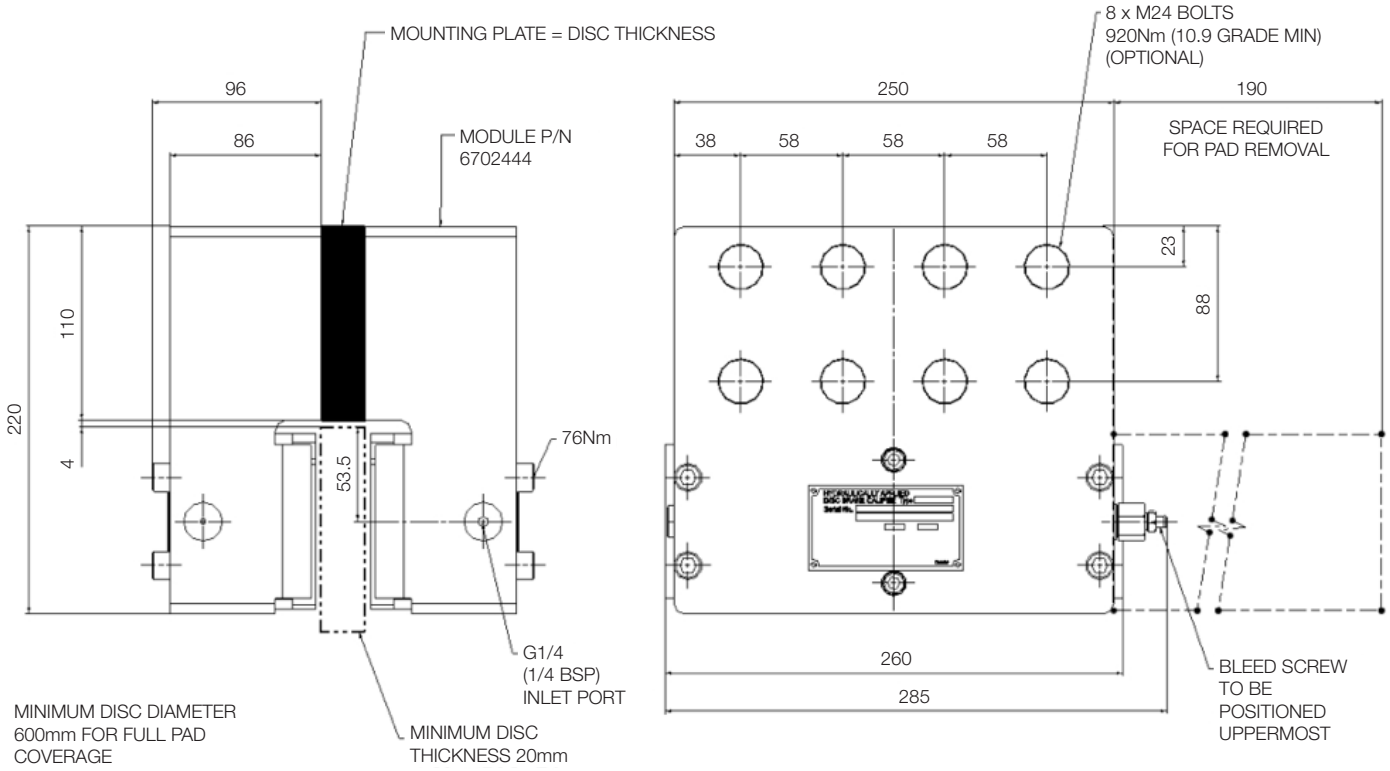
Twiflex®
Altra Industrial Motion

DS2203

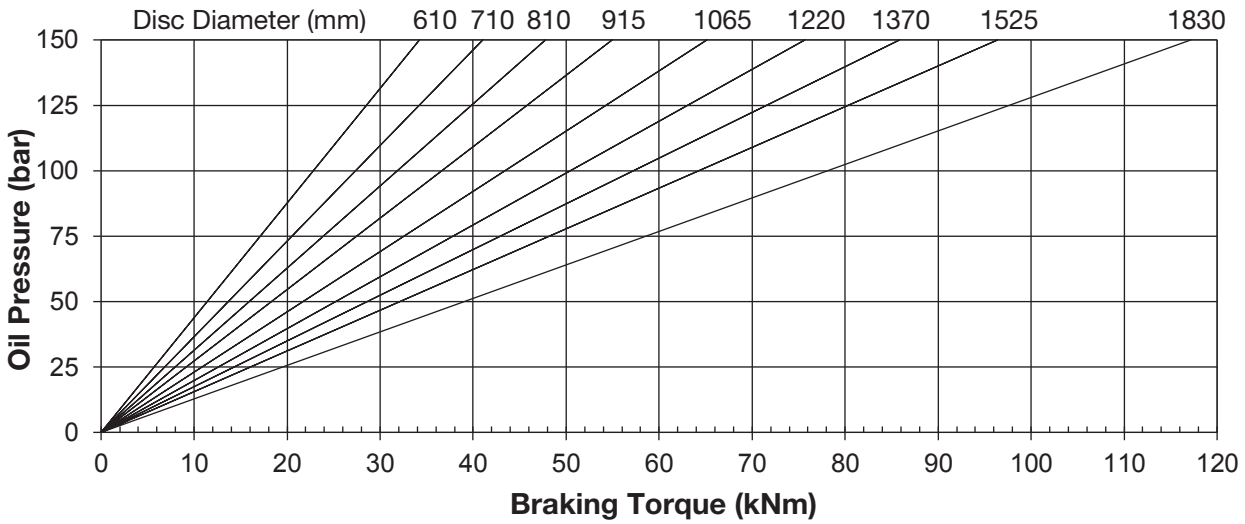
T100 Disc Brake Caliper – Hydraulically Applied

Nominal dimensions given. For specific dimensions please contact Twiflex.



Maximum braking force = 136 kN at 150 bar (normal maximum working pressure)
The ratings shown on the graph below are based on fully bedded and conditioned brake pads with nominal friction coefficient μ = 0.4 (see Twiflex Publication P1164 for more information on typical friction coefficients).
For general bedding in and conditioning procedures refer to Twiflex Publication M1060.

