	4416	231	91	48	64	6000	7000	1485	190	BSP
CS18 0S 4 7616 S19 H01	4	7616	331	154	29	34	9500	10500	2235	190	SAE
CS18 0S 4 7616 S70 H01	4	7616	331	154	29	34	9500	10500	2235	700	SAE
CS18 0S 5 5983 B19 A05	5	5983	254	104	42	60	7500	8500	1550	190	BSP
CS18 0S 5 5983 B25 A05	5	5983	254	104	42	60	7500	8500	1550	250	BSP
CS18 0S 5 6233 B19 A05	5	6233	262	109	38	50	8000	9000	1600	190	BSP
CS18 0S 5 6983 B19 A04	5	6983	284	122	31	38	8750	9750	1725	190	BSP
CS18 0S 5 6983 S70 A06	5	6983	285	122	31	38	8750	9750	1775	700	SAE
CS18 0S 5 7233 B19 A02	5	7233	290	127	31	38	9250	10250	1725	190	BSP
CS18 0S 5 7633 B19 A01	5	7633	303	134	30	35	9250	10250	1780	190	BSP
CS18 0S 5 7633 B70 A01	5	7633	303	134	30	35	9250	10250	1780	700	BSP
CS18 0S 5 7633 S70 A01	5	7633	303	134	30	35	9250	10250	1780	700	SAE

CS18 LO

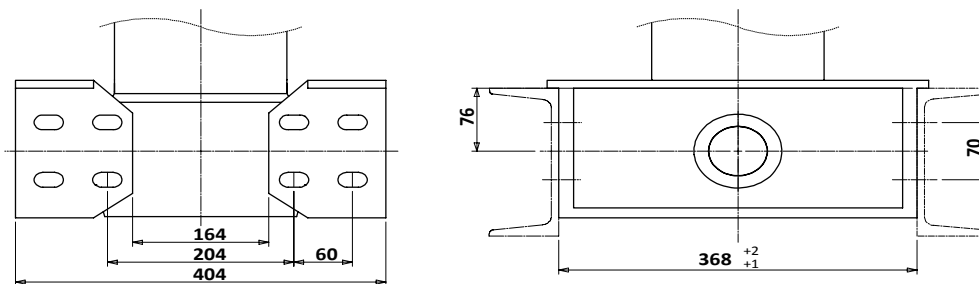


LB200-LB201



Mass: 10kg x 2 = 20 kg

BB200



Mass: 10.8kg x 2 = 21.6 kg

CS18 LO

FULL COVER

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)	Rated capacity (tonnes)				A - Mtg Centre (mm)	B - Overall Height (mm)	C - Port Height (mm)	Port Type
					Bodylength (mm)		Min	Max				
					Min	Max						
CS18 L0 5 5483 B19 A11	5	5483	290	97	31	51	6500	7500	345	1396	190	BSP
CS18 L0 5 5733 B19 A11	5	5733	299	100	31	49	6750	7750	345	1446	190	BSP
CS18 L0 5 5983 B19 A11	5	5983	308	104	31	48	7000	8000	345	1496	190	BSP
CS18 L0 5 6233 B19 A11	5	6233	316	109	31	47	7250	8250	345	1546	190	BSP
CS18 L0 5 6483 B19 A11	5	6483	325	113	34	48	7750	8750	345	1596	190	BSP
CS18 L0 5 6733 B19 A11	5	6733	334	118	34	48	8000	9000	345	1646	190	BSP
CS18 L0 5 6983 B19 A11	5	6983	343	122	34	47	8250	9250	345	1696	190	BSP
CS18 L0 5 7233 B19 A11	5	7233	351	127	34	46	8500	9500	345	1746	190	BSP
CS18 L0 5 7483 B19 A11	5	7483	360	131	34	46	8750	9750	345	1796	190	BSP
CS18 L0 5 7733 B19 A11	5	7733	369	136	34	45	9000	10000	345	1846	190	BSP
CS18 L0 5 7983 B19 A11	5	7983	378	139	36	46	9250	10250	345	1896	190	BSP
CS18 L0 5 8233 B19 A11	5	8233	386	144	34	44	9500	10500	345	1946	190	BSP
CS18 L0 5 8483 B19 A11	5	8483	395	149	34	44	9750	10750	345	1996	190	BSP
CS18 L0 5 8733 B19 A11	5	8733	404	153	34	43	10000	11000	345	2046	190	BSP
CS18 L0 5 8983 B19 A11	5	8983	413	158	34	43	10250	11250	345	2096	190	BSP
CS18 L0 5 9233 B19 A11	5	9233	421	161	30	38	10500	11500	345	2146	190	BSP
CS18 L0 5 9483 B19 A11	5	9483	430	165	29	36	11000	12000	345	2196	190	BSP

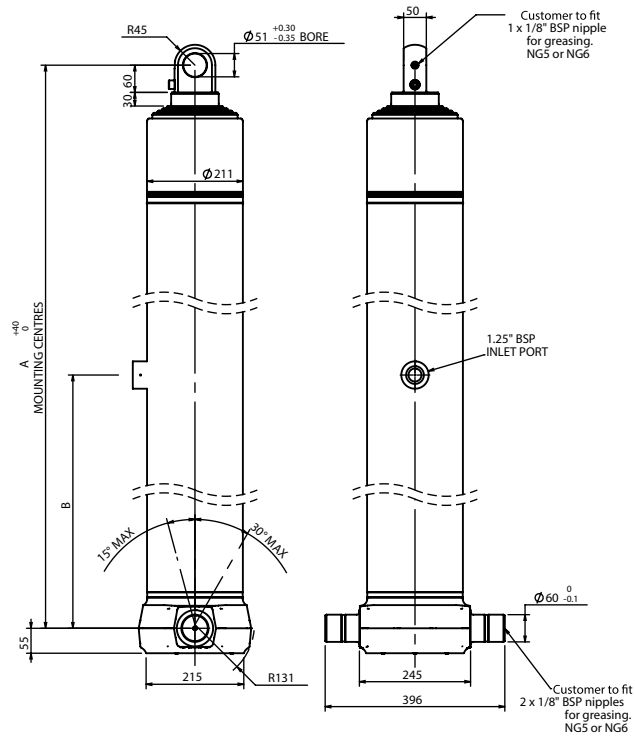
SHORT COVER

CS18 L0 5 6233 B25 A15	5	6233	296	109	34	49	7500	8500	1035	1546	250	BSP
CS18 L0 5 6733 B25 A15	5	6733	314	118	34	47	8000	9000	1035	1646	250	BSP
CS18 L0 5 7233 B25 A15	5	7233	331	127	34	46	8500	9500	1035	1746	250	BSP
CS18 L0 5 7733 B25 A15	5	7733	349	136	34	45	9000	10000	1035	1846	250	BSP
CS18 L0 5 7733 S25 A15	5	7733	350	136	34	45	9000	10000	1035	1846	250	SAE
CS18 L0 5 8233 B25 A15	5	8233	368	144	34	44	9500	10500	1035	1946	250	BSP
CS18 L0 5 8983 B25 A15	5	8983	393	158	30	38	10250	11250	1035	2096	250	BSP

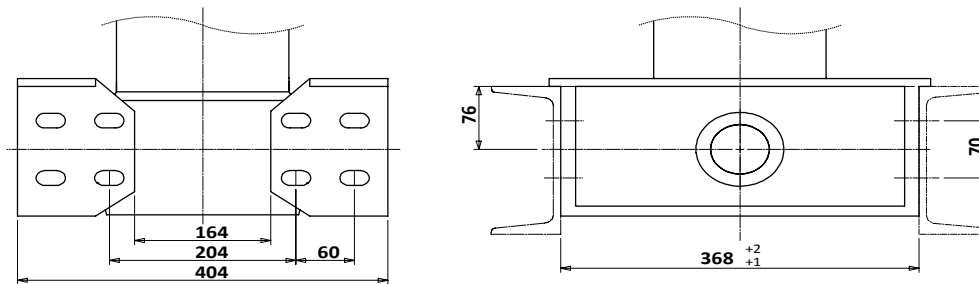
SPECIALS

CS18 L0 5 6483 B25 A15	5	6483	305	113	34	48	7750	8750	1035	1596	250	BSP
CS18 L0 5 6983 B25 A15	5	6983	323	122	34	46	8250	9250	1035	1696	250	BSP
CS18 L0 5 7233 T19 A11	5	7233	351	127	34	46	8500	9500	345	1746	190	BSP
CS18 L0 5 8233 B19 A12	5	8233	381	144	31	43	9000	10000	550	1946	190	BSP
CS18 L0 5 8233 S19 A11	5	8233	386	144	34	44	9500	10500	345	1946	190	SAE
CS18 L0 5 8483 S19 A11	5	8483	396	149	34	44	9750	10750	345	1996	190	SAE
CS18 L0 5 8983 B19 A12	5	8983	407	158	34	43	10250	11250	550	2096	190	BSP
CS18 L0 5 8983 S19 A11	5	8983	413	158	34	43	10250	11250	345	2096	190	SAE
CS18 L0 5 8983 B19 AAA	5	8983	409	158	34	43	10250	11250	485	2096	190	BSP
CS18 L0 5 8983 B25 A14	5	8983	397	158	33	41	11000	12000	900	2096	250	BSP
CS18 L0 5 9233 B25 A16	5	9233	397	161	26	31	11500	12500	1200	2146	250	BSP
CS18 L0 5 9233 N25 A16	5	9233	397	161	26	31	11500	12500	1200	2146	250	BSP
CS18 L0 5 9233 S19 A11	5	9233	422	161	30	38	10500	11500	345	2146	190	SAE
CS18 L0 5 9233 S25 A14	5	9233	406	161	28	33	11500	12500	900	2146	250	SAE
CS18 L0 5 9483 B19 A12	5	9483	425	166	29	34	11500	12500	550	2196	190	BSP
CS18 L0 5 9483 B19 AAB	5	9483	425	166	29	34	11500	12500	550	2196	190	BSP
CS18 L0 5 9483 B25 A14	5	9483	414	166	28	33	11750	12750	900	2196	250	BSP

CS18LE

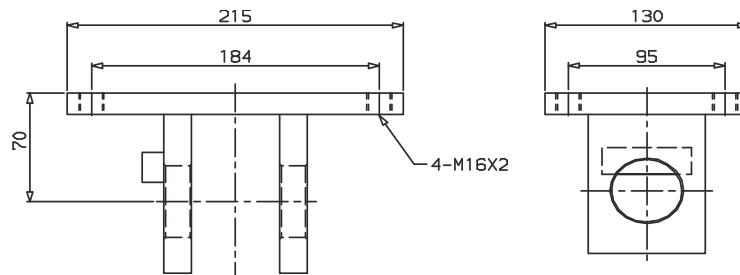


BB200



Mass: 10.8kg x 2 = 21.6 kg

OMK2



OMK2 for 4-5 stages ; Mass : 6 kg

CS18 LE

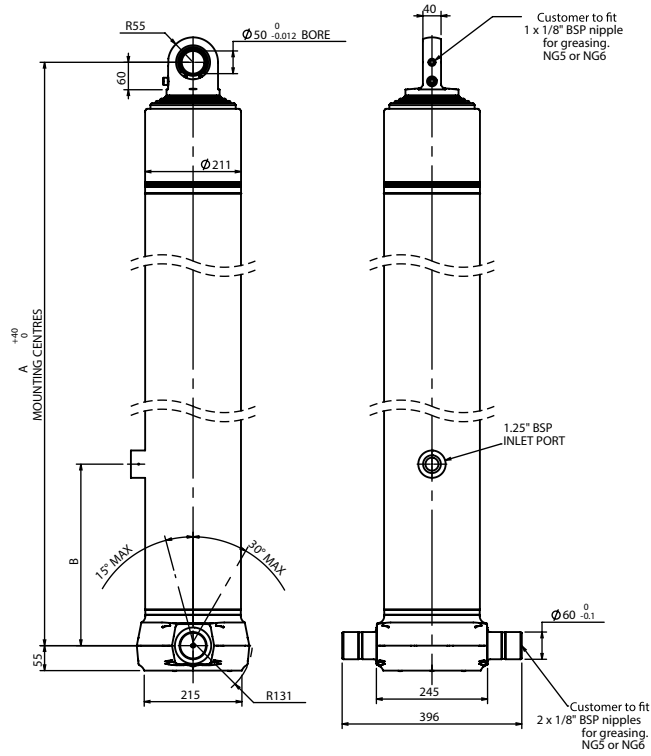
CYLINDERS WITH EYE MOUNTING

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)	Rated capacity				A - Mtg Centre (mm)	B - Port Height (mm)	Port Type
					Rated capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS18 LE 5 6233 B70 A02	5	6233	241	109	32	43	8250	9250	1513	700	BSP
CS18 LE 5 6483 B70 A02	5	6483	248	113	34	43	8500	9500	1563	700	BSP
CS18 LE 5 6733 B70 A02	5	6733	256	118	31	39	8750	9750	1613	700	BSP
CS18 LE 5 6883 B70 A03	5	6883	259	120	31	39	8750	9750	1660	700	BSP
CS18 LE 5 7033 B70 A02	5	7033	264	123	31	40	8750	9750	1673	700	BSP
CS18 LE 5 7233 B70 A02	5	7233	276	127	31	38	9250	10250	1713	700	BSP
CS18 LE 5 7733 B70 A02	5	7733	291	136	25	31	9750	10750	1813	700	BSP
CS18 LE 5 7983 B70 A02	5	7983	298	140	25	31	10000	11000	1863	700	BSP

