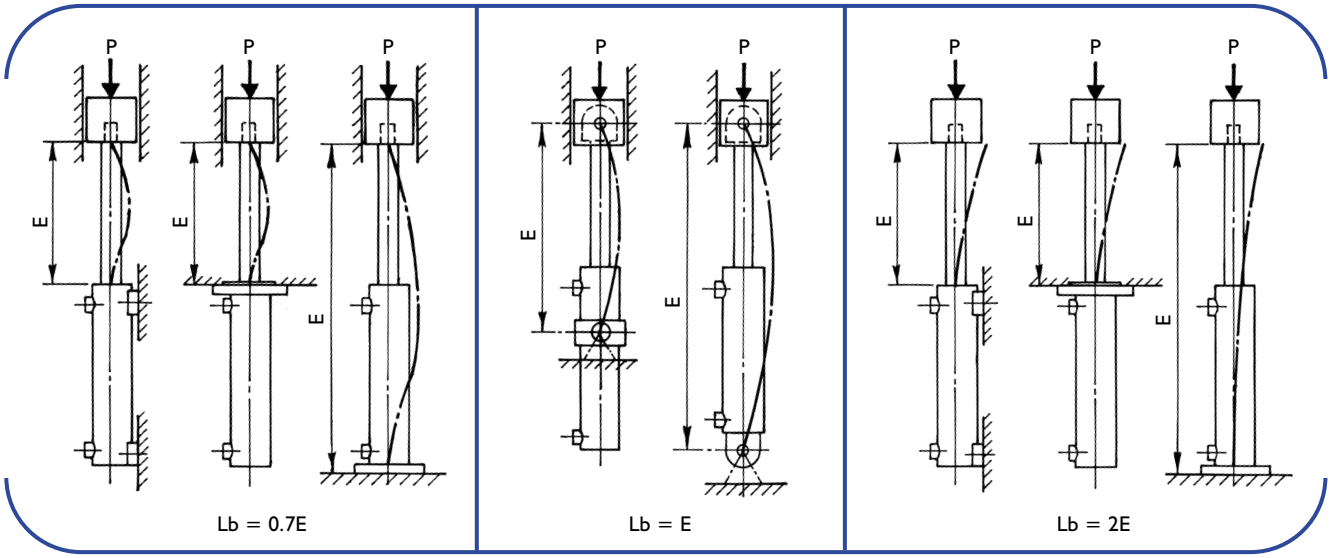
Cylinders

C10, Cepac & K10 Cylinders

Stroke / Buckling length limits

Chart A



Piston rod selection

The standard catalogue cylinder/rod diameter combinations are suitable for most applications but the tendency for "long" rods to buckle under compressive loads should always be considered. In these circumstances, selection of the piston rod diameter should be determined prior to finalising the mounting style.

The optimum rod diameter is established with the following procedure:-

1 Calculate the cylinder push force “P” (tonnes) available by multiplying the cylinder full bore area (cm^2) by the maximum pressure (bar) to be applied to the cylinder (please refer to technical bulletin - areas and performance data on pages C1 & D1).

2 Relating the cylinder mounting style to chart A, establish the distance "E" and hence the buckling length "Lb" in metres.

3 Using this value of Lb in chart B on page B7, follow its line vertically up till it intersects the horizontal line representing the cylinder push force in tonnes. The correct piston rod diameter can now be read from the curved line immediately above the point of interestion.

Internal support (stop) tube

Long stroke cylinders are fitted with an internal stop tube between the piston and gland assembly (or in special circumstances an additional piston); this increases bearing spread hence reducing the bearing load, especially at full stroke.

The stop tube length (if required) can be established with the following procedure:-

1 Relate the cylinder mounting style to chart A, establish the distance "E" and hence the buckling length "Lb" in metres.

2 If "Lb" is less than 1 metre, no stop tube is required.

3 If "Lb" is greater than 1 metre, 25 mm of stop tube is recommended for every 250 mm (or part thereof) beyond 1 metre.

Note carefully: Stop tube length adds to basic cylinder length.

