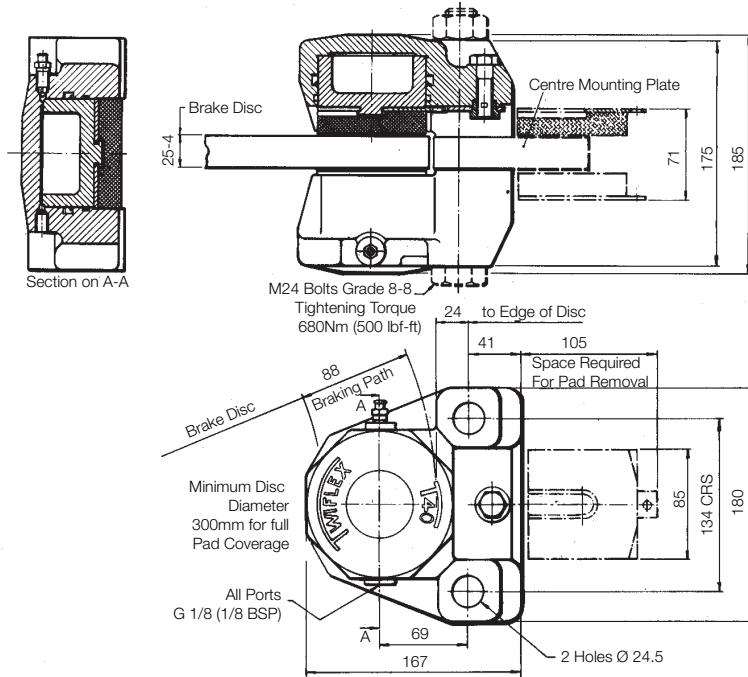


## Disc Brake Caliper - Type T40 Hydraulically Applied

Nominal dimensions given. For specific dimensions please contact Twiflex Limited.

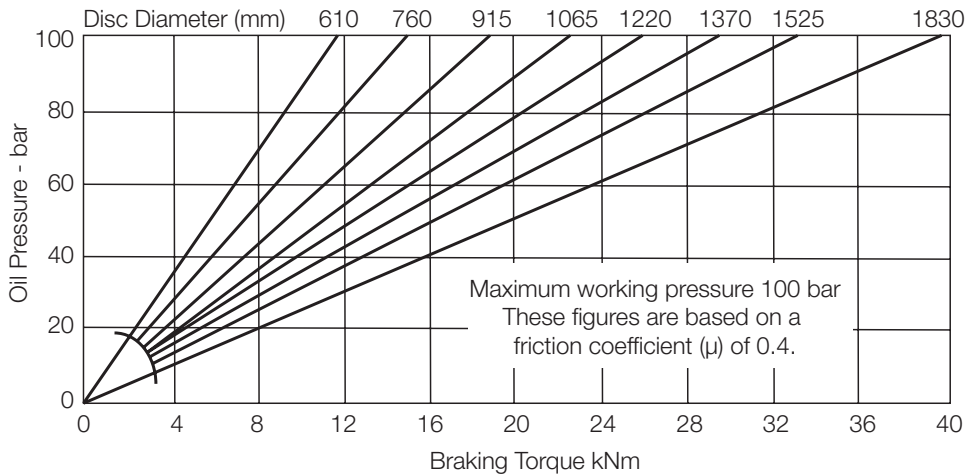


**Braking Force. 45kN @ 100 bar oil pressure (normal maximum working pressure).**

Braking Force is defined as the Tangential Force acting on the brake disc at the Effective Disc Radius.

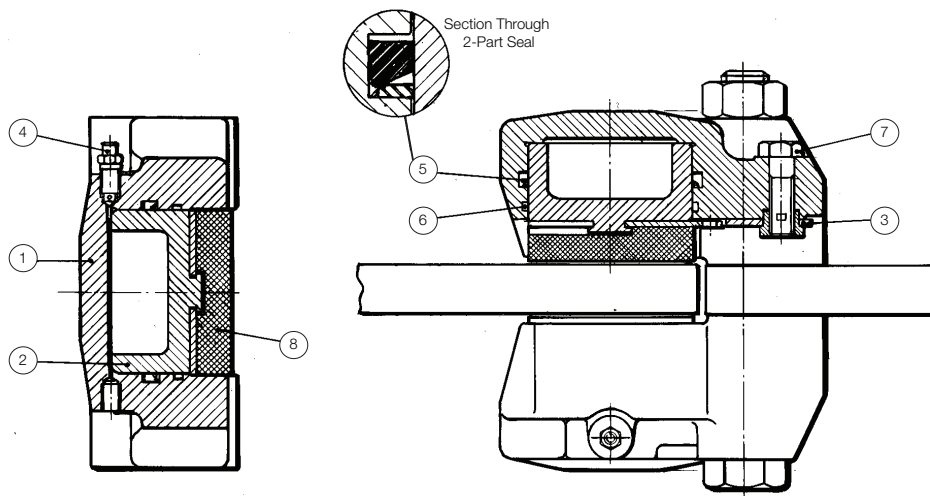
Braking Torque (Nm) = Braking Force (N) x Effective Disc Radius (m)

Where Effective Disc Radius = Actual Disc Radius - 0.045.