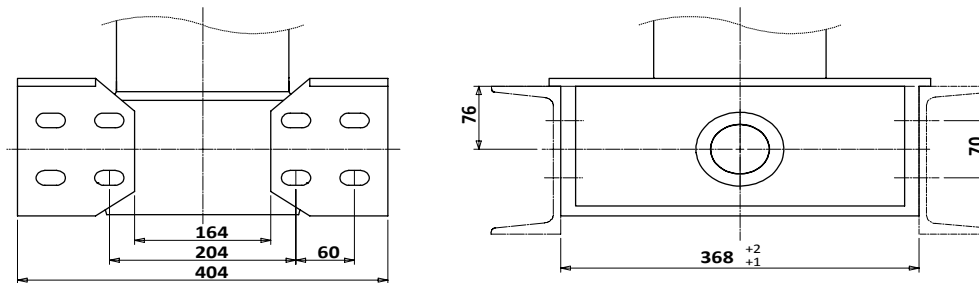
SPECIALS

CS18 LE 5 5483 B70 S02	5	5483	241	102	30	47	7000	8000	1513	700	BSP
CS18 LE 5 6583 B70 J02	5	6583	263	119	32	42	8500	9500	1663	700	BSP
CS18 LE 5 6983 S70 A06	5	6983	272	122	33	42	8750	9750	1673	700	SAE
CS18 LE 5 7233 B19 A03	5	7233	278	127	32	40	9000	10000	1738	190	BSP
CS18 LE 5 7233 B70 A03	5	7233	278	131	28	35	9000	10000	1738	700	BSP
CS18 LE 5 7483 B70 A02	5	7483	285	131	28	34	9500	10500	1763	700	BSP
CS18 LE 5 7483 S70 A02	5	7483	286	134	28	34	9250	10250	1763	700	SAE
CS18 LE 5 7633 S70 A02	5	7633	287	134	28	36	9250	10250	1793	700	BSP
CS18 LE 5 7983 B70 L02	5	7983	315	144	30	37	9750	10750	1963	700	BSP
CS18 LE 5 8183 S70 G02	5	8183	316	146	26	32	10000	11000	1963	700	SAE
CS18 LE 5 8233 B19 A02	5	8233	307	144	21	26	10000	11000	1913	190	BSP
CS18 LE 5 8233 S70 A02	5	8233	307	144	21	26	10000	11000	1913	700	SAE

CS18 LS



BB200



Mass: 10.8kg x 2 = 21.6 kg

CS18 LS

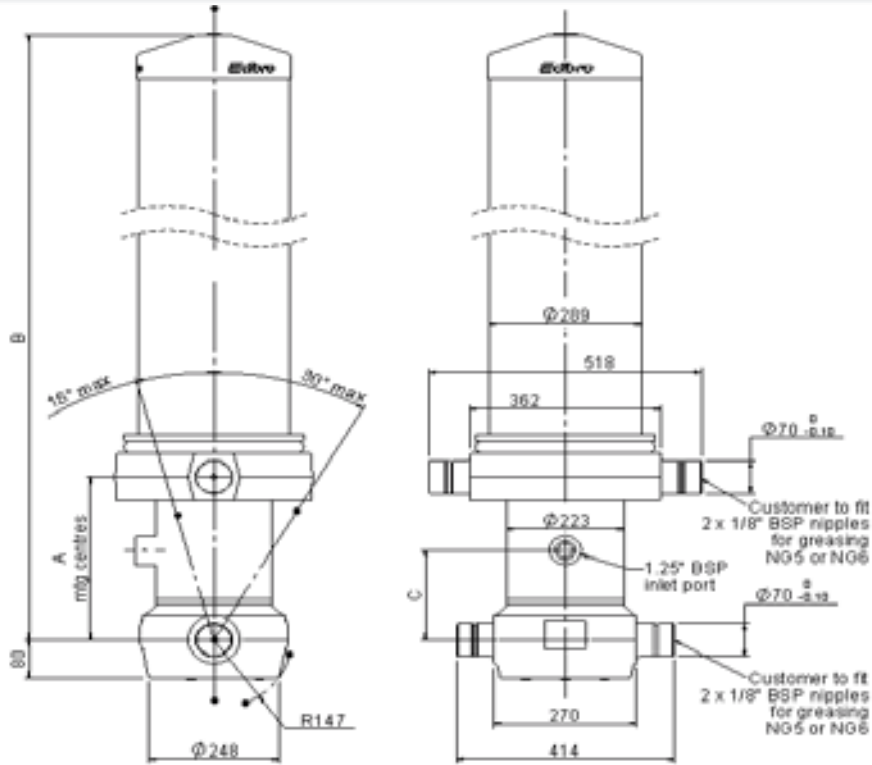
CYLINDERS WITH SPHERICAL MOUNTING

Cylinders Codes	N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mtg Centre (mm)	B - Port Height (mm)	Port Type
					Rated capacity		Bodylength (mm)				
					Min	Max	Min	Max			
CS18 LS 5 6233 B70 A02	5	6233	243	109	32	43	8250	9250	1513	700	BSP
CS18 LS 5 6483 B70 A02	5	6483	250	113	34	43	8500	9500	1563	700	BSP
CS18 LS 5 6733 B70 A02	5	6733	258	118	31	39	8750	9750	1613	700	BSP
CS18 LS 5 6983 B70 A02	5	6983	262	122	31	39	9000	10000	1663	700	BSP
CS18 LS 5 7233 B70 A02	5	7233	278	127	31	38	9250	10250	1713	700	BSP
CS18 LS 5 7483 B70 A02	5	7483	289	131	28	34	9500	10500	1763	700	BSP
CS18 LS 5 7733 B70 A02	5	7733	293	136	25	31	9750	10750	1813	700	BSP
CS18 LS 5 7983 B70 A02	5	7983	300	140	25	31	10000	11000	1863	700	BSP

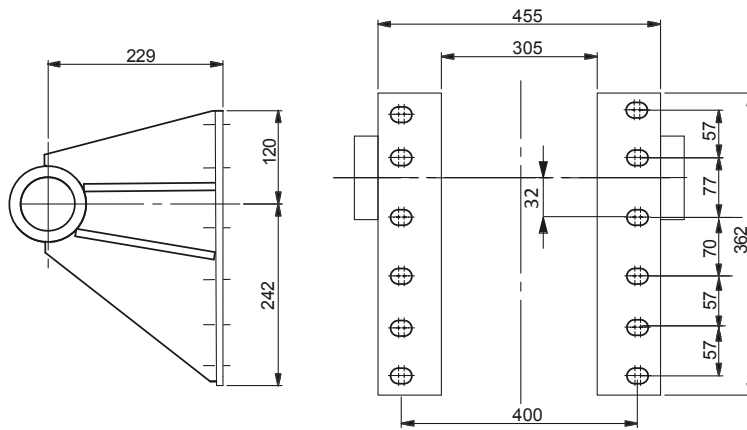
SPECIALS

CS18 LS 5 5983 B19 A05	5	5983	238	104	32	44	7500	8500	1538	190	BSP
CS18 LS 5 5983 B25 A05	5	5983	238	104	32	44	7500	8500	1538	250	BSP
CS18 LS 5 6233 B19 A05	5	6233	246	109	34	45	8000	9000	1588	190	BSP
CS18 LS 5 6233 B40 A02	5	6233	245	109	32	43	7750	8750	1513	400	BSP
CS18 LS 5 6983 B19 A04	5	6983	265	122	31	40	8750	9750	1713	190	BSP
CS18 LS 5 6983 S70 A06	5	6983	276	122	33	42	8750	9750	1763	700	SAE
CS18 LS 5 7233 B19 A02	5	7233	282	127	31	38	9250	10250	1713	190	BSP
CS18 LS 5 7483 B19 A02	5	7483	290	134	28	34	9250	10250	1763	190	BSP
CS18 LS 5 7483 B70 A02	5	7483	290	134	28	34	9250	10250	1763	700	BSP
CS18 LS 5 7483 S70 A02	5	7483	290	134	28	34	9250	10250	1763	700	SAE
CS18 LS 5 7483 B70 A09	5	7483	284	136	28	34	9500	10500	1938	700	BSP
CS18 LS 5 7633 B19 A02	5	7633	291	134	28	36	9250	10250	1793	190	BSP
CS18 LS 5 7633 B70 A02	5	7633	291	134	28	36	9250	10250	1793	700	BSP
CS18 LS 5 7633 S70 A02	5	7633	291	134	28	36	9250	10250	1793	700	SAE

CS19 00

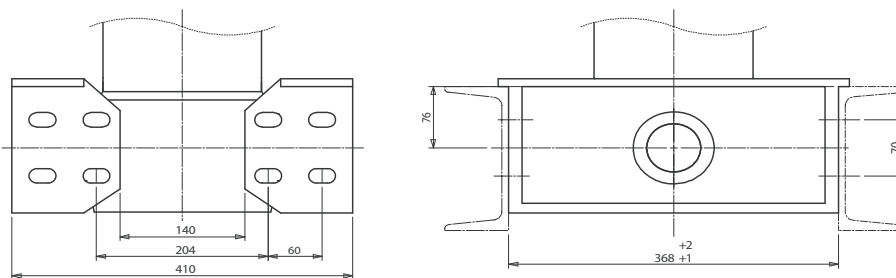


LB113-LB114



Mass: $10.5\text{kg} \times 2 = 21\text{ kg}$

BB106



Mass: $18\text{kg} \times 2 = 36\text{ kg}$

CS19 00

CYLINDERS WITH OUTER COVER

CS19 00			N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Overall Height (mm)	C - Port Height (mm)	Port Type
Cylinders Codes							Tipping capacity		Bodylength (mm)					
							Min	Max	Min	Max				
CS19 00 5	5678	B19 A11	5	5678	342	112	53	83	6750	7750	345	1443	190	BSP
CS19 00 5	5928	B19 A11	5	5928	351	117	53	81	7000	8000	345	1493	190	BSP
CS19 00 5	6178	B19 A11	5	6178	361	122	53	79	7250	8250	345	1543	190	BSP
CS19 00 5	6428	B19 A11	5	6428	371	127	53	77	7500	8500	345	1593	190	BSP
CS19 00 5	6678	B19 A11	5	6678	380	132	54	76	8000	9000	345	1643	190	BSP
CS19 00 5	6928	B19 A11	5	6928	389	137	54	75	8000	9000	345	1693	190	BSP
CS19 00 5	7178	B19 A11	5	7178	399	142	54	74	8500	9500	345	1743	190	BSP
CS19 00 5	7428	B19 A11	5	7428	408	147	53	69	9000	10000	345	1793	190	BSP
CS19 00 5	7678	B19 A11	5	7678	418	152	53	69	9250	10250	345	1843	190	BSP
CS19 00 5	7928	B19 A11	5	7928	427	157	53	68	9500	10500	345	1893	190	BSP
CS19 00 5	8178	B19 A11	5	8178	436	162	53	68	9750	10750	345	1943	190	BSP
CS19 00 5	8428	B19 A11	5	8428	446	167	46	60	9750	10750	345	1993	190	BSP
CS19 00 5	8678	B19 A11	5	8678	455	172	42	53	10000	11000	345	2043	190	BSP
CS19 00 5	8928	B19 A11	5	8928	465	177	37	47	10250	11250	345	2093	190	BSP
CS19 00 5	9178	B19 A11	5	9178	474	182	34	43	10500	11500	345	2143	190	BSP
CS19 00 5	9428	B19 A11	5	9428	483	186	34	42	10750	11750	345	2193	190	BSP
CS19 00 5	9678	B19 A11	5	9678	493	191	34	42	11000	12000	345	2243	190	BSP

CS19 00 6	7145	B19 A11	6	7145	368	126	45	57	8250	9250	345	1498	190	BSP
CS19 00 6	7445	B19 A11	6	7445	378	132	38	51	9000	10000	345	1548	190	BSP
CS19 00 6	7745	B19 A11	6	7745	388	137	38	51	9250	10250	345	1598	190	BSP

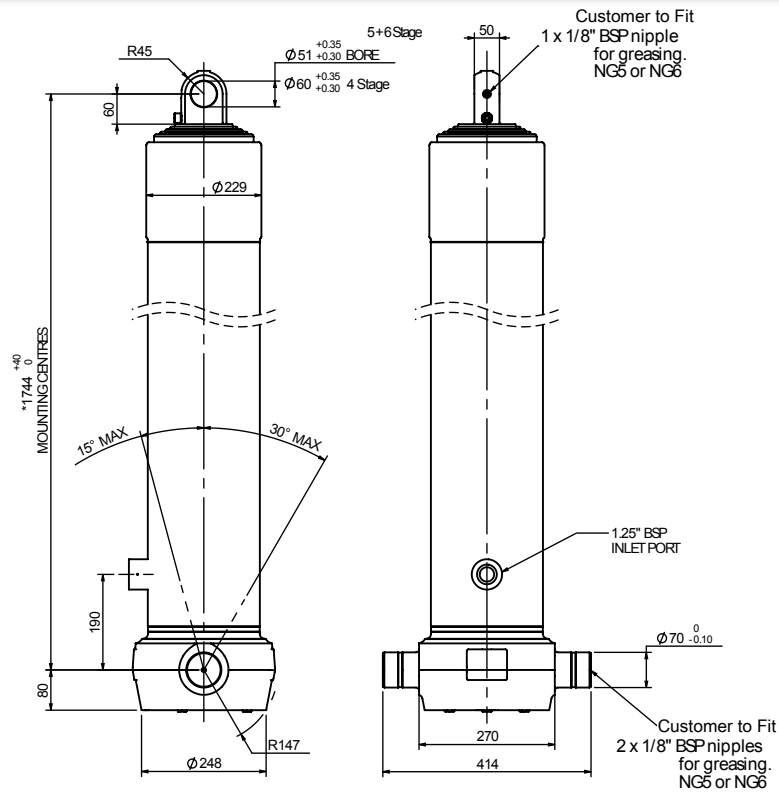
SHORT COVER

CS19 00 5	7178	B25 A15	5	7178	374	142	47	65	8350	9350	1035	1743	250	BSP
CS19 00 5	7428	B25 A15	5	7428	384	147	46	62	8750	9750	1035	1793	250	BSP
CS19 00 5	7678	B25 A15	5	7678	394	152	42	55	9000	10000	1035	1843	250	BSP

