

Explanation of loadings

This data sheet compliments P803 'Piccolo, Loads & fixings...', providing additional information on how loads from the lift are applied to the building structure.

Vertical direction loads

Refer to sketch 'Lift pit detail'; loads act as follows:

- load A (6 positions) in z direction is constant - see sketch 'Positive axes' for axes orientation
- other loads in z direction combine according to the following table, which describes 4 discrete 'Load cases'

Load case	Guide load (F)	Lift car buffer load (G)	Ram load (H)
Rupture valve activation	3	0	24
Safety gear activation	11	0	2.4
Lift car running into ground floor - full SWL	3	19.3	12.2 Note 1
Lift car stationary	3	0	12.2

Notes:

1. Assume static condition for ram reaction; evaluated as sum of static weights of: lift car (5.8kN); payload (4.0kN); hydraulic ram (1.6kN); & ancillaries (0.8kN).
2. All table load values in kN.
3. All dynamic load components in Rupture valve & Safety gear Load cases include a load factor of 2 to give static equivalent load.
4. Loads F & G occur in 2 positions - see sketch 'Lift pit detail typical'.

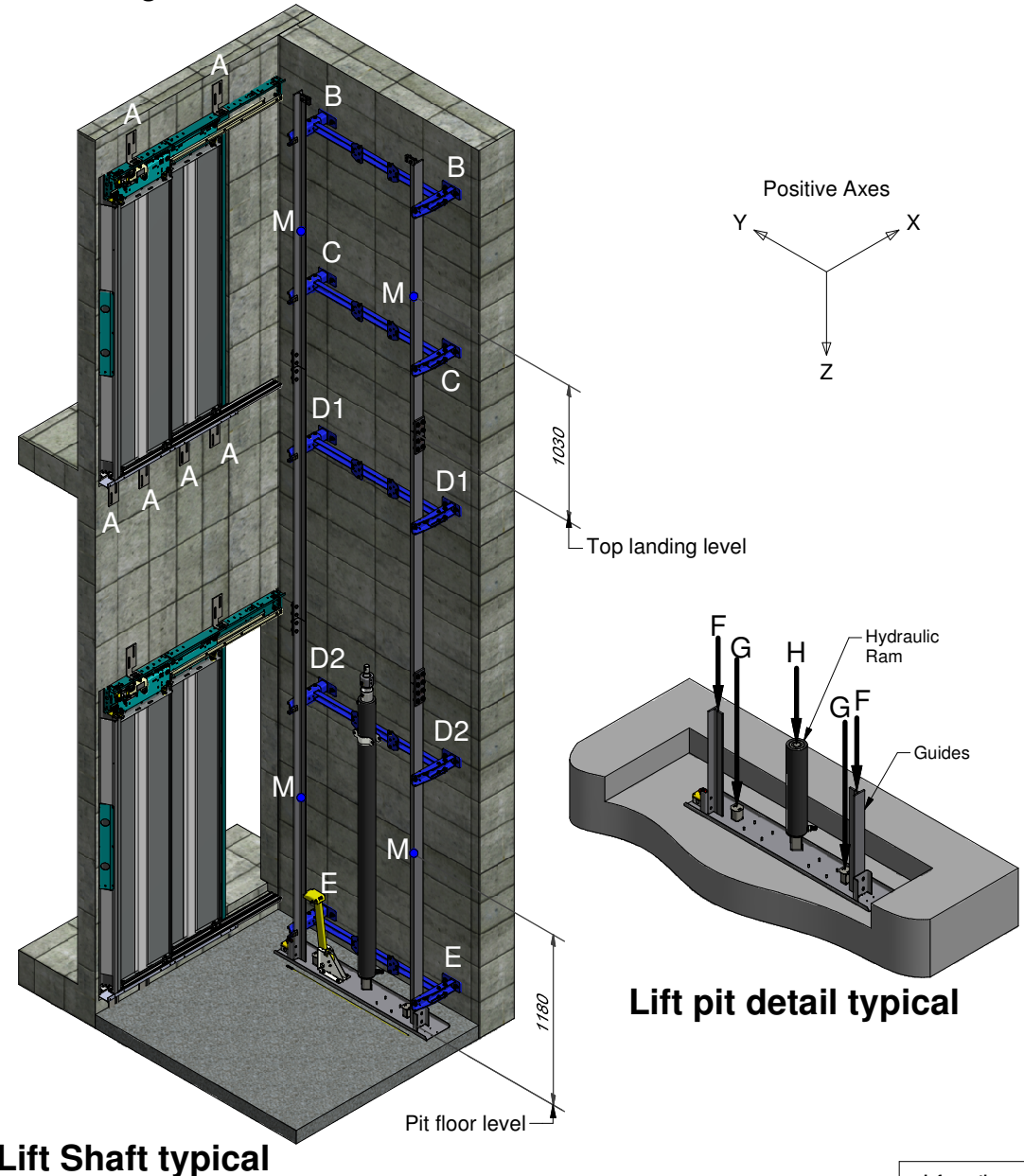
Horizontal direction loads

Horizontal direction loads in fixings arise due to the application of the lift car on to the guides:

- lift car applies a couple & lateral force (y direction - see sketch 'Positive axes') to each guide, which in turn is reacted as axial & lateral forces in multiple fixings
- direction & magnitude of load in each fixing varies as lift car moves in the lift shaft
- highest magnitude fixing restraint loads occur in the x direction (see sketch 'Positive axes'), giving push & pull axial forces in guide side wall fixings

In specifying P803 loads B to E, the following points are considered:

- maximum values quoted
- for any position of the lift car, x direction fixing loads will predominantly exist in the closest 2 or 3 fixings nearest position of the lift car & will comprise at least 1 positive (push) & 1 negative direction (pull) force
- load on guides comprise a moment M (& downward (z direction) force). For purpose of wall strength calculation, moment M can be considered applied to the wall at any position between the points indicated M in sketch 'Lift shaft typical'. Note M is applied to each of 2 guides, about negative y axis.
- $M = 7320\text{N.m}$
- All dynamic load components include a load factor of 2 to give static equivalent load



Lift Shaft typical

Lift pit detail typical

Waiver

The data sheet is for guidance only & must not be used for proper working drawings. Please contact us for particular details before proceeding. Owing to our policy of continual improvement, we reserve the right to alter specifications & dimensions without prior notice.