Braking Force is defined as the tangential force acting on the brake disc at the effective disc radius.
Braking torque (Nm) = braking force (N) x effective disc radius (m) where effective disc radius = actual disc radius - 0.054



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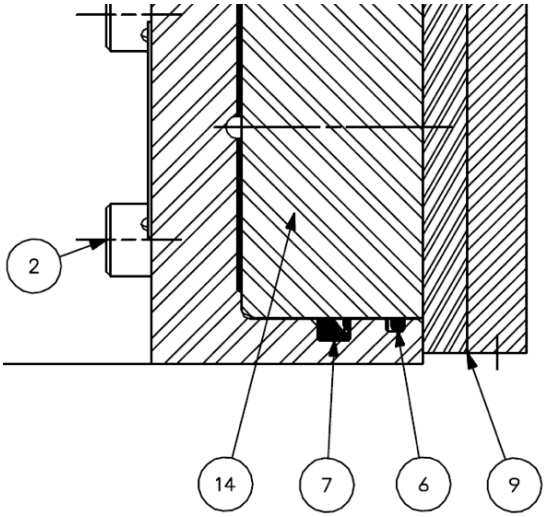
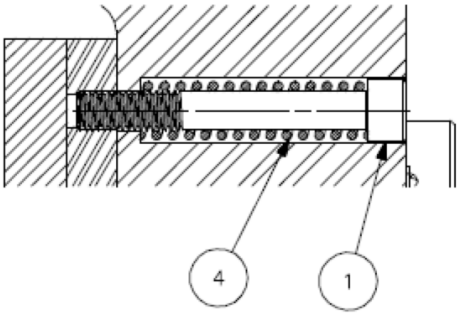
Twiflex Disc Brakes must be used with Twiflex asbestos free brake pads. The use of any other brake pads will invalidate the warranty. Twiflex reserves the right to modify or change the design without prior notice.





