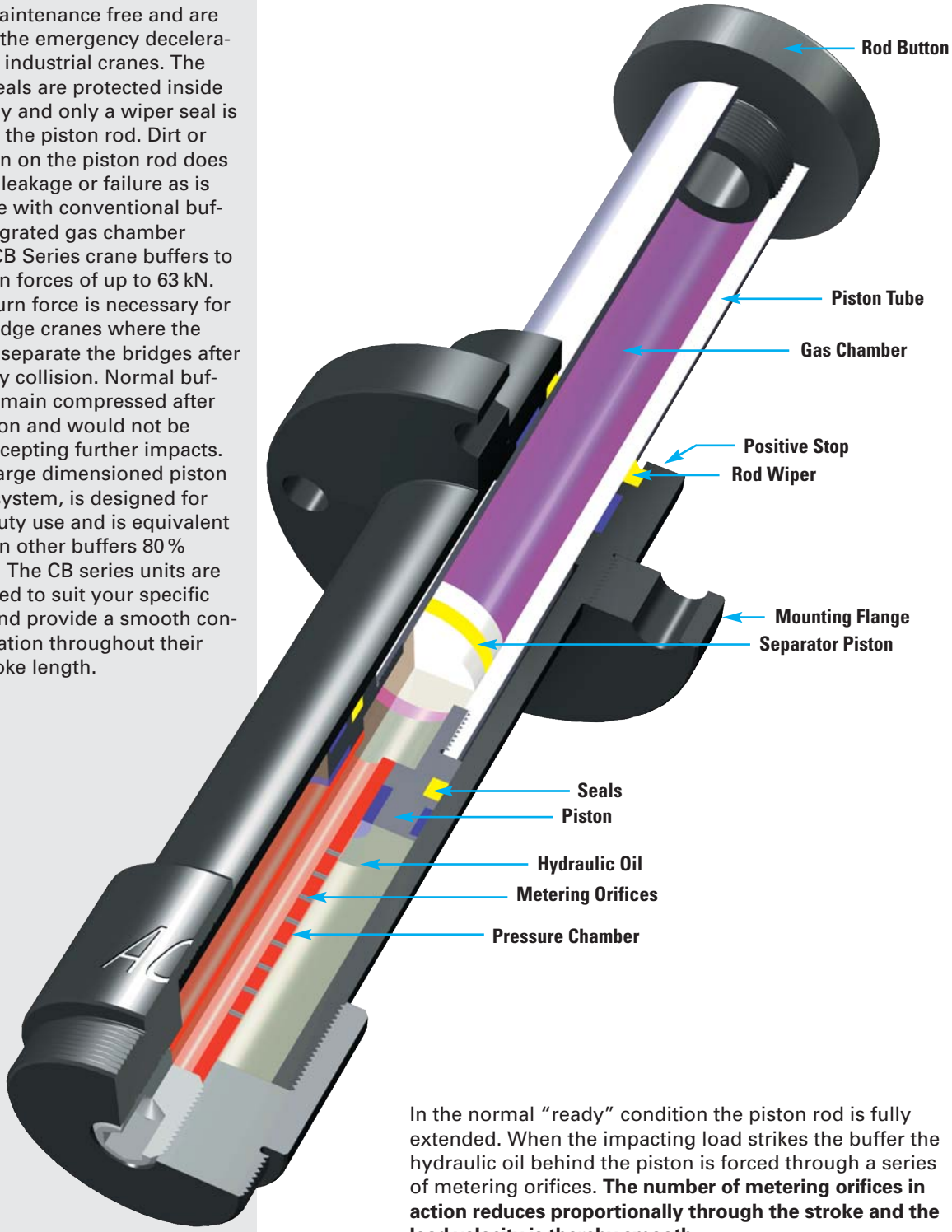
ACE Industrial Crane Buffers are self-contained, maintenance free and are designed for the emergency deceleration of heavy industrial cranes. The primary oil seals are protected inside the main body and only a wiper seal is necessary on the piston rod. Dirt or contamination on the piston rod does not cause oil leakage or failure as is often the case with conventional buffers. The integrated gas chamber enables the CB Series crane buffers to provide return forces of up to 63 kN. This high return force is necessary for multiple – bridge cranes where the buffers must separate the bridges after an emergency collision. Normal buffers would remain compressed after such a collision and would not be capable of accepting further impacts. The robust, large dimensioned piston rod bearing system, is designed for very heavy duty use and is equivalent to that used in other buffers 80 % larger in size. The CB series units are custom orificed to suit your specific application and provide a smooth constant deceleration throughout their complete stroke length.

