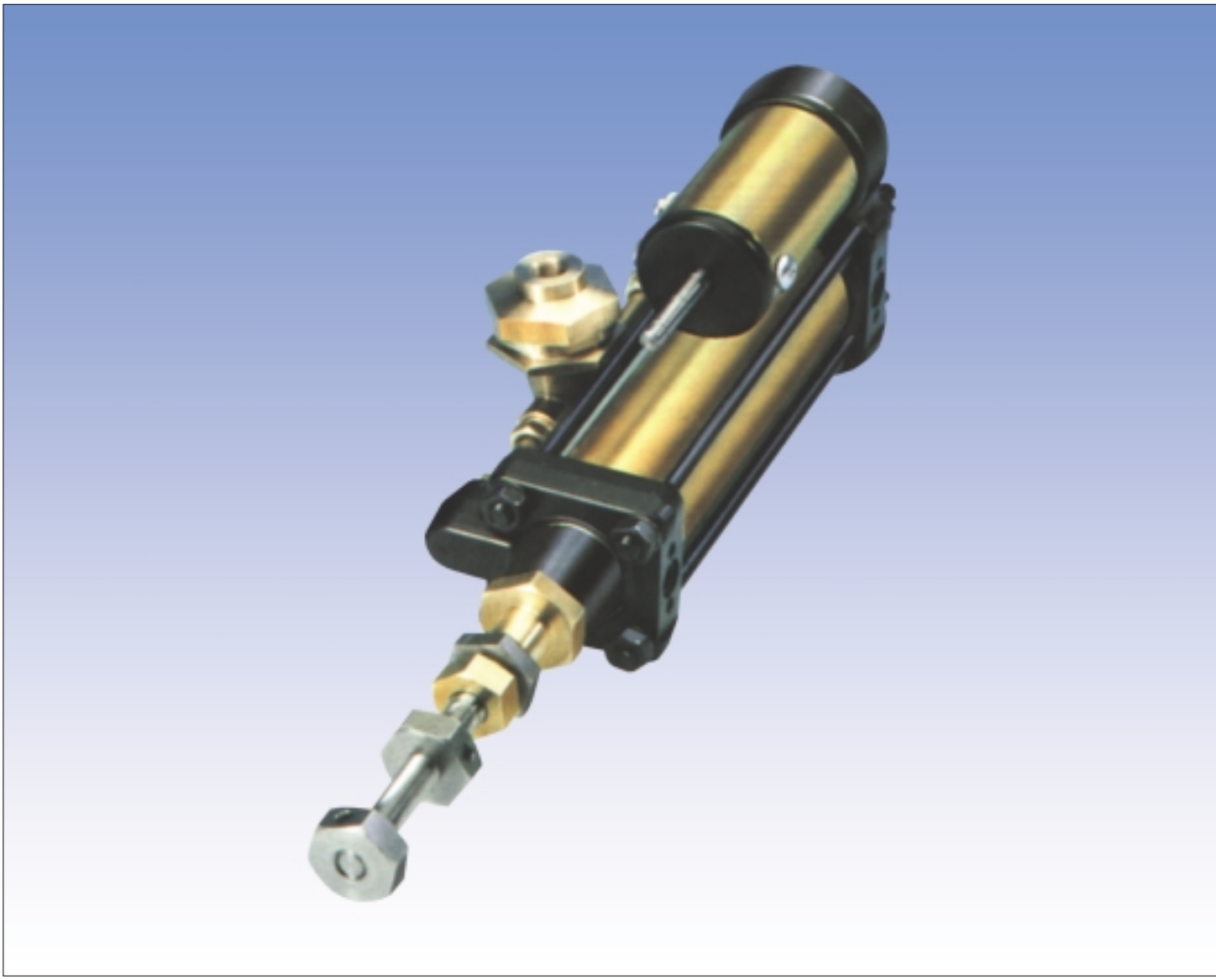
# Hydrochecks

*Self contained hydraulic checking units*

*Catalogue no: 2117 GB-ca*



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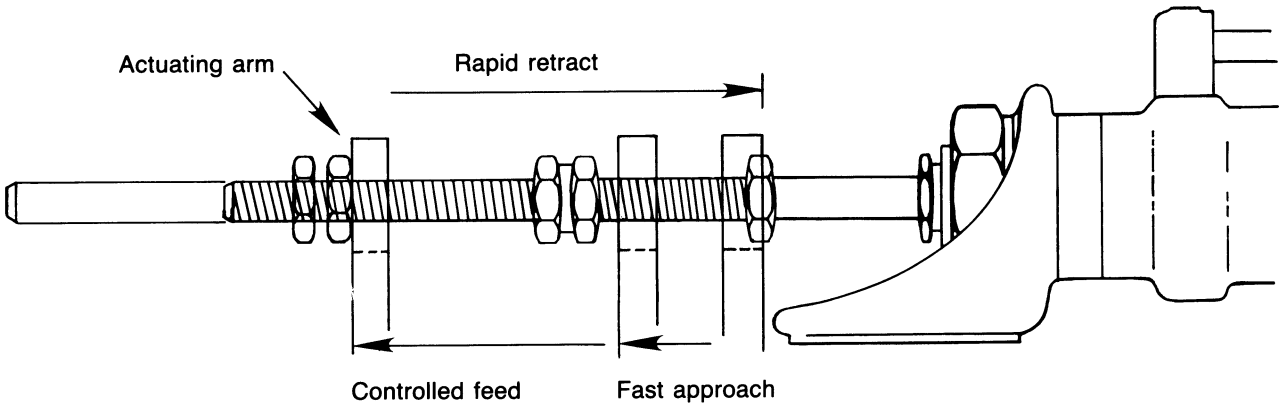
Hydrochecks are precision built self contained hydraulic control units designed to smooth out pneumatic cylinder-movements over any distance within their own stroke length, up to 450mm.

Basic single acting models provide adjustable speed control over the full outward or inward stroke, and fast return, with the facility for rapid approach to the controlled stroke, by the adjustment of the piston rod engaging nuts.

By the incorporation of 'skip' or 'stop' valves virtually any combination of fast - slow, start - stop motions can be obtained. Similar functions can also be provided on the inward and outward strokes of double acting models.

Fig 1.




## Flow schematic

The Hydrocheck is basically a self contained hydraulic damping cylinder with adjustable flow. (Fig 2). The piston speed is controlled on the checking stroke by pushing oil from one side of the piston (A) to the other via a transfer tube (B) and needle valve (C) which adjusts checking rate. A high flow plate valve in the piston lifts to permit a rapid return stroke. The balance cylinder assembly (D) automatically