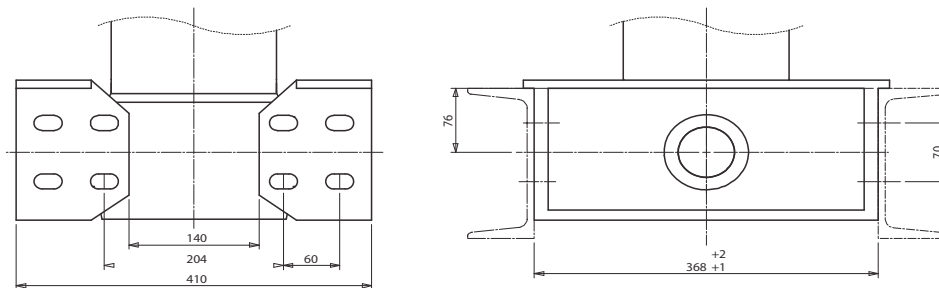
SPECIALS

CS19 00 5	6678	N19 A11C	5	6678	380	132	54	76	8000	9000	345	1643	190	BSP
CS19 00 5	8428	N25 A16C	5	8428	416	167	34	44	9750	10750	1200	1993	250	BSP
CS19 00 5	9428	B19 A12C	5	9428	476	186	28	35	10750	11750	550	2193	190	BSP
CS19 00 6	7145	B25 A15	6	7145	344	126	32	43	8750	9750	1035	1498	250	BSP

CS19 0E

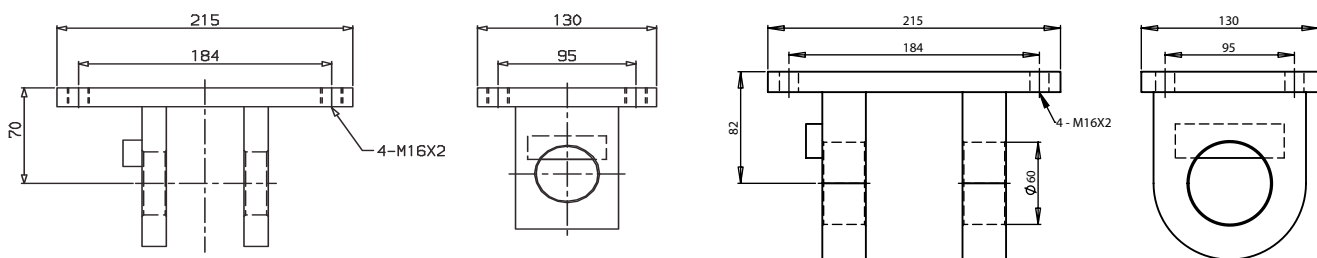


BB106



Mass: 18kg x 2 = 36 kg

OMK2 & OMK5



OMK2 for 5-6 stages ; Mass : 6 kg

OMK5 for 4 stages; Mass: 8kg

CS19 0E

CYLINDERS WITH EYE MOUNTING

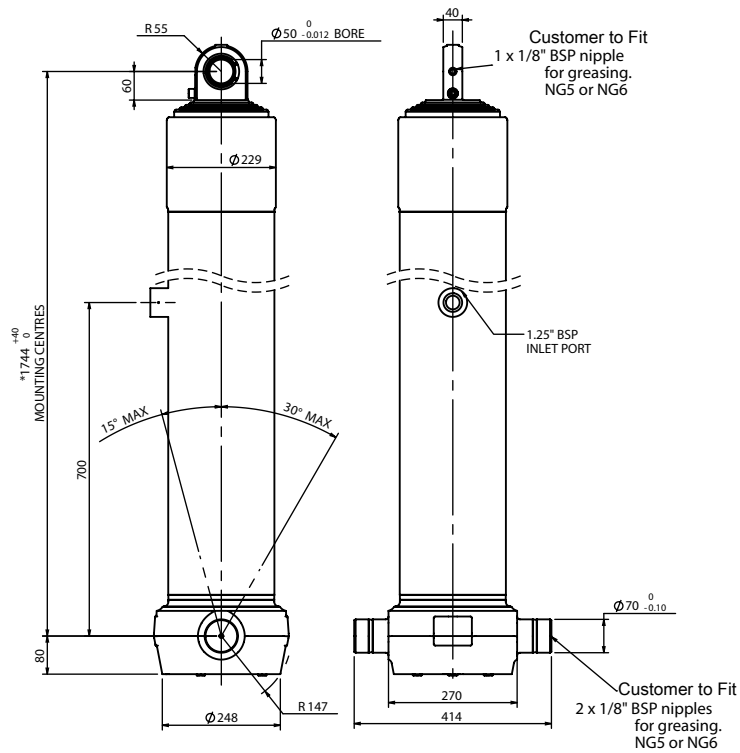
CS19 0E			N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
Cylinders Codes							Tipping capacity		Bodylength (mm)				
							Min	Max	Min	Max			
CS19 0E 4	5916	B19 A01	4	5916	282	131	58	80	7500	8500	1739	190	BSP
CS19 0E 4	6116	B19 A01	4	6116	289	135	53	74	7500	8500	1789	190	BSP
CS19 0E 4	6316	B19 A01	4	6316	296	139	53	72	7750	8750	1839	190	BSP
CS19 0E 4	6516	B19 A01	4	6516	303	144	53	71	8000	9000	1889	190	BSP
CS19 0E 4	6716	B19 A01	4	6716	310	148	47	62	8250	9250	1939	190	BSP
CS19 0E 4	6916	B19 A01	4	6916	317	153	46	61	8500	9500	1989	190	BSP

CS19 0E 5	5428	B19 A01	5	5428	245	107	50	78	6750	7750	1344	190	BSP
CS19 0E 5	5678	B19 A01	5	5678	252	112	50	76	7000	8000	1394	190	BSP
CS19 0E 5	5928	B19 A01	5	5928	260	117	50	75	7250	8250	1444	190	BSP
CS19 0E 5	6178	B19 A01	5	6178	268	122	45	62	7750	8750	1494	190	BSP
CS19 0E 5	6428	B19 A01	5	6428	275	127	44	60	8000	9000	1544	190	BSP
CS19 0E 5	6678	B19 A01	5	6678	283	132	40	73	8250	9250	1594	190	BSP
CS19 0E 5	6928	B19 A01	5	6928	290	137	36	48	8500	9500	1644	190	BSP
CS19 0E 5	7178	B19 A01	5	7178	298	142	36	47	8750	9750	1694	190	BSP
CS19 0E 5	7428	B19 A01	5	7428	306	147	33	43	9000	10000	1744	190	BSP
CS19 0E 5	7678	B19 A01	5	7678	313	152	27	35	9250	10250	1794	190	BSP

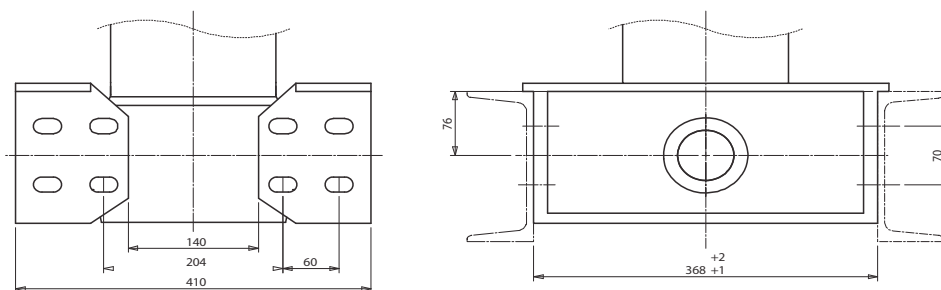
SPECIALS

CS19 0E 4	6316	T19 A01C	4	6316	296	139	53	72	7750	8750	1839	190	BSP
CS19 0E 5	7428	T19 A01C	5	7428	306	147	33	43	9000	10000	1744	190	BSP
CS19 0E 6	6995	B70 K02	6	6995	285	127	30	41	8750	9750	1524	700	BSP

CS19 0S

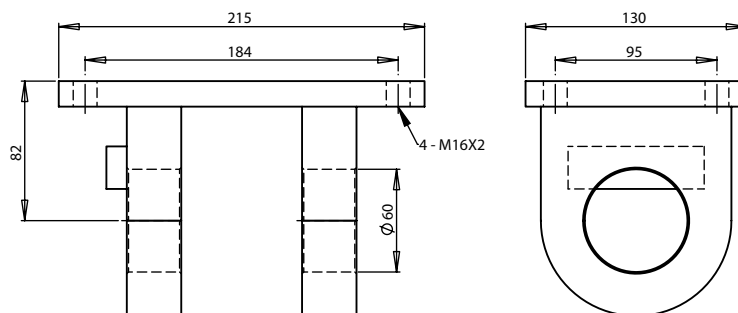


BB106



Mass: 18kg x 2 = 36 kg

OMK6



OMK6 for 5 stages; Mass: 8kg

CS19 OS

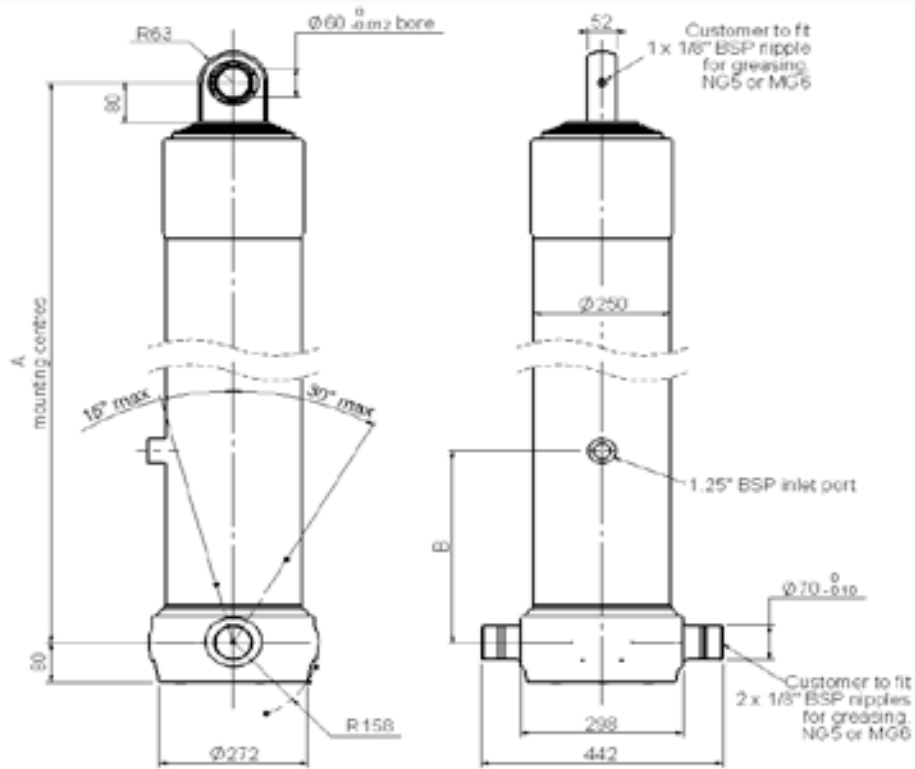
CYLINDERS WITH SPHERICAL MOUNTING

CS19 OS			N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
Cylinders Codes							Tipping capacity		Bodylength (mm)				
							Min	Max	Min	Max			
CS19 OS 5	5428	B70 A01	5	5428	245	107	50	78	6750	7750	1344	700	BSP
CS19 OS 5	5678	B70 A01	5	5678	252	112	50	76	7000	8000	1394	700	BSP
CS19 OS 5	5928	B70 A01	5	5928	260	117	50	75	7250	8250	1444	700	BSP
CS19 OS 5	6178	B70 A01	5	6178	268	122	45	62	7750	8750	1494	700	BSP
CS19 OS 5	6428	B70 A01	5	6428	275	127	44	60	8000	9000	1544	700	BSP
CS19 OS 5	6678	B70 A01	5	6678	283	132	41	58	8000	9000	1594	700	BSP
CS19 OS 5	6928	B70 A01	5	6928	291	137	36	48	8500	9500	1644	700	BSP
CS19 OS 5	7178	B70 A01	5	7178	298	142	36	47	8750	9750	1694	700	BSP
CS19 OS 5	7428	B70 A01	5	7428	306	147	33	43	9000	10000	1744	700	BSP
CS19 OS 5	7678	B70 A01	5	7678	313	152	27	35	9250	10250	1794	700	BSP