These are typical performance figures for fully bedded and conditioned brake pads. For bedding-in and conditioning see publication M1060. When used with standard Twiflex brake discs an appropriate service factor should be applied when designing the braking system, and in case of brakes used for holding duties or in wet conditions this should be not less than 2.0.

# Disc Brake Caliper - Type T40 Hydraulically Applied



Item	Component	Qty
1	Caliper Body	2
2	Piston	2
3	Pad Retaining Plate	2
4	Bleed Screw	2

Item	Component	Qty
5	Seal	2
6	O-Ring	2
7	Pad Retaining Screw	2
8	Pad Assembly	2

## Spares

### Technical Data

Material - Cast Iron to BS1452 Gr. 17

Finish - Hammer blue Paint.

Total caliper weight (2 caliper halves only) - 19.6 kg (excluding Mounting Bracket and Bolts).

Weight of two bolts (M24 x 200) and two nuts (M24) - 1.92 kg.

Weight of Centre Mounting Bracket - 6.6 kg.

Pad dimensions (new) - 85 x 85 x 19mm.

Pad wear allowance - 10mm.

Total pad friction area - 144 cm<sup>2</sup>.

Pad retraction - 1mm (each pad).

Total oil displacement volume per 1mm stroke - 15ml (for two caliper halves).

Minimum disc diameter - 300mm.

Disc Thickness - T40 can accommodate brake discs or wheels from 20mm upwards.

Hydraulic fluids - Use with MINERAL OIL BASED hydraulic fluids such as Shell Tellus 37 or Castol Hyspin AWS32.

Correctly formulated oil in water emulsions may also be used.

Initial oil filling varying from 185ml (pads new) to 300ml (fully worn pads).