compensates for the volumetric displacement of the piston rod; the three annular grooves on the indicator rod (E) of the balance cylinder piston show the oil content. Inward checking models, in which the piston assembly and flow direction are reversed, carry the balance cylinder on the front head.

The exterior length of the piston rod is threaded and carries adjustable lock nuts for setting the point at which checking is required to start, the permanently locked back nut is used to reset the rod (Fig 1).

Where fast traverse is required within the checking stroke a 'skip' valve (F) is incorporated. Maintained air pressure is normally applied to the skip valve and relieved by remote control for fast traverse. Design characteristics of double acting units mounted inline with air motors do not permit mechanical fast approach which, on these units, is obtained by use of a skip valve.

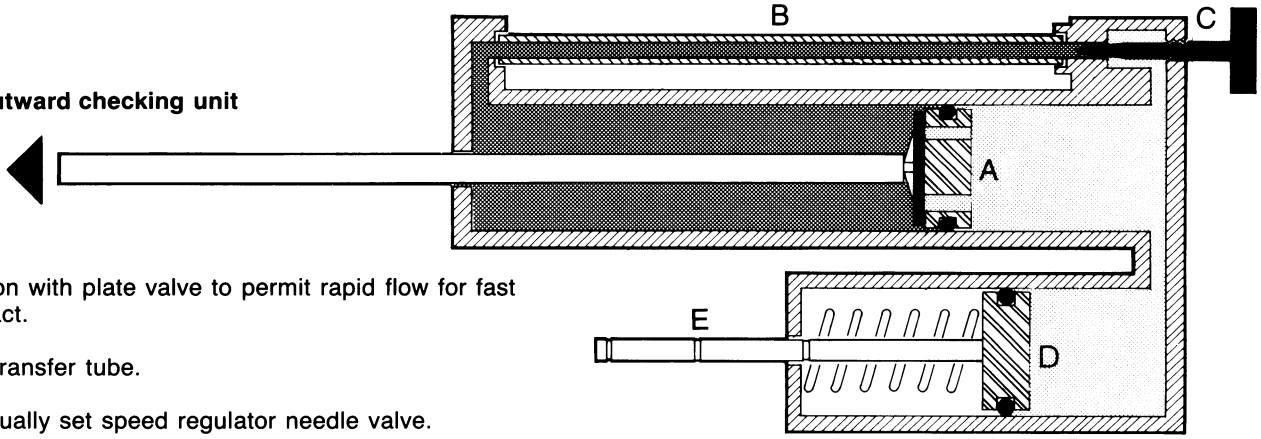
The stop valve (G) facilitates a 'dwell' period during any part of the Hydrocheck stroke and operates by applied air pressure which closes the hydraulic circuit ahead of the needle valve (C). On Standard Duty models the skip valve must also be closed when the stop valve is applied. Both valves should be operated by the same pressure as the main actuating air cylinder feed.