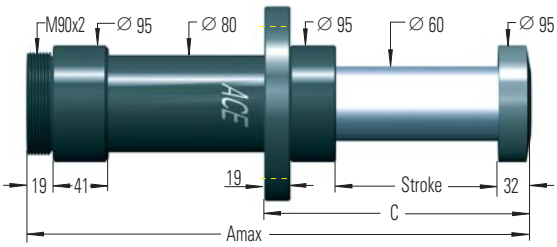


In the normal "ready" condition the piston rod is fully extended. When the impacting load strikes the buffer the hydraulic oil behind the piston is forced through a series of metering orifices. **The number of metering orifices in action reduces proportionally through the stroke and the load velocity is thereby smoothly reduced to zero.** The internal pressure and thus the reaction force (Q) remains constant throughout the entire stroke length. The displaced oil is stored in the piston accumulator. The integrated gas chamber, containing low pressure nitrogen, provides the return force to reset the rod to its extended position and functions as an accumulator for the hydraulic oil displaced during operation.

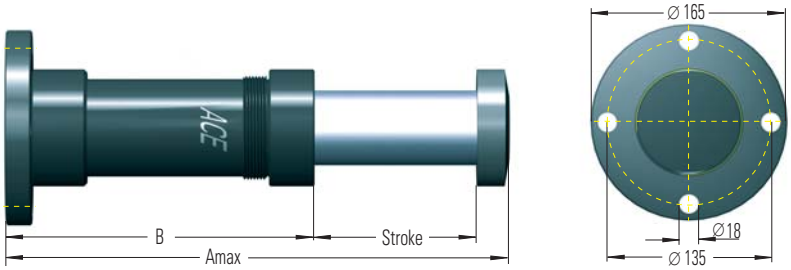
Issue 4. 2006 Specifications subject to change

Part Number CB-63 . . .

Front Flange -F



Rear Flange -R



Ordering Example

CB-63-400-F-X

Crane Buffer
Bore Size ø 63 mm
Stroke 400 mm
Mounting Style: Front Flange
Identification No. (assigned by ACE)

Complete Details Required when Ordering:

Moving Load	m	(kg)
Full Load Speed	v	(m/s) max.
Creep Speed	vs	(m/s) max.
Motor Power	P	(kW)
Stall Torque Factor	ST	(normal 2.5)
Number of Buffers in Parallel	n	

or technical data according to formulae and calculations on page 13 to 15.

Technical Data

Impact velocity range v: 0.5 to 4.6 m/s.

Reaction force Q: At max. capacity rating = **187 kN. max.**

Operating temperature range: -12°C to +66°C.
(For lower temperatures please consult ACE).

Materials: Steel body with black oxide finish. Piston rod hard chrome plated.

In creep speed: The shock absorber can be pushed through its stroke.

The initial fill pressure governs the rod return force.

The calculation and selection of the correct ACE Crane Buffer for your application should be referred to ACE for approval and assignment of unique identification number.

Dimensions and Capacity Chart

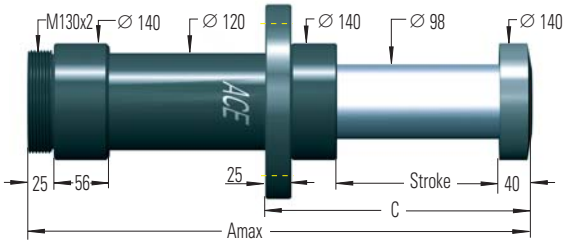
Type Part Number	Stroke mm	A	B	C	Piston Rod Return Force min. (kN)	Piston Rod Return Force max.	Max. Energy Capacity per Cycle W_3 (kNm)	Effective Weight me (kg) *	Max. Side Load Angle (°)	Weight (kg)
CB-63-100	100	420	288	192	1.5	16	16	900 - 128 000	3.5	12.7
CB-63-200	200	700	468	292	1.5	21	32	1 800 - 256 000	3	16.7
CB-63-300	300	980	648	392	1.5	24	48	2 700 - 384 000	2.5	20.8
CB-63-400	400	1 260	828	492	1.5	25	64	3 700 - 512 000	2	24.8
CB-63-500	500	1 540	1 008	592	1.5	26	80	4 700 - 640 000	1.5	28.8

* The correct effective weight range for your application will be calculated by ACE and should fall within this band.
Special options: Special oils, Special flanges, additional corrosion protection etc. available on request.

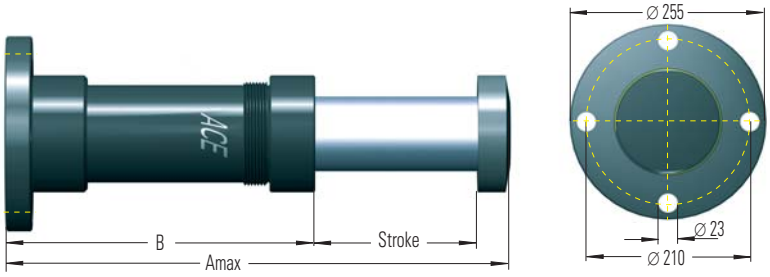
Industrial Crane Buffer CB-100

Part Number CB-100 . . .

Front Flange -F



Rear Flange -R



72

Ordering Example

CB-100-400-F-X

Crane Buffer
Bore Size ø 100 mm
Stroke 400 mm
Mounting Style: Front Flange
Identification No. (assigned by ACE)

Complete Details Required when Ordering:

Moving Load	m	(kg)
Full Load Speed	v	(m/s) max.
Creep Speed	vs	(m/s) max.
Motor Power	P	(kW)
Stall Torque Factor	ST	(normal 2.5)
Number of Buffers in Parallel	n	

or technical data according to formulae and calculations on page 13 to 15.