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Lakewood New Jersey 08701 USA Tel: 732 370 3906 Fax: 732 370 3967

C10, Cepac & K10 Cylinders

Piston rod buckling chart

Chart B

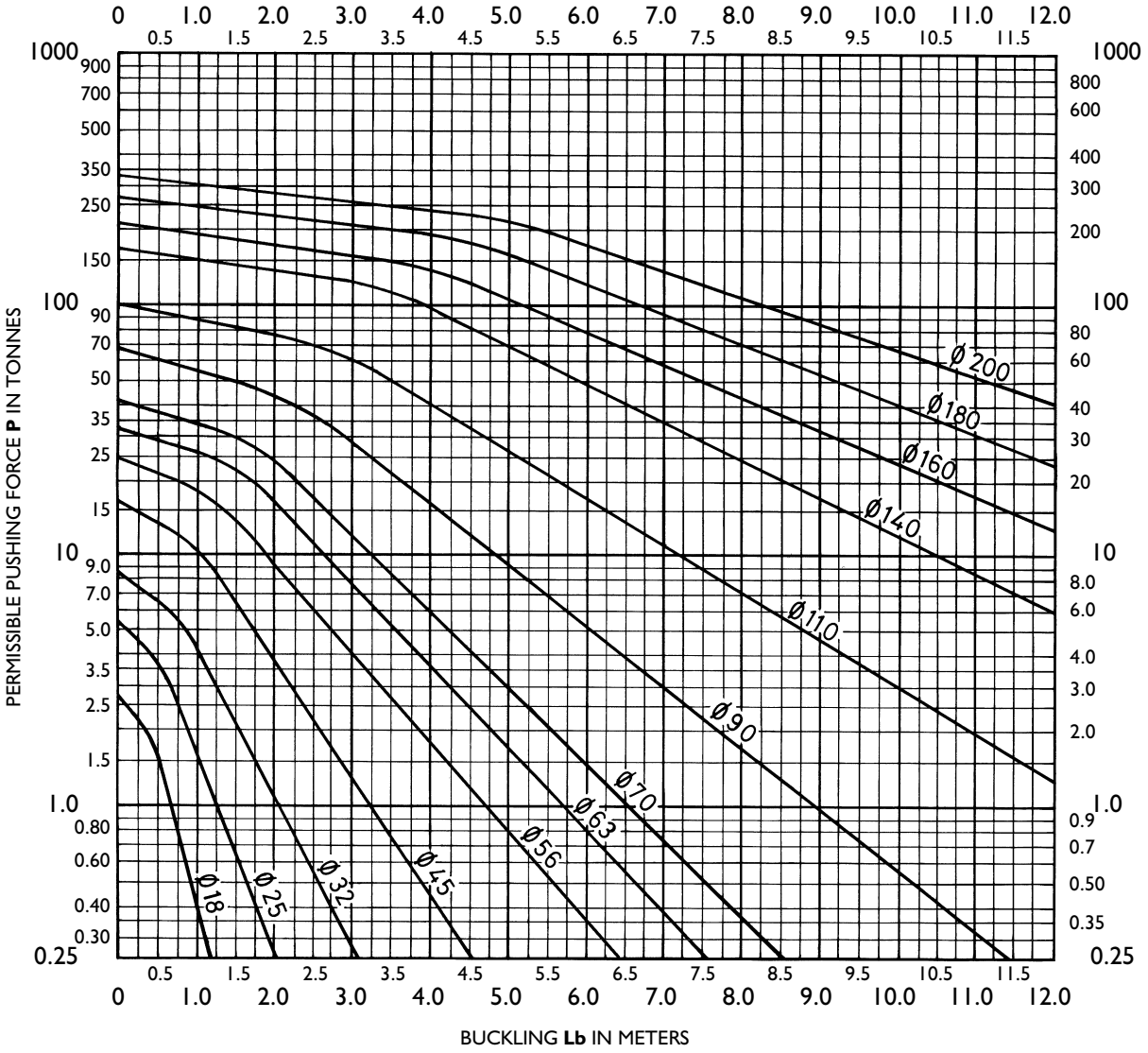

Chart values based on a factor of safety of 3 on buckling

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K10

High Pressure Cylinders

Ordering Code

Example

K10 | 38 | SI | 600 | 60 | NT | 19C

BORE mm	ROD DIA mm	SERIES
40	25	20
50	32	21
63	45	28
*76.2	*44.5	35
80	56	38
100	70	48
125	90	52
160	110	65
180	110	80

* Imperial Size

ROD MOUNTING

19T	Threaded
19E	Pad Eye Screwed
19S	Swivel Eye Screwed
19C	Clevis Screwed
19EW	Pad Eye Welded
19SW	Swivel Eye Welded

BODY MOUNTING

SE	Swivel Eye
RE	Rear Eye
PE	Pad Eye
TN	Trunnion
FF	Front Flange
RF	Rear Flange
NT	Nose Thread

APPLICATION

Surface/Industrial	SI
Subsea	SS

Stop Tube in mm - Refer to pages B6 and B7

Stroke in mm (load limitations will apply)

Optional extras
1. Through-rod design
2. Rod-to-bore ratios other than specified
3. Special mountings

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