**Note:**
Thrust loads must not exceed 5337N (1200 lb f) for Standard Units

## Schematic diagrams showing oil Flow and working principles of Hydrochecks.

Fig 2.

**Basic outward checking unit**




A. Piston with plate valve to permit rapid flow for fast retract.

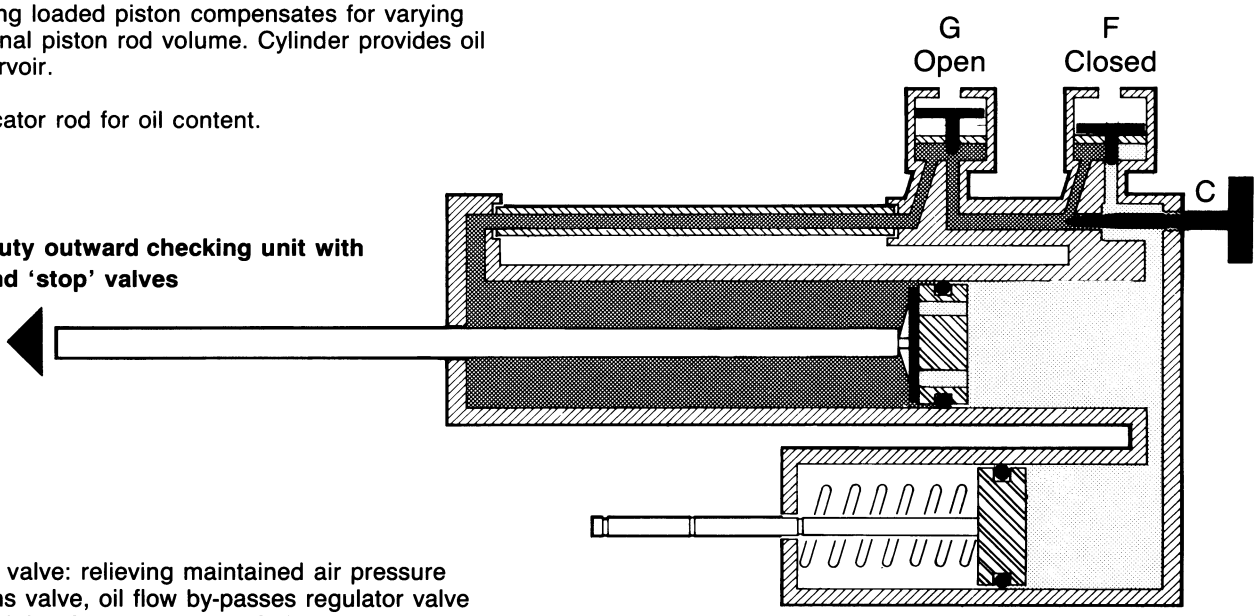
B. Oil transfer tube.