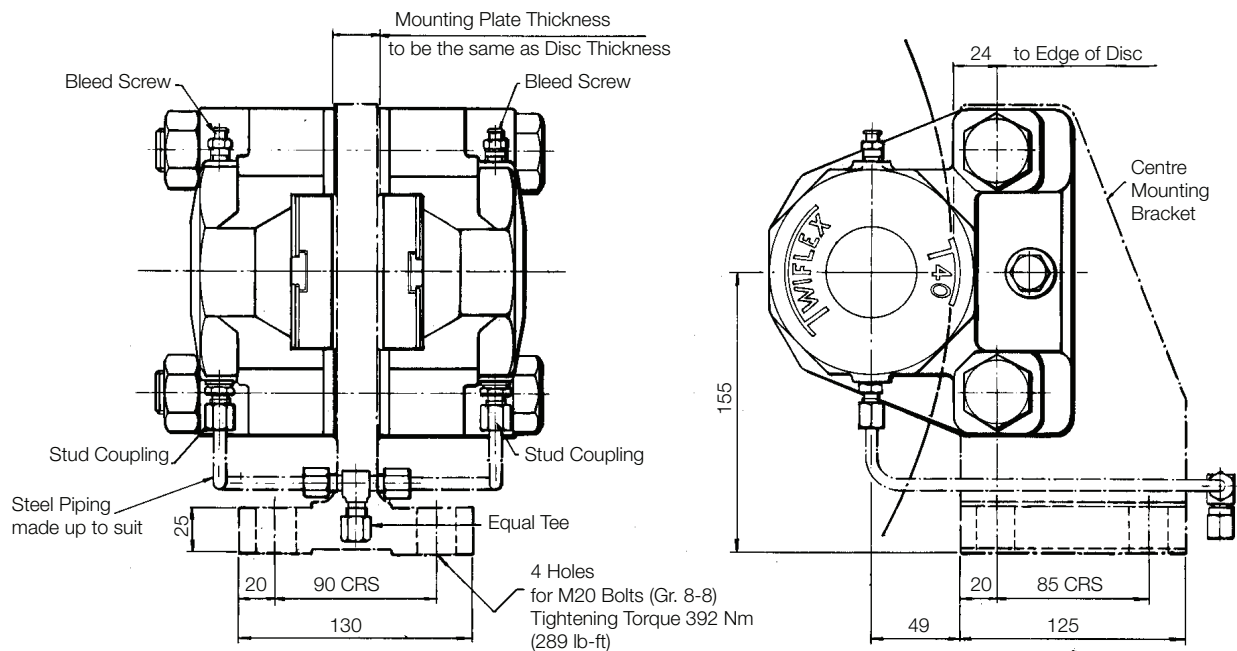
### Brake Discs

A range of standard 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 hardness of 200HB minimum may also be used. Disc rubbing paths should have a surface of 2µm 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, 0.03mm/cm of PCD.  
e.g. For a 25cm PCD, = 0.03 x 25 = 0.75mm.

# Disc Brake Caliper - Type T40 Hydraulically Applied

Nominal dimensions given. For specific dimensions please contact Twiflex Limited.



**Typical T40 Piping Layout with Twiflex Centre Mounting Bracket**

## General Description

The Twiflex T40 Disc Brake is a directly 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 and this may range from 20mm and upwards. Brake discs may be of any diameter from 200mm diameter with no upper limit.

Normally one or two calipers will be used with a disc and ideally they will be mounted on the horizontal centre-line of the disc. Where this is not possible, or where more than two calipers are used, it may be necessary to provide special bleed screw arrangements.

The T40 caliper is fitted with hardened and ground steel pistons, and special seals provide automatic pad retraction of approximately 1mm when the brake is released. Asbestos-free, easy change brake pads are fitted as standard.

Two fixing bolts (M24 grade 8.8) are used to secure the caliper to the mounting plate or bracket. It is important that these bolts are tightened to 680 Nm (500 lbf-ft) torque. Standard centre mounting brackets are available for calipers used with 25.4mm or 30mm thick brake discs.

The standard T40 brake caliper is for use with MINERAL OIL based hydraulic fluids; and must not be used with automotive type brake fluids.

## Pad Removal / Replacement

Brake pads can be easily changed with the brake in situ. Pad replacement is carried out from the rear of the caliper. With the brake off the worn pads may be removed after unscrewing the pad retaining screws (7) and removing the pad retaining plates (3).

Re-assembly of the new replacement pads follows the reverse of this procedure, but note that the mating surfaces are clean and that the slotted pad backing plate is located around the keep button on the piston. The pads should slide easily into position.

# Disc Brake Caliper - Type T40 Hydraulically Applied

## Caliper Packages

Caliper T40	Pipe Fittings Kit	Combined Part No. Caliper and Pipe Fittings Kit
Basic Caliper (1) Part No. 6780880	Metric (2) Part No. 7300844	6780880/AH61
	North American (3) Part No. 7300845	6780880/AH62

- (1) T40 Basic Caliper (6780880) comprising - two identical caliper halves fitted with friction pads and bleed screws.
- (2) Pipe Fitting Kit (Metric) (7300844) comprising - 2 Male Stud Couplings G18 (1/8" BSP) to 6mm O/D Tube and 1 Equal Tee Coupling to suit 6mm O/D Tube.
- (3) Pipe Fitting Kit (North American) (7300845) comprising - 2 Conversion Adaptors G1/8" male to 1/8" NPT female and 2 Sealing Washers.

### Optional Items

- |  |                  |
|--|------------------|
| 1 Bolt Assembly Kit (to suit 25.4 and 30mm brake discs)<br>comprising - 2 bolts M24 grade 8.8 x 200 long and 2 nuts<br>M24 grade 8 | Part No. 6700879 |
| 2 Centre Mounting Bracket only (to suit 25.4mm disc)   | Part No. 6950374 |
| 3 Centre Mounting Bracket only (to suit 30mm disc)   | Part No. 6950375 |
| 4 Steel Tubing 6mm outside diameter x 3m long<br>to BS3602 grade CDS 23 (DIN 2391/C)   | Part No. 7300776 |

### Recommended Spares

- |  |                  |
|--|------------------|
| Pad Assembly (asbestos free) (2 required per caliper)  | Part No. 7080142 |
| Seal Kit comprising - 2 main seals (2 parts) and<br>2 O-Rings for use with mineral based hydraulic fluids. | Part No. 600036  |

### Service

Address all enquiries regarding this equipment to your Twiflex agent or direct to Twiflex Limited.

Twiflex Disc Brakes must be used with Twiflex Asbestos Free Brake Pads.

The use of any other brake pad will invalidate the warranty.

Twiflex Limited reserves the right to modify or change the design without prior notice.

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