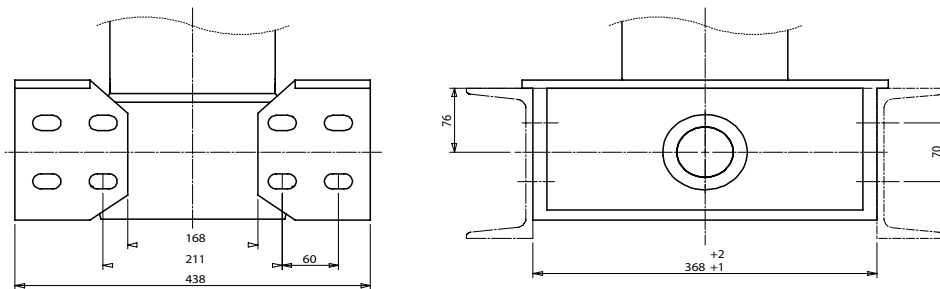
SPECIALS

CS19 OS 5	5678	B70 L04	5	5678	253	107	43	73	6500	7500	1469	700	BSP
CS19 OS 5	5928	B40 A05	5	5928	268	117	53	73	7500	8200	1544	400	BSP
CS19 OS 5	6178	S70 A01	5	6178	268	122	45	62	7750	8750	1494	700	SAE
CS19 OS 6	6245	B70 A01	6	6245	256	110	32	47	7750	8750	1309	700	BSP
CS19 OS 6	6995	B70 K01	6	6995	288	128	30	41	8750	9750	1549	700	BSP
CS19 OS 6	6995	B70 K01C	6	6995	288	128	30	41	8750	9750	1549	700	BSP
CS19 OS 6	7445	S70 A01	6	7445	288	132	23	30	9250	10250	1509	700	SAE

CS22 OS

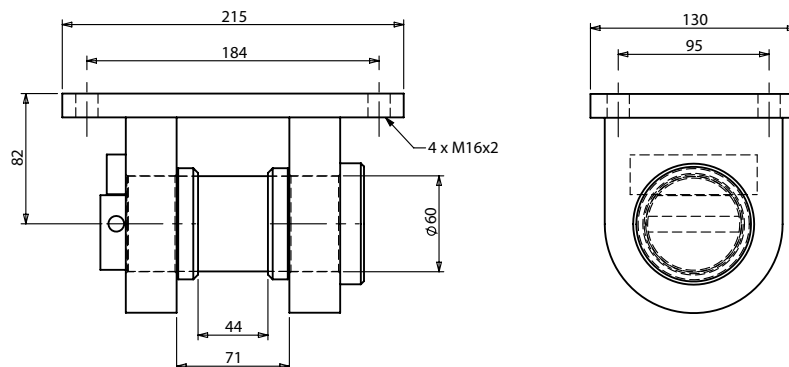


BB106



Mass: 18kg x 2 = 36 kg

OMK7

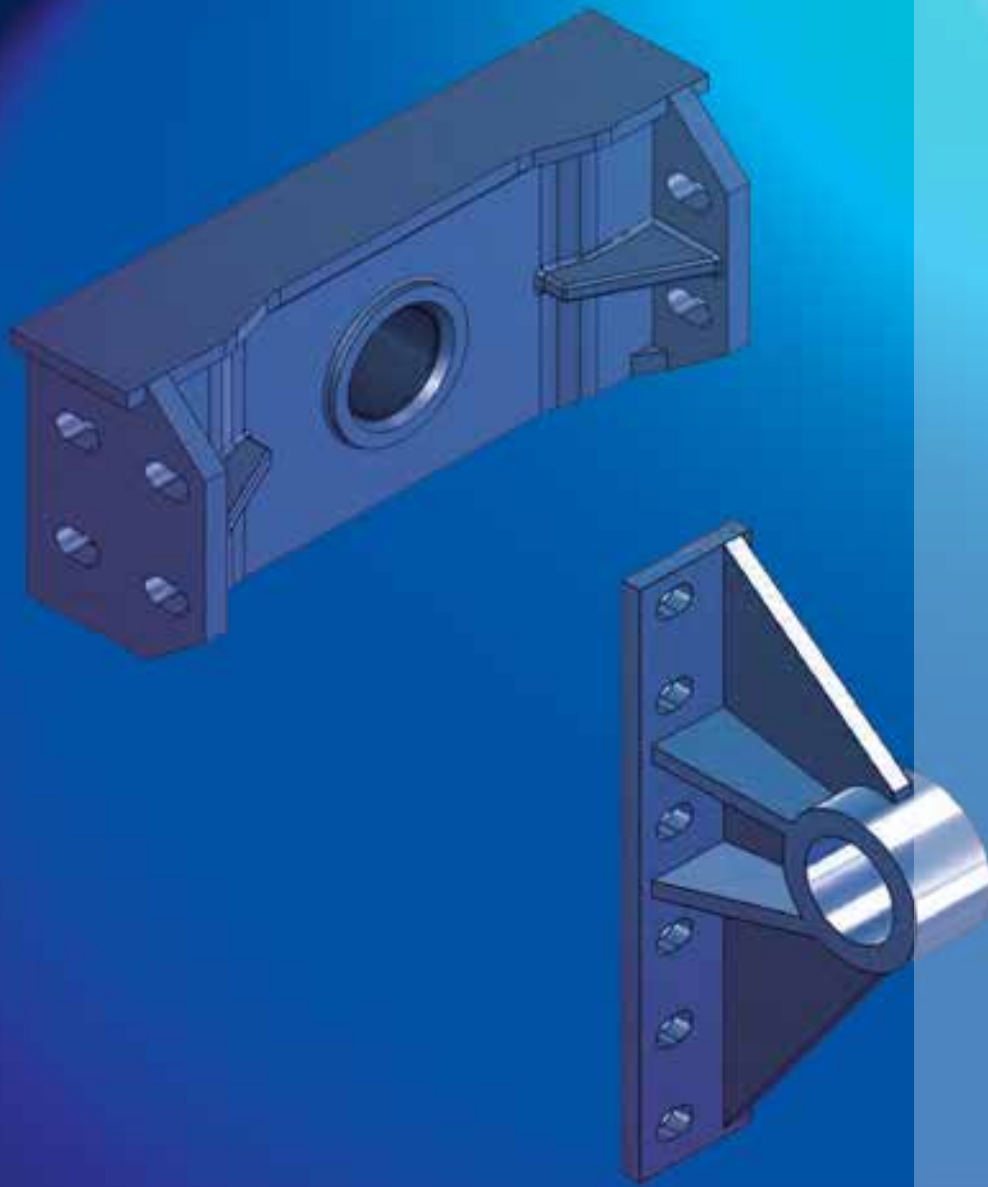


OMK7 for use with OS5 stage Mass: 12.2kg

CS22 0S

CYLINDERS WITH SPHERICAL MOUNTING

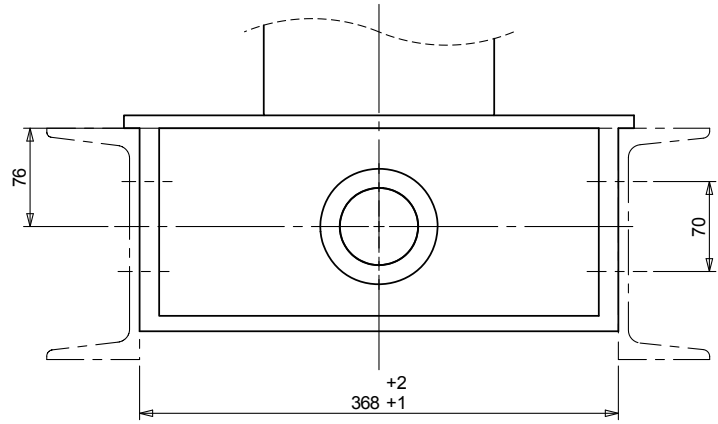
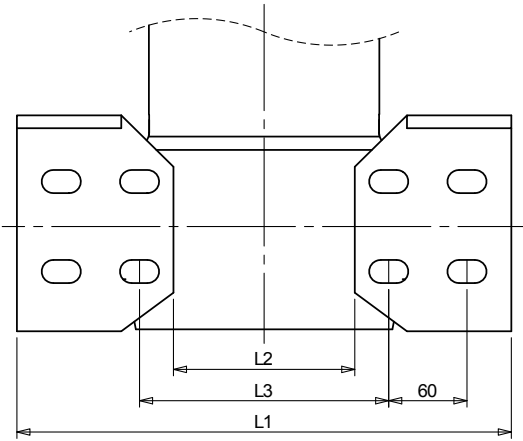
CS22 0S			N° of stages	Stroke (mm)	Mass (Kg)	Swept Oil Volume (l)					A - Mounting Centre (mm) Tolerance - +40 / -0	B - Port Height (mm)	Port Type
Cylinders Codes							Tipping capacity		Bodylength (mm)				
							Min	Max	Min	Max			
CS22 0S 5	5530	B39 CAE					5	5530	361	140			
CS22 0S 5	5780	B39 CAE	5	5780	369	147	67	92	7750	8150	1463	390	BSP
CS22 0S 5	6030	B39 CAE	5	6030	377	153	74	95	8000	8400	1513	390	BSP
CS22 0S 5	6280	B39 CAE	5	6280	384	160	73	93	8250	8650	1563	390	BSP
CS22 0S 5	6530	B39 CAE	5	6530	392	166	73	92	8500	8900	1613	390	BSP
CS22 0S 5	6780	B39 CAE	5	6780	399	172	73	91	8750	9150	1663	390	BSP
CS22 0S 5	7030	B39 CAE	5	7030	407	179	73	90	9000	9400	1713	390	BSP
CS22 0S 5	7280	B39 CAE	5	7280	415	185	66	84	9250	9650	1763	390	BSP
CS22 0S 5	7530	B39 CAE	5	7530	422	192	59	75	9500	9900	1813	390	BSP



CS Brackets Standard and Options

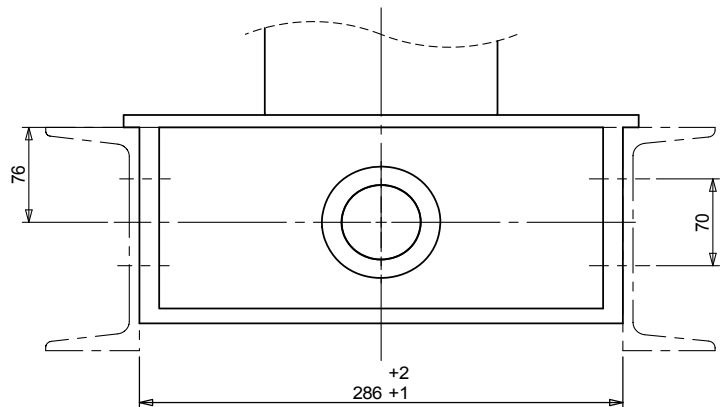
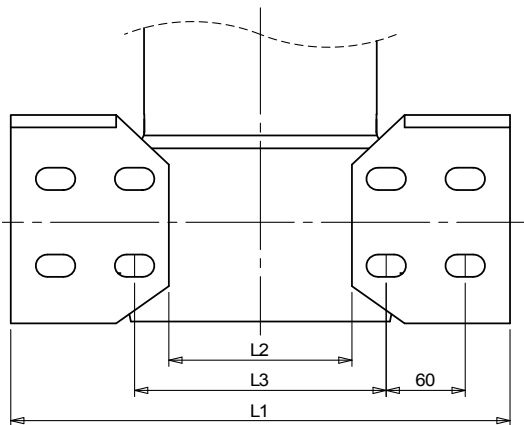
Standard Bearing Brackets:

BB200 10.8 kg each



		CS17/18	CS15
		<i>standard</i>	<i>standard</i>
L1		404	380
L2		164	140
L3	min	204	180
	std	204	204
	max	228	204

BB103 11kg each

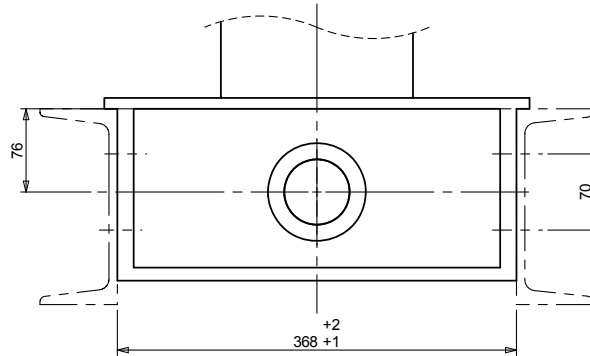
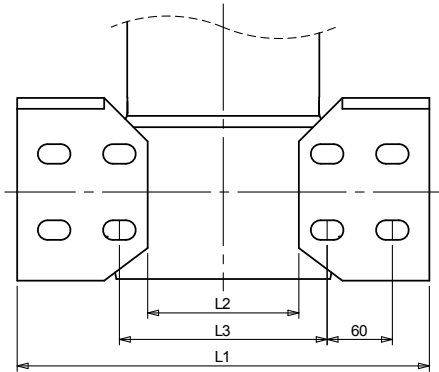


		CS13/11	CS15
		<i>standard</i>	<i>standard</i>
L1		338	383
L2		98	143
L3	min	138	183
	std	158	204
	max	162	207

All dimensions are given in mm unless otherwise stated.
 Technical Specifications are subject to change without notice.