C. Manually set speed regulator needle valve.

D. Spring loaded piston compensates for varying internal piston rod volume. Cylinder provides oil reservoir.

E. Indicator rod for oil content.

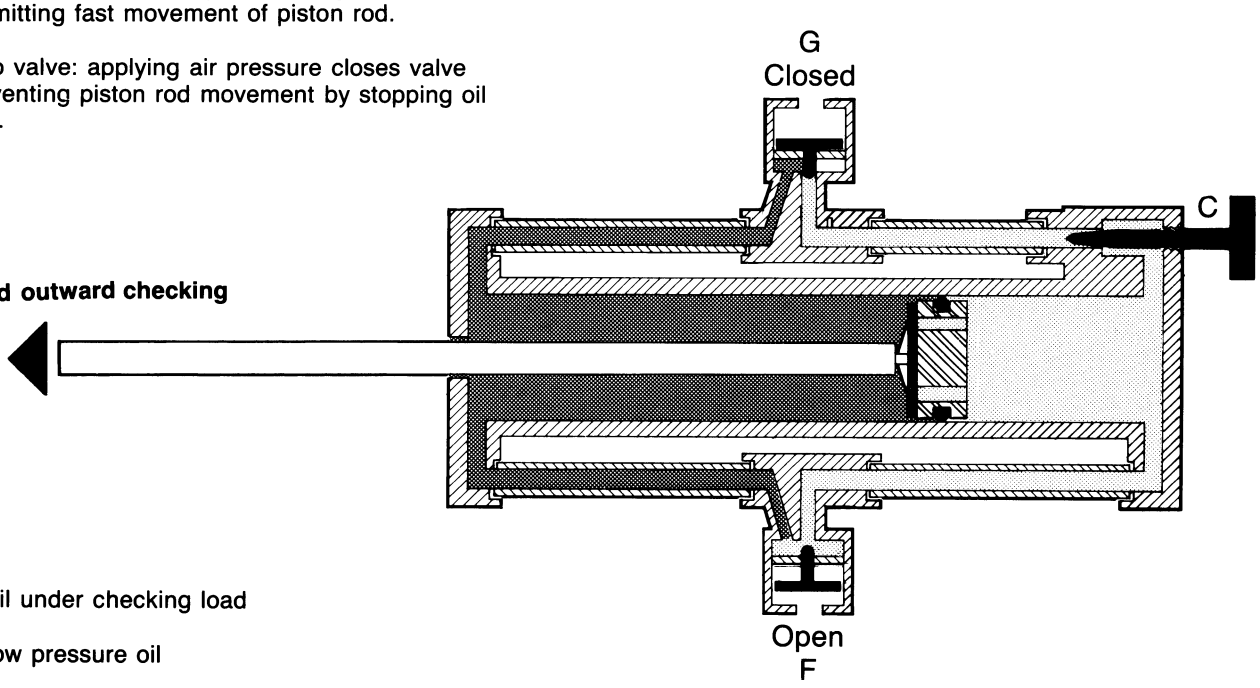
**Heavy duty outward checking unit with 'skip' and 'stop' valves**




F. Skip valve: relieving maintained air pressure opens valve, oil flow by-passes regulator valve permitting fast movement of piston rod.

G. Stop valve: applying air pressure closes valve preventing piston rod movement by stopping oil flow.

**Standard outward checking**




oil under checking load

low pressure oil



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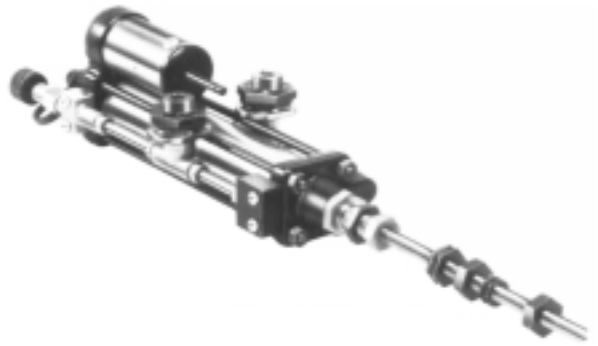
## Standard duty series



## Hydrocheck mounting kit

For New Generation I.S.O. Cylinders

## How to order

**B181 - XX11 - XXX**

| Direction | |
|---|---|
| 1 | Outward check |
| 2 | Inward check |

| Control | |
|---|---|
| 1 | Standard |
| 2 | STD + Skip |
| 3 | STD + Stop |
| 4 | STD + Skip/Stop |

| Stroke mm |
|---|
| 050 |
| 075 |
| 100 |
| 150 |
| 225 |
| 300 |
| 375 |
| 450 |

e.g. B181-1311-150 = Standard Duty Outward Checking Model with Stop Valve x 150mm stroke.

**Note:**
Minimum stroke available with skip or stop facility is 100mm.

## How to order

**Part Nos.**

| Bore size | Kit part no. |
|---|---|
| 50 | 50-2800H |
| 63 | 63-2800H |
| 80 | 80-2800H* |

**Note:**
The hydrocheck mounting kit is suitable for 50mm, 63mm and 80mm bore sizes only.

The kit contains: 1 mounting plate
1 actuator arm
1 spacer
4 mounting bolts.

