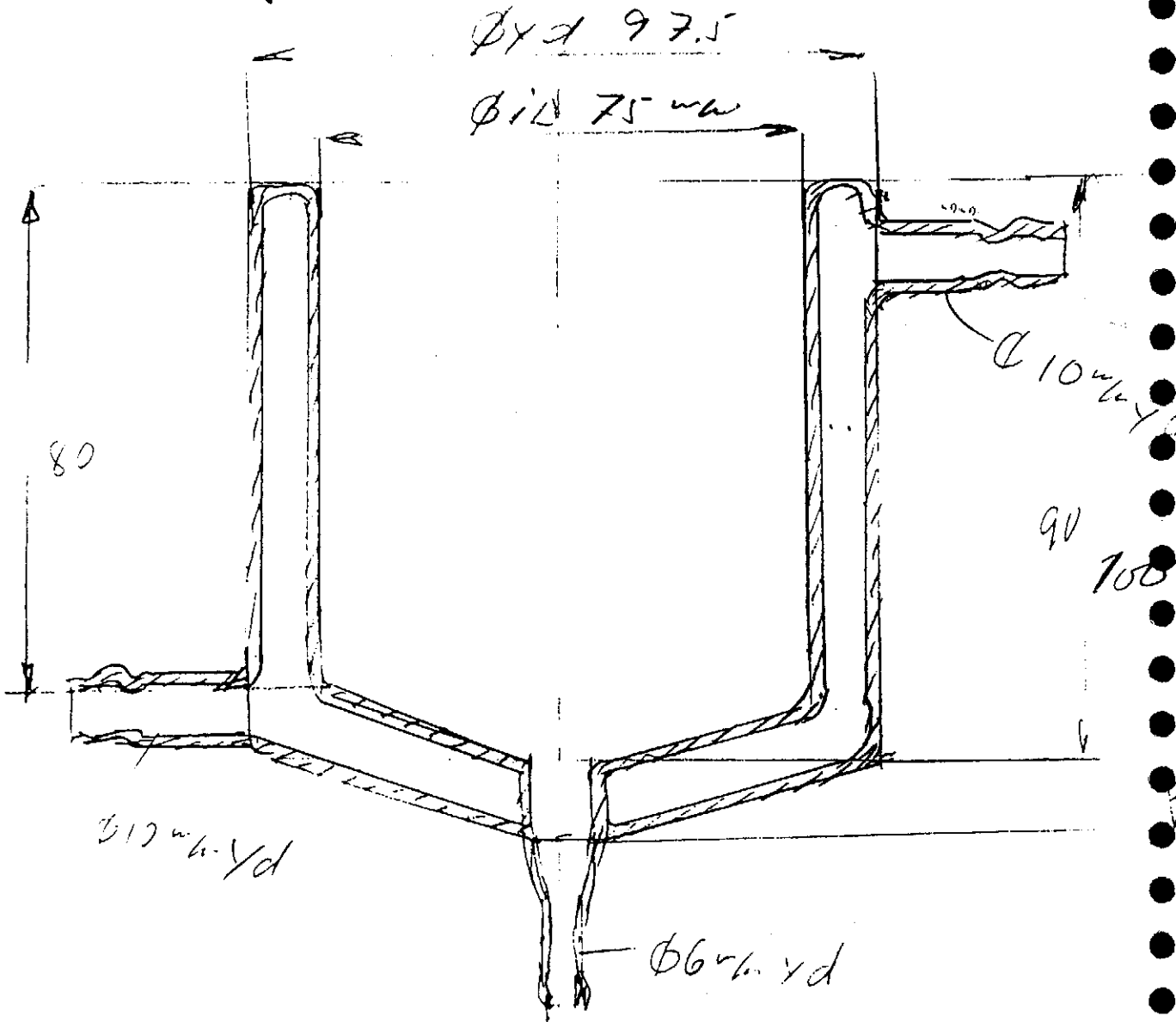
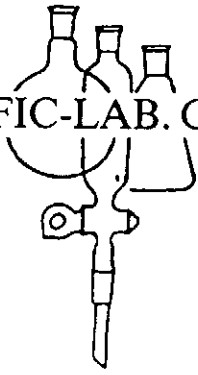
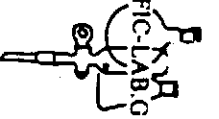


SCIENTIFIC-LAB. GLASS AB



Reservoar.