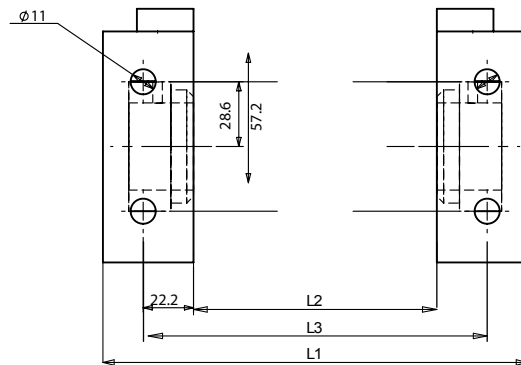
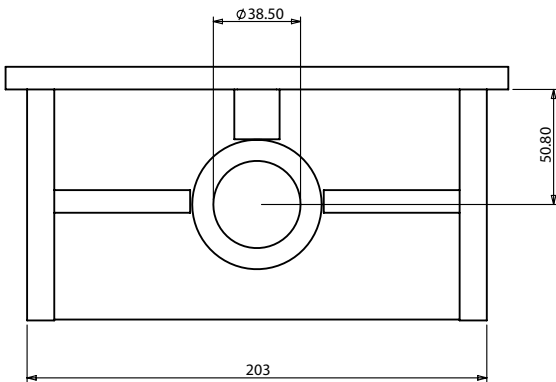
Standard Bearing Brackets:

BB106 14.5 kg each



		CS19	CS22
		<i>standard</i>	<i>standard</i>
L1		410	438
L2		140	168
L3	min	180	207
	std	204	211
	max	213	241

RB14A/FAB 3 kg each

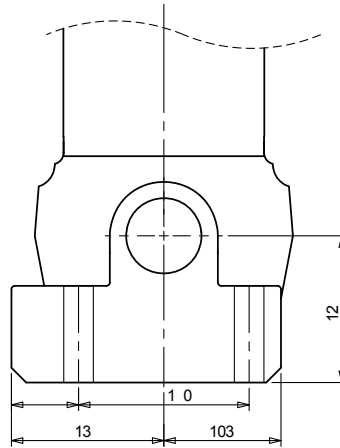
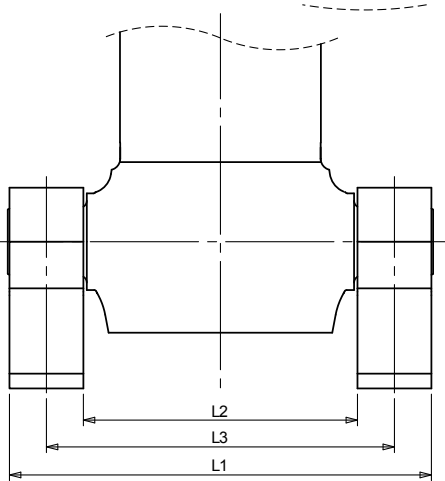


		CS07
		<i>standard</i>
L1		171
L2		114
L3		159

All dimensions are given in mm unless otherwise stated.
 Technical Specifications are subject to change without notice.

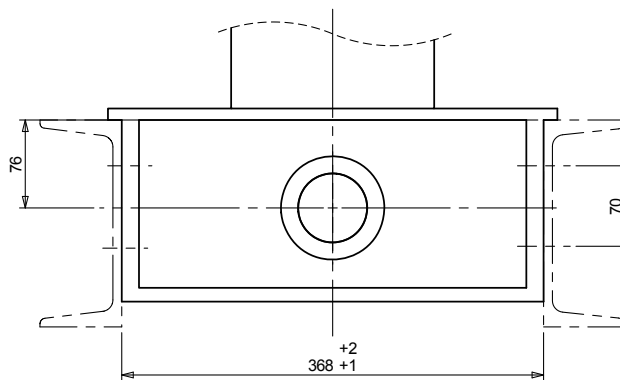
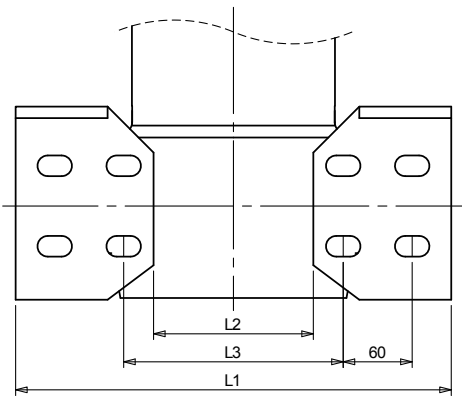
Optional Bearing Brackets:

BB101 7 kg each



	CS17/18	CS15
	<i>option</i>	<i>option</i>
L1	396	371
L2	266	241
L3	331	306

BB100/B 13.5 kg each
Low Maintenance Bush

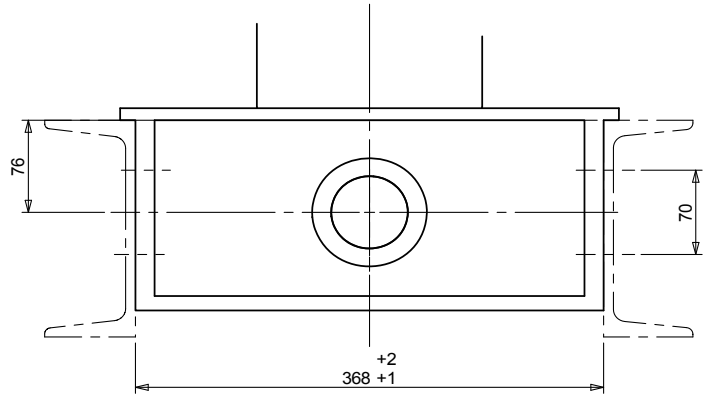
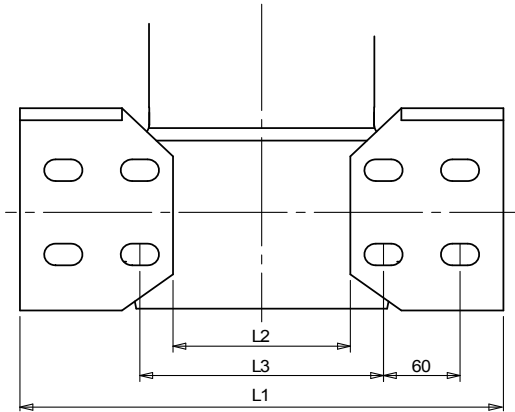


	CS17/18	CS15
	<i>optional</i>	<i>optional</i>
L1	404	380
L2	164	140
L3	min	204
	std	204
	max	228

All dimensions are given in mm unless otherwise stated.
Technical Specifications are subject to change without notice.

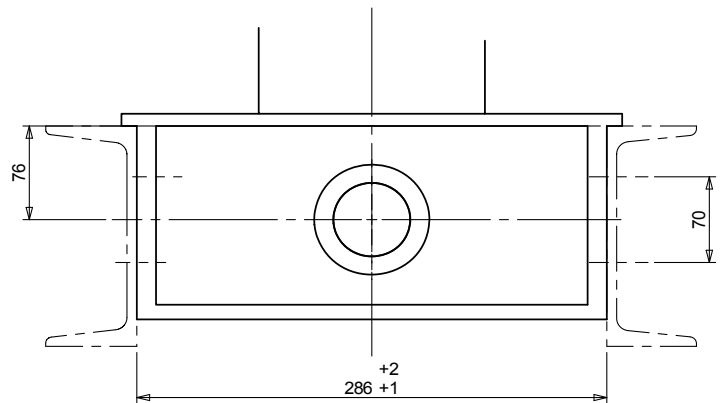
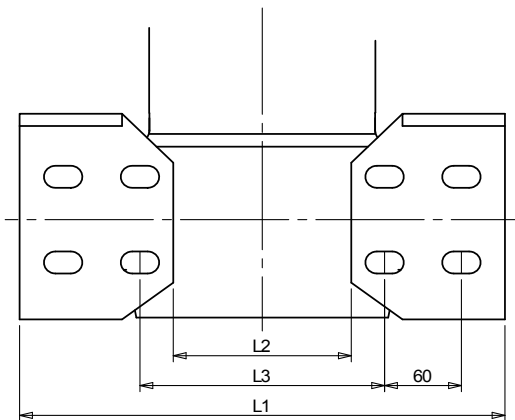
Optional Bearing Brackets:

BB104 15 kg each



		CS15
		<i>option</i>
L1		375
L2		95
L3	min	134
	std	141
	max	146

BB105 12.5 kg each

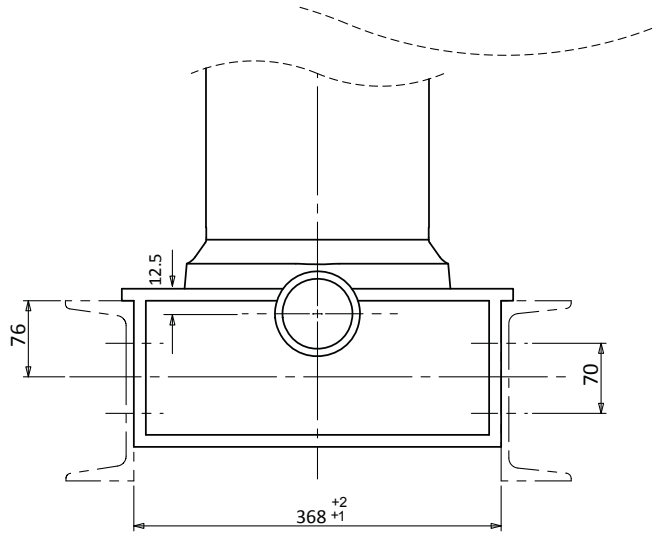
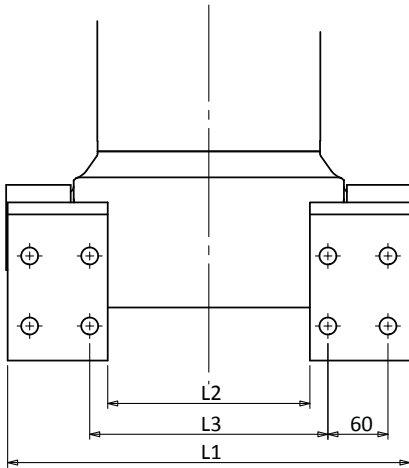


		CS15
		<i>option</i>
L1		375
L2		95
L3	min	134
	std	141
	max	146

All dimensions are given in mm unless otherwise stated.
 Technical Specifications are subject to change without notice.

Optional Bearing Brackets:

BB108 12.5 kg each

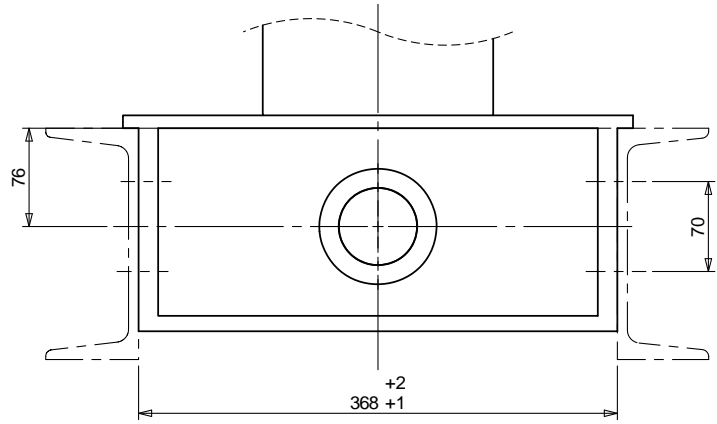
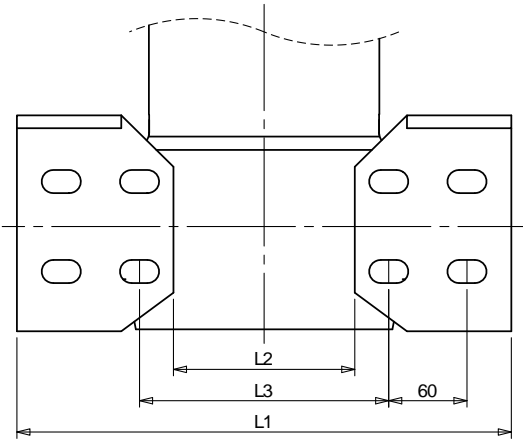


CS17/18	
<i>option</i>	
L1	390
L2	190
L3	228

All dimensions are given in mm unless otherwise stated.
 Technical Specifications are subject to change without notice.