**Repair kit**

| Part no. | B732-504 |
|---|---|



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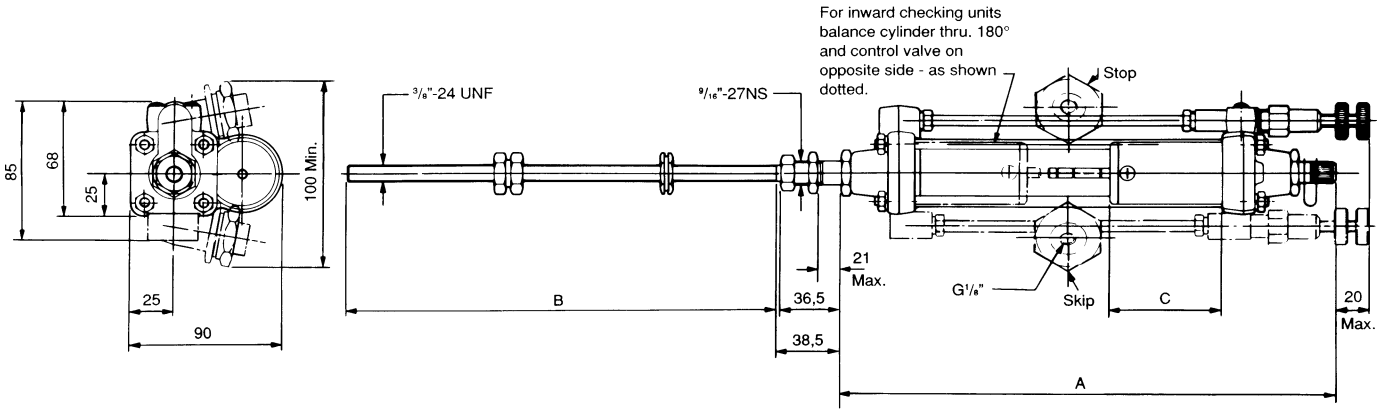
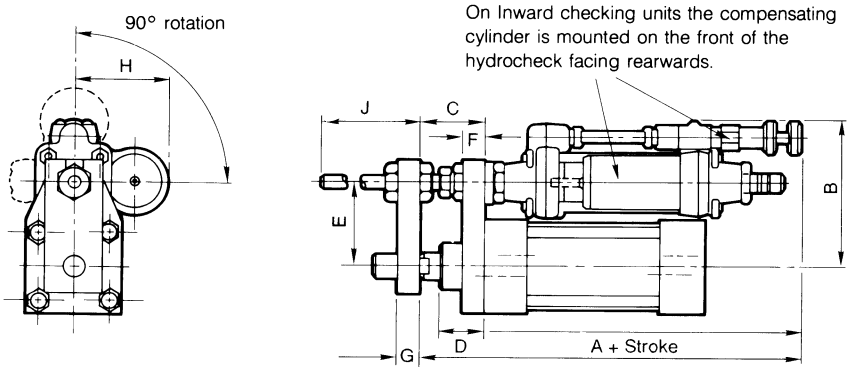
## Dimensions (mm)

### Standard duty

| Part number | A | B Thread | C |
|---|---|---|---|
| B181-xxxx-050 | 200 | 254 | 67 |
| B181-xxxx-075 | 226 | | |
| B181-xxxx-100 | 251 | | |
| B181-xxxx-150 | 302 | | |
| B181-xxxx-225 | 378 | | 168 |
| B181-xxxx-300 | 454 | 305 | |
| B181-xxxx-375 | 530 | 381 | |
| B181-xxxx-450 | 606 | 457 | |




## Hydrocheck mounting kits




### Dimensions (mm)

| Cyl. Ø | A + stroke | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 50 | 213,5 | 105 | 37 | 29 | 60 | 16 | 16 | 65 |
| 63 | 213,5 | 110 | 37 | 29 | 65 | 16 | 16 | 65 |
| 80 | 232,5 | 123 | 46 | 35 | 78 | 16 | 16 | 65 |

| Strokes | J |
|---|---|
| 50-225 | 240 |
| 300 | 291 |
| 375 | 367 |
| 450 | 443 |