Technical Data

Impact velocity range v: 0.5 to 4.6 m/s.

Reaction force Q: At max. capacity rating = **467 kN.**

Operating temperature range: -12°C to +66°C.
(For lower temperatures please consult ACE).

Materials: Steel body with black oxide finish. Piston rod hard chrome plated.

In creep speed: The shock absorber can be pushed through its stroke.

The initial fill pressure governs the rod return force.

The calculation and selection of the correct ACE Crane Buffer for your application should be referred to ACE for approval and assignment of unique identification number.

Dimensions and Capacity Chart

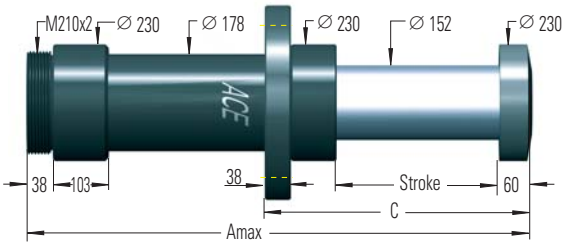
Type Part Number	Stroke mm	A	B	C	Piston Rod Return Force min. (kN)	Piston Rod Return Force max.	Max. Energy Capacity per Cycle W_3 (kNm)	Effective Weight me (kg) *	Max. Side Load Angle (°)	Weight (kg)
CB-100-200	200	735	495	320	3.9	40	80	6 900 - 640 000	4	42.5
CB-100-300	300	1 005	665	420	3.9	50	120	10 300 - 960 000	3.5	50.8
CB-100-400	400	1 275	835	520	3.9	57	160	13 800 - 1 280 000	3	59.1
CB-100-500	500	1 545	1 005	620	3.9	63	200	17 200 - 1 600 000	2.5	67.5
CB-100-600	600	1 815	1 175	720	3.9	68	240	20 700 - 1 920 000	2	75.8

* The correct effective weight range for your application will be calculated by ACE and should fall within this band.
Special options: Special oils, Special flanges, additional corrosion protection etc. available on request.

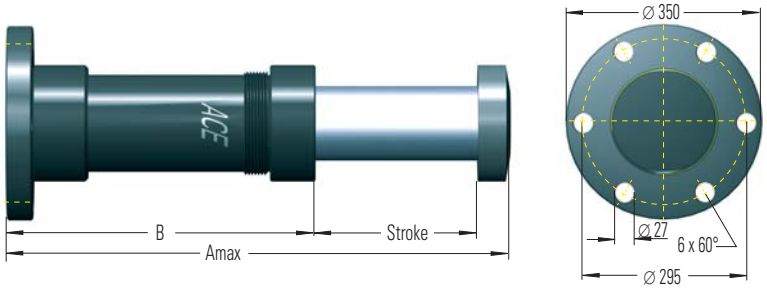
Issue 4. 2006 Specifications subject to change

Part Number CB-160 . . .

Front Flange -F



Rear Flange -R



Ordering Example

CB-160-400-F-X

Crane Buffer
Bore Size ø 160 mm
Stroke 400 mm
Mounting Style: Front Flange
Identification No. (assigned by ACE)

Complete Details Required when Ordering:

Moving Load	m	(kg)
Full Load Speed	v	(m/s) max.
Creep Speed	vs	(m/s) max.
Motor Power	P	(kW)
Stall Torque Factor	ST	(normal 2.5)
Number of Buffers in Parallel	n	

or technical data according to formulae and calculations on page 13 to 15.

Technical Data

Impact velocity range v: 0.5 to 4.6 m/s.

Reaction force Q: At max. capacity rating = **700 kN.**

Operating temperature range: -12°C to +66°C .
(For lower temperatures please consult ACE).

Materials: Steel body with black oxide finish. Piston rod hard chrome plated.

In creep speed: The shock absorber can be pushed through its stroke.

The initial fill pressure governs the rod return force.

The calculation and selection of the correct ACE Crane Buffer for your application should be referred to ACE for approval and assignment of unique identification number.

Dimensions and Capacity Chart

Type Part Number	Stroke mm	A	B	C	Piston Rod Return Force min. (kN)	Piston Rod Return Force max.	Max. Energy Capacity per Cycle W_3 (kNm)	Effective Weight me (kg) *	Max. Side Load Angle (°)	Weight (kg)
CB-160-400	400	1 400	940	600	9.6	63	240	22 700 - 1 920 000	4	155
CB-160-600	600	2 000	1 340	800	9.6	63	360	34 000 - 2 880 000	3	188
CB-160-800	800	2 600	1 740	1 000	9.6	63	480	45 400 - 3 840 000	2	221

* The correct effective weight range for your application will be calculated by ACE and should fall within this band.
Special options: Special oils, Special flanges, additional corrosion protection etc. available on request.

Issue 4. 2006 Specifications subject to change