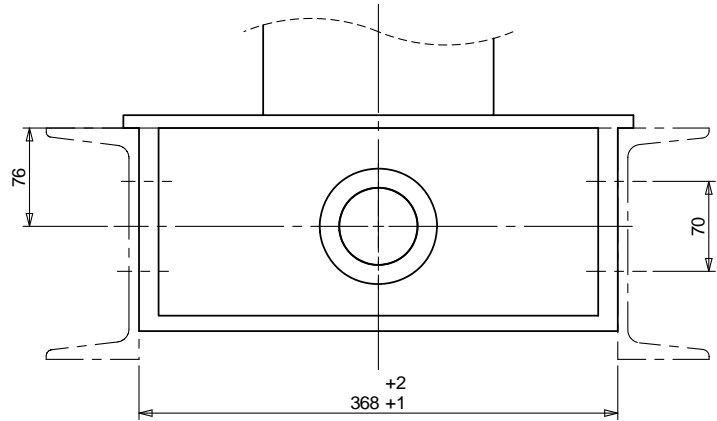
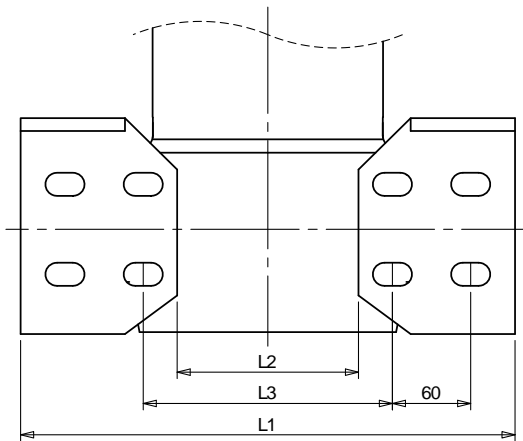
Bearing Brackets:

BB200 11 kg each



		CS17L/18L	
		<i>standard</i>	
L1		389	
L2		149	
L3	min	189	
	std	204	
	max	213	

BB100CT 14.2 kg each

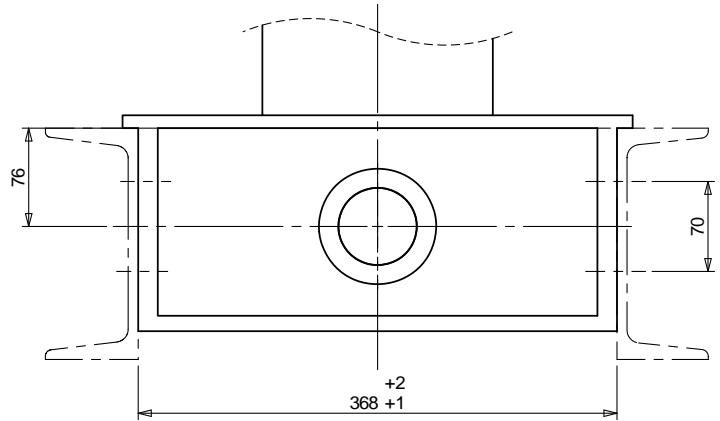
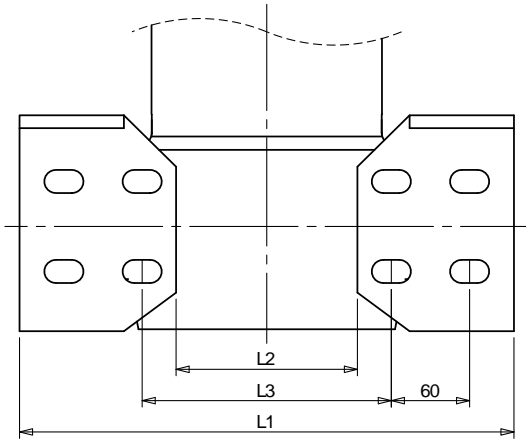


		CS17L/18L	
		<i>standard</i>	
L1		389	
L2		149	
L3	min	189	
	std	204	
	max	213	

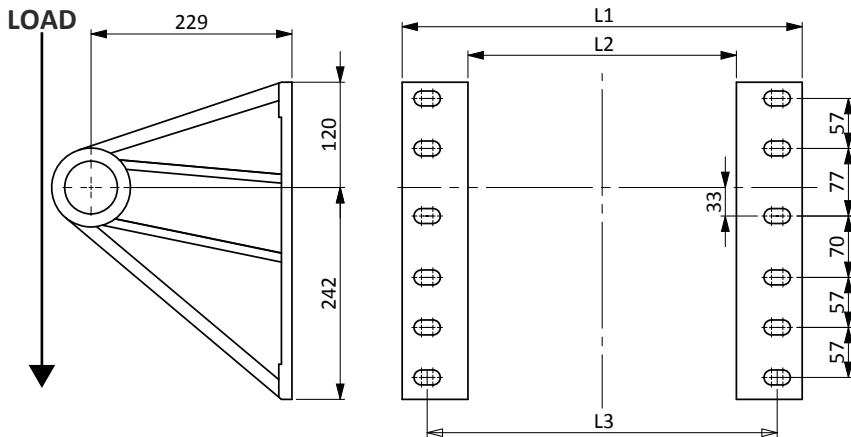
All dimensions are given in mm unless otherwise stated.
Technical Specifications are subject to change without notice.

Optional Brackets:

BB200/B 10.86 kg each



LB200-LH & LB201-RH 8kg each



		CS17L/18L
		<i>standard</i>
L1		389
L2		149
L3	min	189
	std	204
	max	213

		CS17L	CS18L
		<i>standard</i>	<i>standard</i>
L1		456	468
L2		306	318
L3	min	386	398
	std	400	400
	max	412	424

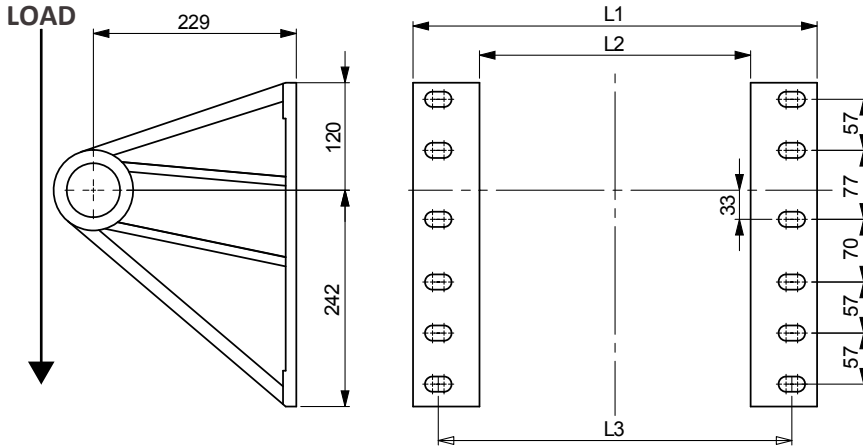
Only for use in controlled applications with a maximum body and payload of 36 tonnes.

All dimensions are given in mm unless otherwise stated.
Brackets to be mounted in the orientation position as shown in the diagrams above.
Technical Specifications are subject to change without notice.

Standard Lifting Brackets:

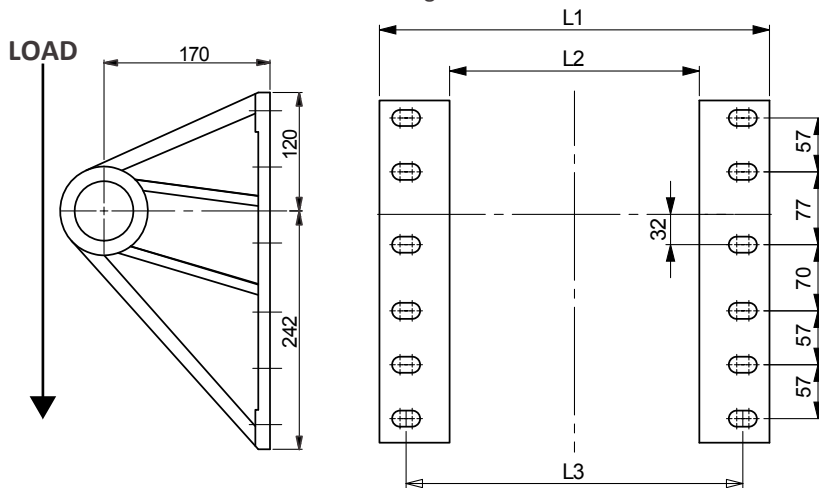
For use with outer cover cylinders (00 type)

LB100-LH & LB101-RH 10kg each



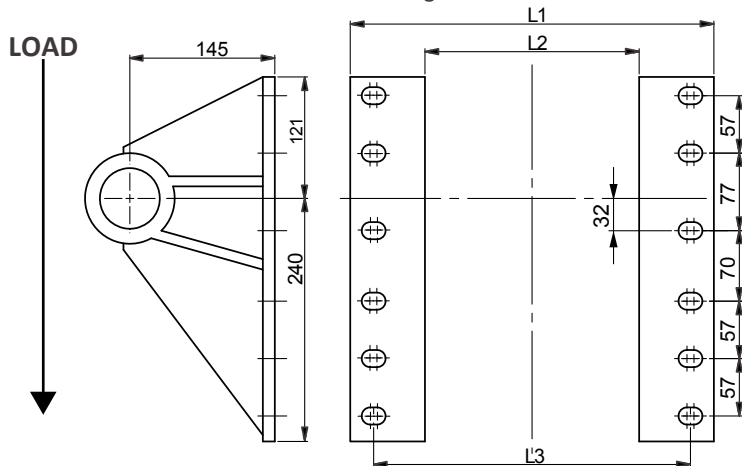
		CS17/18	CS15	CS13	CS11
		<i>standard</i>	<i>standard</i>	<i>option</i>	<i>option</i>
L1		468	456	417	379
L2		318	306	267	229
L3	min	398	386	347	309
	std	400	388	360	322
	max	424	412	373	335

LB104-LH & LB105-RH 8kg each



		CS13	CS17/18	CS15	CS11
		<i>standard</i>	<i>option</i>	<i>option</i>	<i>option</i>
L1		417	468	456	379
L2		267	318	306	229
L3	min	347	398	386	309
	std	360	400	388	322
	max	373	424	412	335

LB106-LH & LB107-RH 7kg each

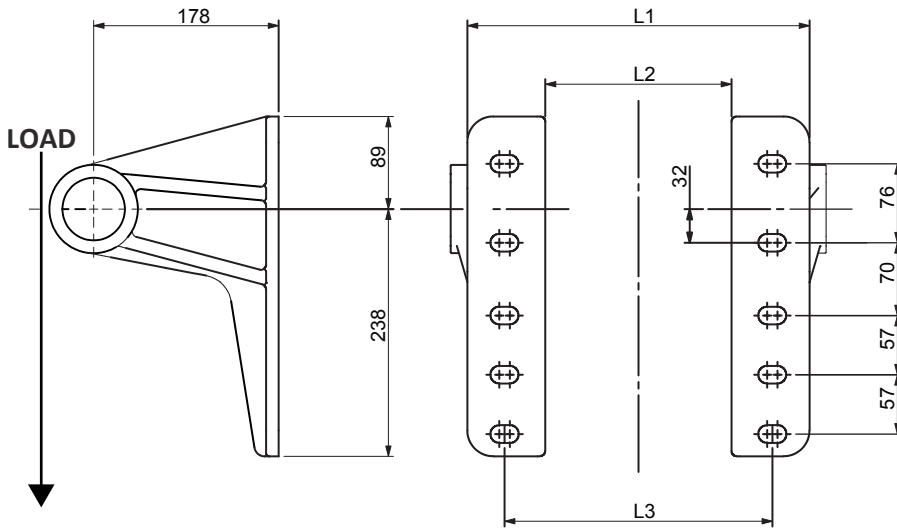


		CS17/18	CS15	CS13	CS11
		<i>option</i>	<i>option</i>	<i>option</i>	<i>option</i>
L1		454	442	403	365
L2		304	292	253	215
L3	min	400	388	349	311
	std	400	388	360	318
	max	414	402	363	325

All dimensions are given in mm unless otherwise stated.
 Brackets to be mounted in the orientation position as shown in the diagrams above.
 Technical Specifications are subject to change without notice.

Standard Lifting Brackets

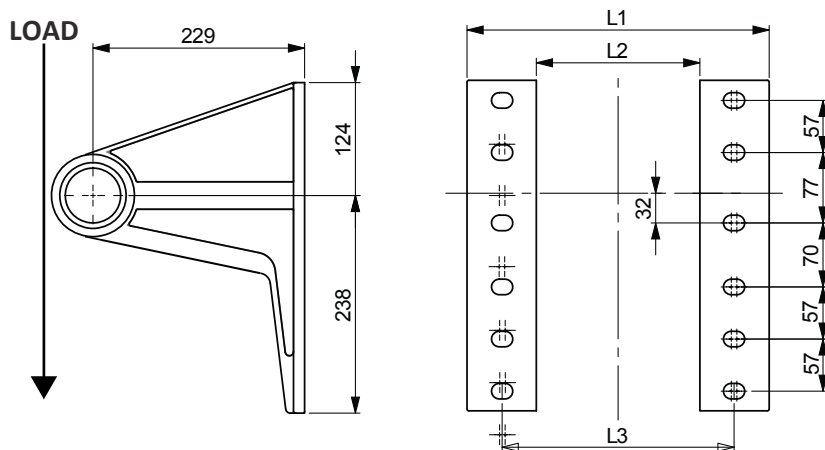
LB208-LH & LB209-RH 7.12 kg each



		CS11	CS13*
		<i>standard</i>	<i>option</i>
L1		329	367
L2		179	217
L3	min	248	286
	std	258	296
	max	268	306