Spare Parts List

Item	Description	Part Number	Qty
1	Pad Retraction Cap-Screw	22431-108	4
2	Retaining Block Cap-Screw	22431-138	8
4	Compression Spring	2500397	4
6	O-ring	6000286	4
7	Self Retracting Seal	6000357	4
9	Pad Assembly	7000407-Z	2
14	Piston	7959021	4

Technical Data

Material – Steel BSEN 10025 S355 (EN50A)
Finish – 2-part epoxy paint
Total caliper weight (2 caliper halves only) – 62 kg (excluding mounting bracket and bolts)
Total pad area (two pads) – 358 cm2
Pad-wear allowance – 10 mm (each pad)
Pad retraction – 1mm (each pad)
Total oil displacement volume per 1 mm stroke – 23 ml (for two caliper halves).
Minimum disc diameter – 600 mm
Minimum disc thickness – 20 mm
Hydraulic fluids – use with mineral oil based hydraulic fluids (see Twiflex Publication P1170)

Brake Discs

A range of standard cast iron discs of 25.4mm thickness and mounting hubs are available from Twiflex (see Data Sheet DB5002).
Twiflex discs are manufactured from spheroidal graphite cast iron, which is the preferred material. Grey iron can be used, but the maximum speed is reduced by one-third. Forged or wrought (not cast) steel having a minimum hardness of 200 HB may also be used (consult Twiflex for custom steel discs).
Disc rubbing paths should have a surface finish of 2 µm CLA or better and be flat and parallel within 0.05mm.
It is essential that the mounting bolt holes have clearance to allow for differential expansion between disc and hub.
Minimum recommended clearance for bolt holes – 0.03 mm/cm of PCD.
e.g. For a 250 mm PCD = 0.03 x 25 = 0.75mm

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General Description

The Twiflex T100 disc brake is a direct pressure-applied hydraulic caliper of split design consisting of identical halves which are bolted to each side of a central mounting plate or bracket. The mounting plate should be of the same thickness as the brake disc, from 20 mm upwards. Brake discs may be of any diameter from 600 mm diameter with no upper limit.

Normally one or two calipers are used per disc, ideally mounted on the horizontal centre-line (i.e. 3 o'clock and 9 o'clock positions). Where this is not possible, or where more than two calipers are used, it may be necessary to provide special bleed-screw arrangements.

The T100 caliper is fitted with hardened and ground steel pistons and special seals provide automatic pad retraction of approximately 1 mm when the brake is released.

Asbestos-free, easy to change brake pads are fitted as standard and pad retraction springs ensure clearance at the disc face when hydraulic pressure is removed.

Eight fixing bolts (M24 grade 10.9 minimum) should be used to secure the caliper to the mounting plate or bracket. It is important that these bolts are tightened to 920 Nm (679 lbf-ft) torque.

Pad Removal/Replacement

Brake pads can easily be changed without dismounting the brake caliper assembly from the bracket. With the brake off (hydraulic pressure removed), the worn pads may be removed along the line of the braking path after unscrewing the pad retraction screws (1), the retaining block cap-screws (2) and removing the pad retaining blocks (15, not shown above) from one end of the housing (13, not shown above).

Re-assembly of the new replacement pads follows the reverse of this procedure, but note that the mating surfaces are clean. The pad retaining block cap-screws (4 per brake module, M10 x 80) should be tightened to 76 Nm.

Refer to the brake module drawing 6702444 for an itemised bill of material.

Caliper Packages

T100 Caliper Assembly	Pipe Fittings Kit
Basic caliper 6702445 (comprising 2 modules with friction pads)	Metric: 7301507
	North American: 7301508

Note: The metric pipe fitting kit includes 2 male stud couplings G1/4 (1/4" BSP) to 8 mm O/D tube and 1 equal tee coupling to suit 8 mm O/D tube.
Twiflex recommends steel tubing 8 mm O/D to BS3602 grade CDS 23 (DIN 2391/C)
The North American pipe fitting kit includes 2 conversion adaptors G1/4 male to 1/4" NPT female and 2 sealing washers.

Recommended Spares

Pad Assembly (2 required per caliper) Part No. 7000407-Z
Seal Kit (2 required per caliper) Part No. 6000360
(Each seal kit comprises 2 main seals and 2 O-rings, for use with *mineral oil* based hydraulic fluids)