*CS13 4 stage models only

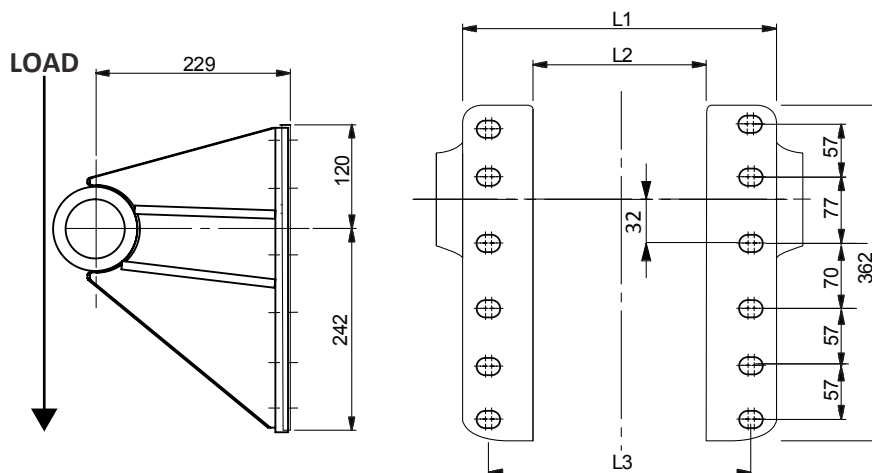
LB110-LH & LB111-RH 7.5kg each



		CS11	CS13*	CS15 / CS14
		<i>option</i>	<i>option</i>	<i>option</i>
L1		370	408	446
L2		220	258	296
L3	min	300	338	376
	std	303	340	378
	max	326	364	402

*CS13 4 stage models only

LB117-LH & LB118-RH 12.7kg each



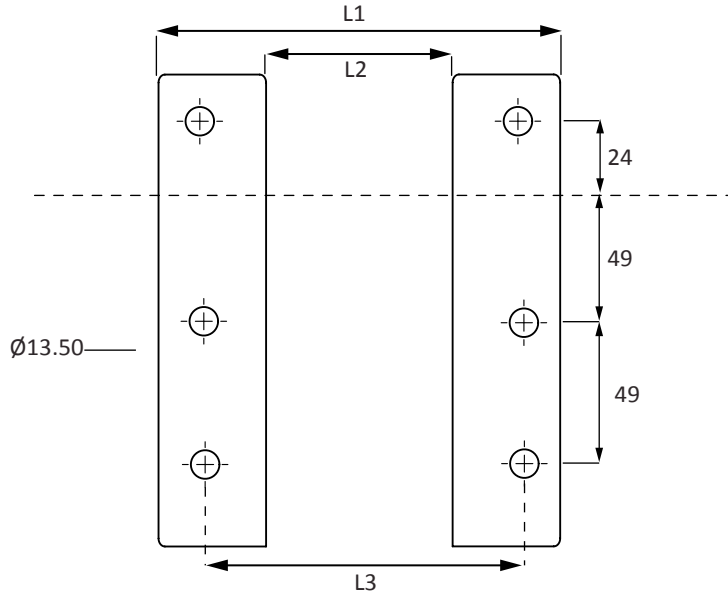
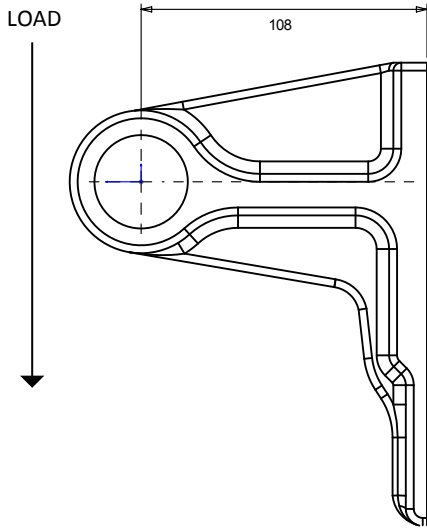
		CS19
		<i>standard</i>
L1		443
L2		293
L3	min	394
	std	400
	max	408

All dimensions are given in mm unless otherwise stated.
 Technical Specifications are subject to change without notice.

Standard Lifting Brackets:

EBF165/1 & EBF166/1 3.5kg each

For use with CS07



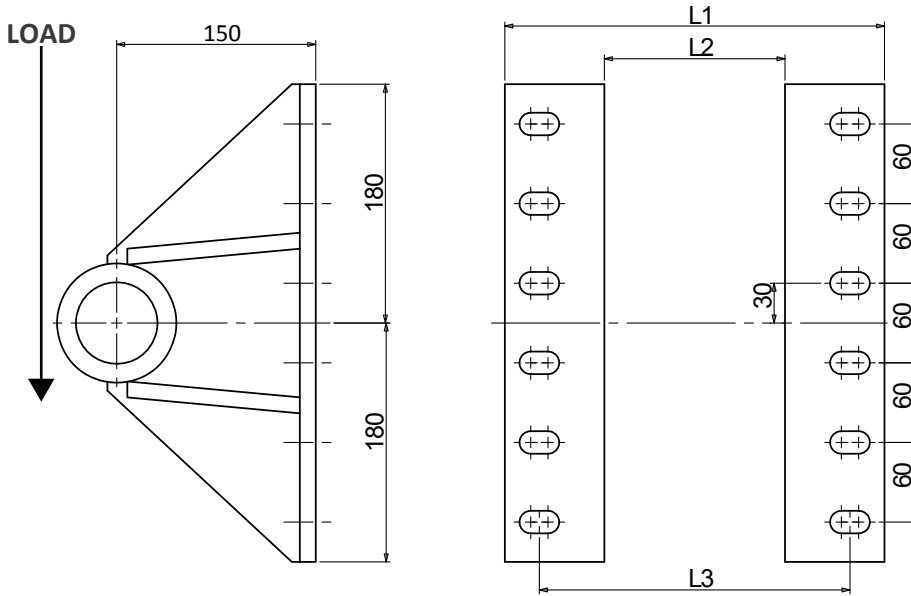
	CS07
	<i>Standard</i>
L1	228
L2	126
L3	196

*All dimensions are given in mm unless otherwise stated.
Brackets to be mounted in the orientation position as shown in the diagrams above.
Technical Specifications are subject to change without notice.*

Optional Lifting Brackets:

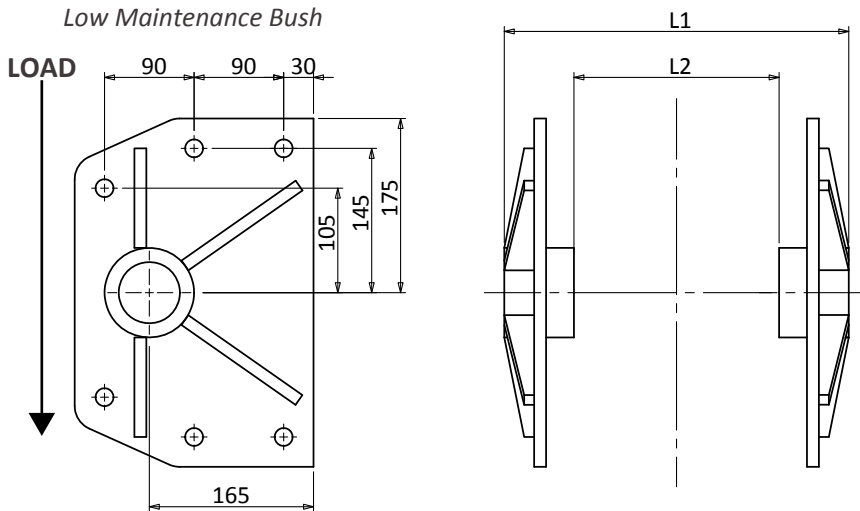
For use with outer cover cylinders (00 type)

LB102 7.8kg each
Low Maintenance Bush



		CS15	CS17/18
		<i>option</i>	<i>option</i>
L1		465	477
L2		315	327
L3	min	400	412
	std	400	412
	max	426	438

LB112 (Silo special) 9kg each
Low Maintenance Bush

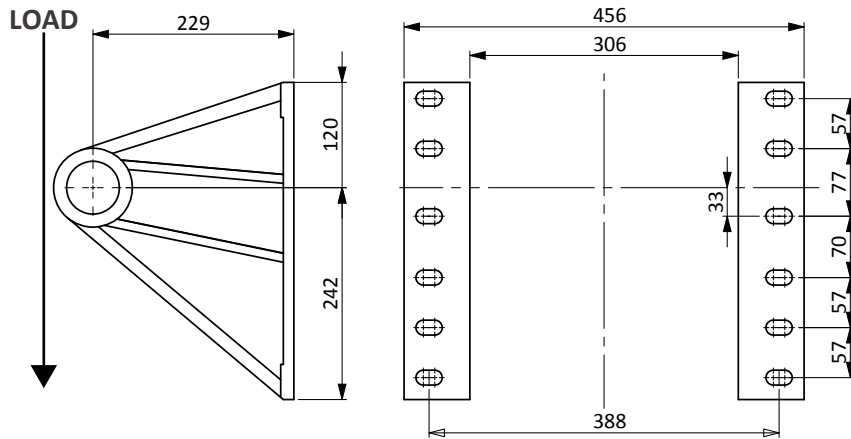


		CS17/18
		<i>option</i>
L1		476
L2		336

All dimensions are given in mm unless otherwise stated.
Brackets to be mounted in the orientation position as shown in the diagrams above.
Technical Specifications are subject to change without notice.

Optional Lifting Brackets:

LB200-LH & LB201-RH 8kg each



		CS17/18	CS15	CS13	CS11
		<i>standard</i>	<i>standard</i>	<i>option</i>	<i>option</i>
L1		468	456	417	379
L2		318	306	267	229
L3	min	398	386	347	309
	std	400	388	360	322
	max	424	412	373	335

Only for use in controlled applications with a maximum body and payload of 36 tonnes.

*All dimensions are given in mm unless otherwise stated.
 Brackets to be mounted in the orientation position as shown in the diagrams above.
 Technical Specifications are subject to change without notice.*

Top Eye Brackets:

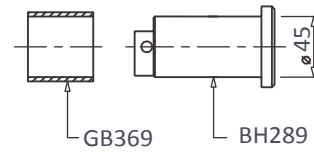
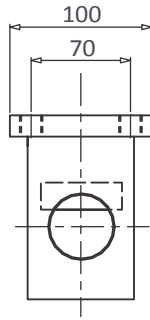
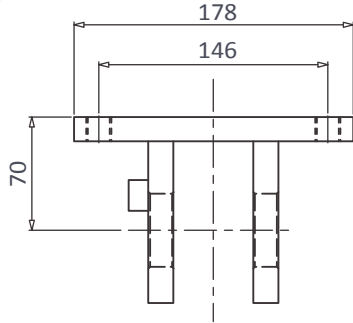
PLAIN EYE INC LOW MAINTENANCE BUSH

Plate assembly supplied with Pin, Bush, Washer & Retaining pin.

For use with OE types

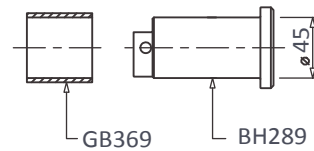
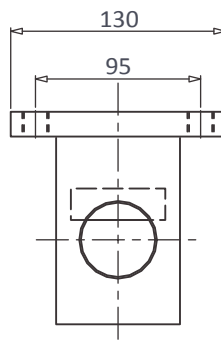
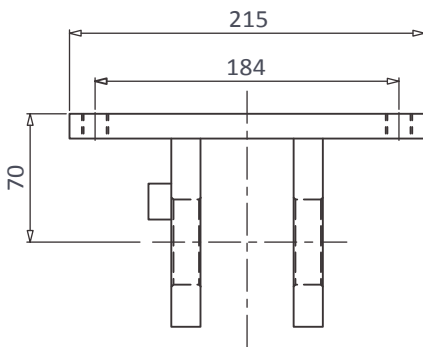
OMK1 (For use with CS11, CS13, CS15/4 & CS15/5 and CS17/5)

5kg assy



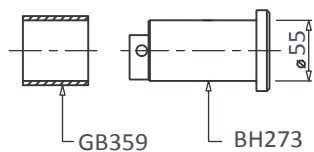
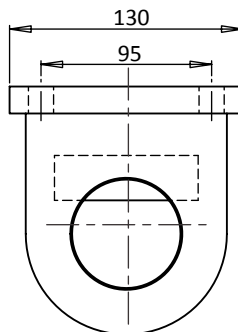
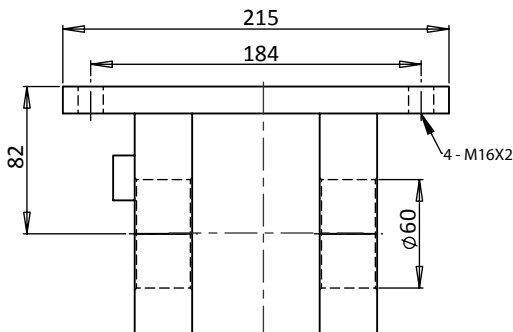
OMK2 (For use with CS15/3, CS17/4 and CS18)

6kg assy



OMK5 (For use with CS19/4)

8kg assy



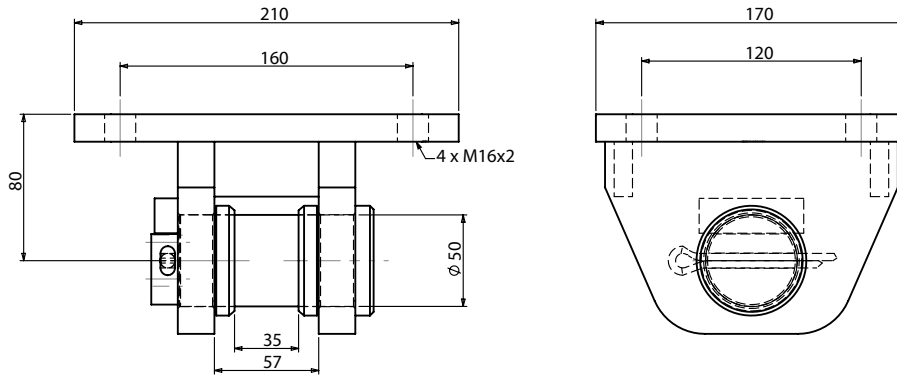
Top Eye Brackets:

PLAIN EYE INC LOW MAINTENANCE BUSH

Plate assembly supplied with Pin, Bush, Washer & Retaining pin.

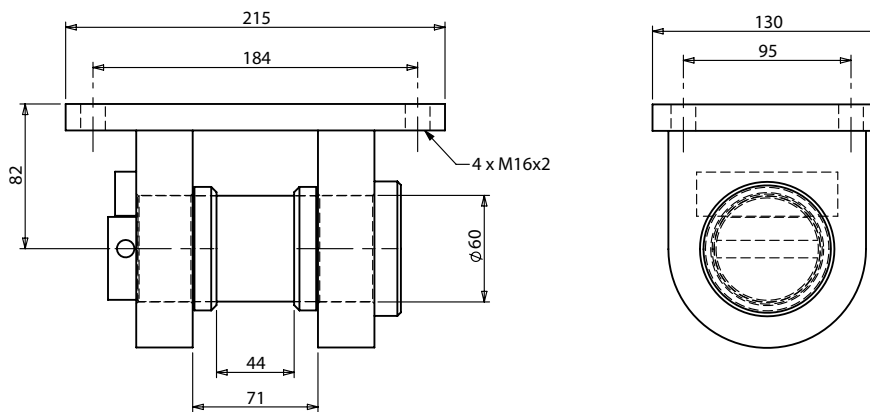
OMK6 (For use with CS19/OS)

10.2kg assy



OMK7 (For use with CS22/OS)

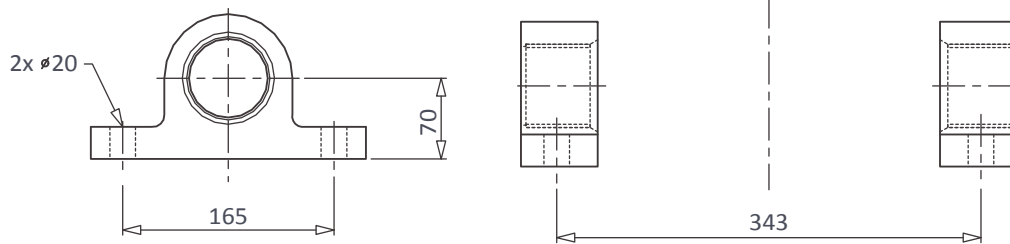
12.2kg assy



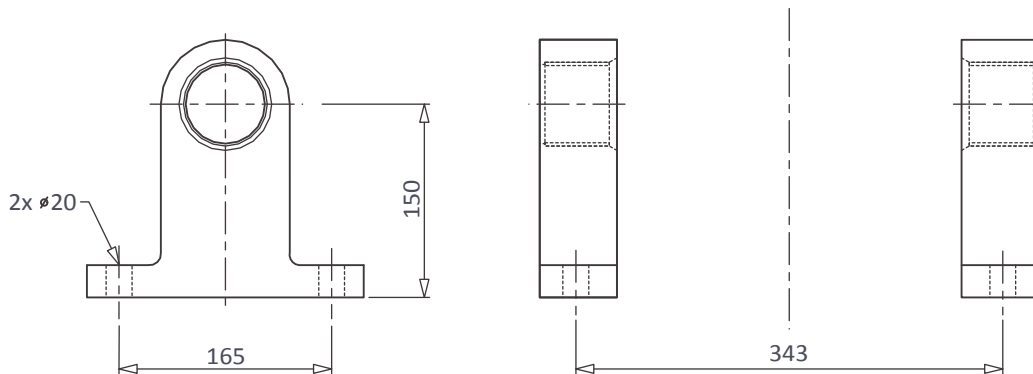
Foot Mounting Brackets:

CS17 & CS18 cylinders

18070B60Q 10kg each
Low Maintenance Bush (GB376)



18150B60F 7kg each
Low Maintenance Bush (GB376)

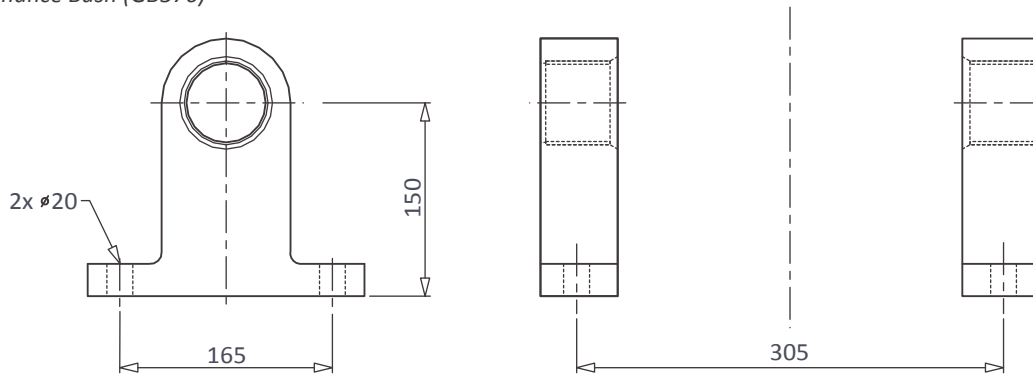


Foot Mounting Brackets:

CS15 cylinders

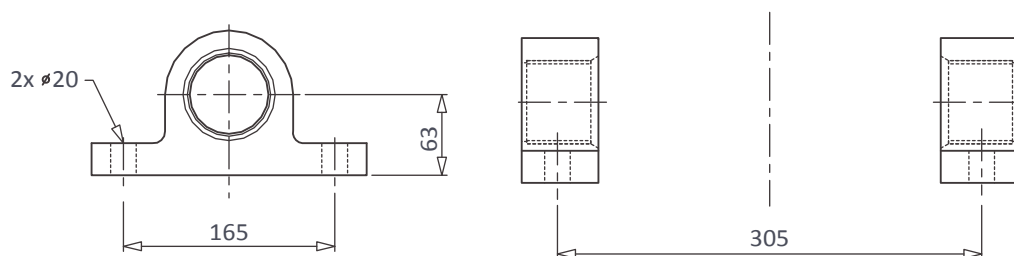
15150B60F 8kg each

Low Maintenance Bush (GB376)



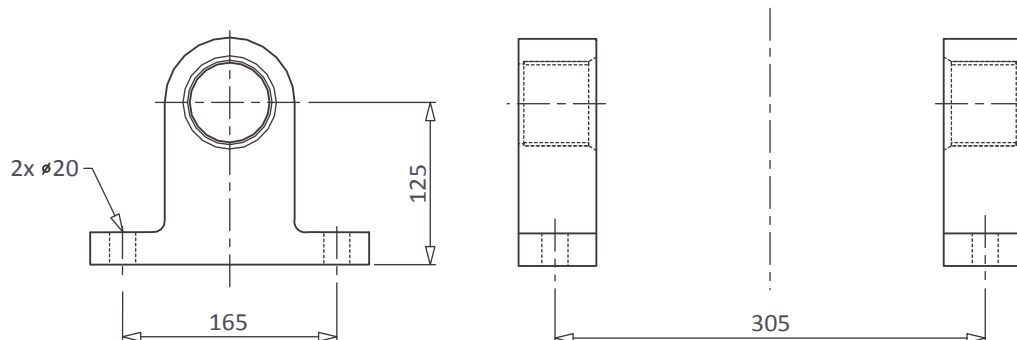
15063B60Q 16kg each

Low Maintenance Bush (GB376)



15125B60F 15kg each

Low Maintenance Bush (GB376)

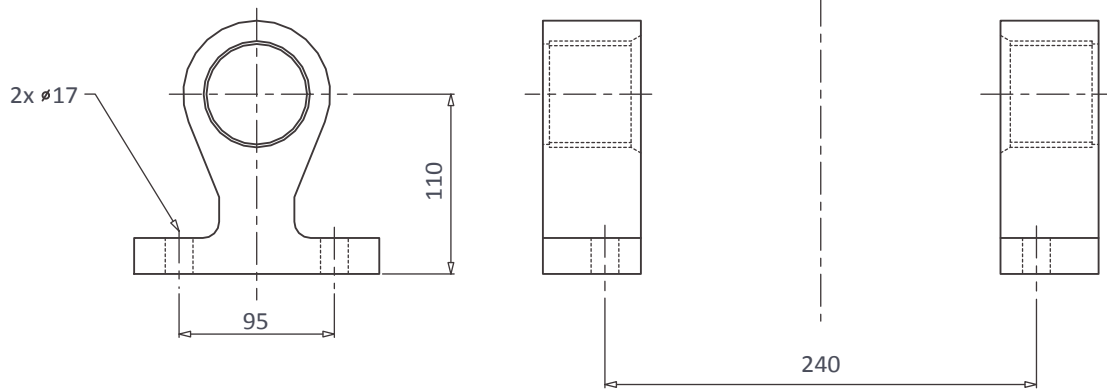


*All dimensions are given in mm unless otherwise stated.
Technical Specifications are subject to change without notice.*

Foot Mounting Brackets:

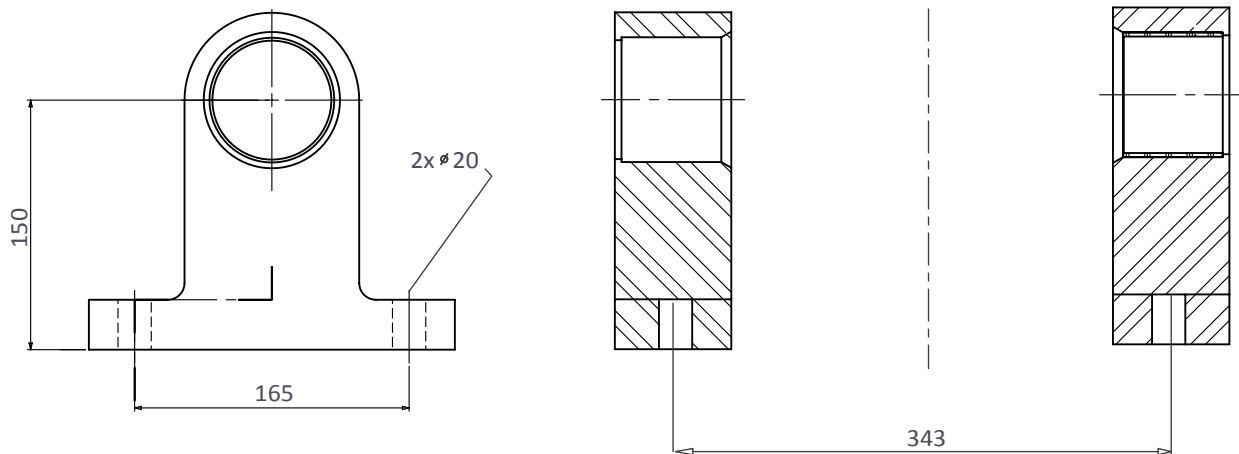
CS13 cylinders

13110B60F 7kg each
Low Maintenance Bush (GB376)



CS19 cylinders

19150B70Q 10.6kg each
Low Maintenance Bush (GB377)



All dimensions are given in mm unless otherwise stated.
Technical Specifications are subject to change without notice.

Mounting bolt advice for brackets:

	Imperial SAE J429			Metric ISO4014	
Thread		UNC	UNF	Coarse	
Bolt grade		8	8	8.8	
Nut grade		8	8	8	
Proof stress		120 ksi		827 Mpa	
Torque (Nm)	5/8"	287	325	M16	243
	3/4"	510	570	M20	490
Torque (lbft)	5/8"	212	240		
	3/4"	376	420		

Note:

1. Torques are advisory only and will depend on plating and lubrication
2. The above figures are for plain (unplated) bolts in the as received condition, ($\mu=0.2$) torqued to 75% of yield stress
3. For Zinc plated bolts, increase torques by 10% ($\mu=0.22$)
4. For lubricated bolts (any finish), reduce torques by 25% ($\mu=0.15$)
5. Compatible nut and washer grades must be used
6. Check final torque levels with your bolt supplier.

Full Product Range

CS Series is one of a wide range of Edbro cylinders designed to optimise tipping applications, for further product information on any of our range please visit www.edbro.com



CX Series

The Fully integrated ram and tank design of the CX range is ideally suited to rigid truck installations. The integration of the oil tank allows the size to be optimised to the cylinder and provides advantages in ease of installation. The CX allows the direct mounting of the hydraulic valve to the base of the cylinder which reduces the number of components and protects the valve from the elements whilst providing the added safety feature of hose burst protection.



TS Series

The TS range uses the C series cylinder technology in combination with a high strength stabilizing frame and is designed especially for 6 and 8 wheel Trucks. The design allows for maximum safety with 50% more stability and increases productivity with greater lift capacity and 30% faster tipping speeds than the closest competitor's product.



UB Series

High performance underbody telescopic hoists for tipper and crane applications including 3-way tipping solutions. Edbro kit components and optimum specification provide the highest levels of performance. Increased payload and maximum performance with lightweight and high strength materials.



RK Series

The Edbro RK Series of double acting telescopic cylinders are used for a wide range of applications. Typical operations are ejector trailers and refuse collection vehicles with cylinders designed to user requirements.



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