SCIENTIFIC-LAB GLASS AB



Bröderna Rodahus 2
240 33 Löberöd
Tel: 0413-30897
Fax: 0413-30857

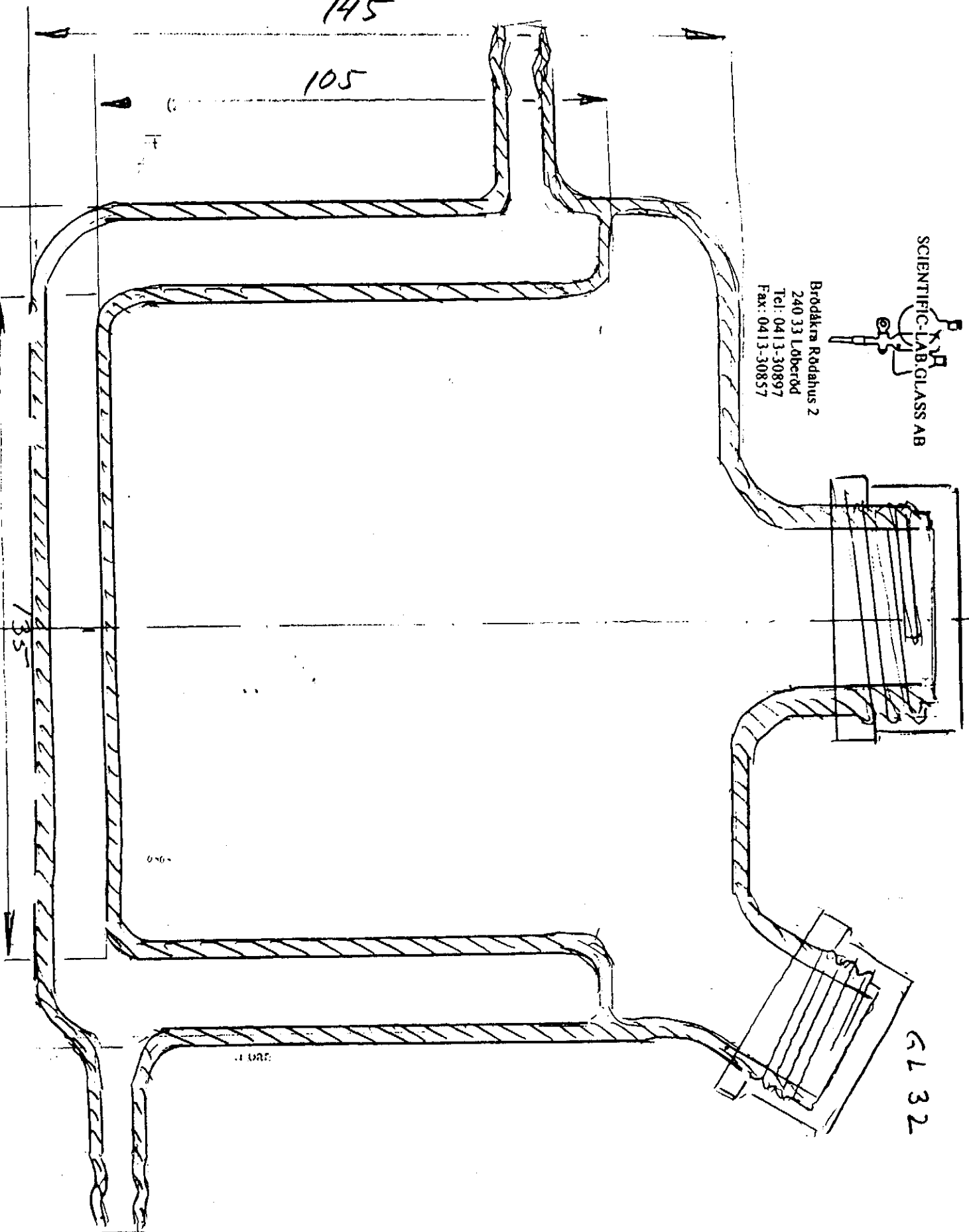
GL 45

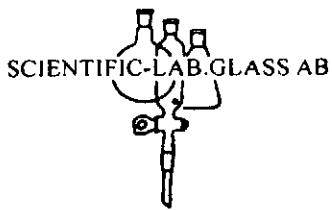
GL 32

145

105

135





SCIENTIFIC-LAB.GLASS AB

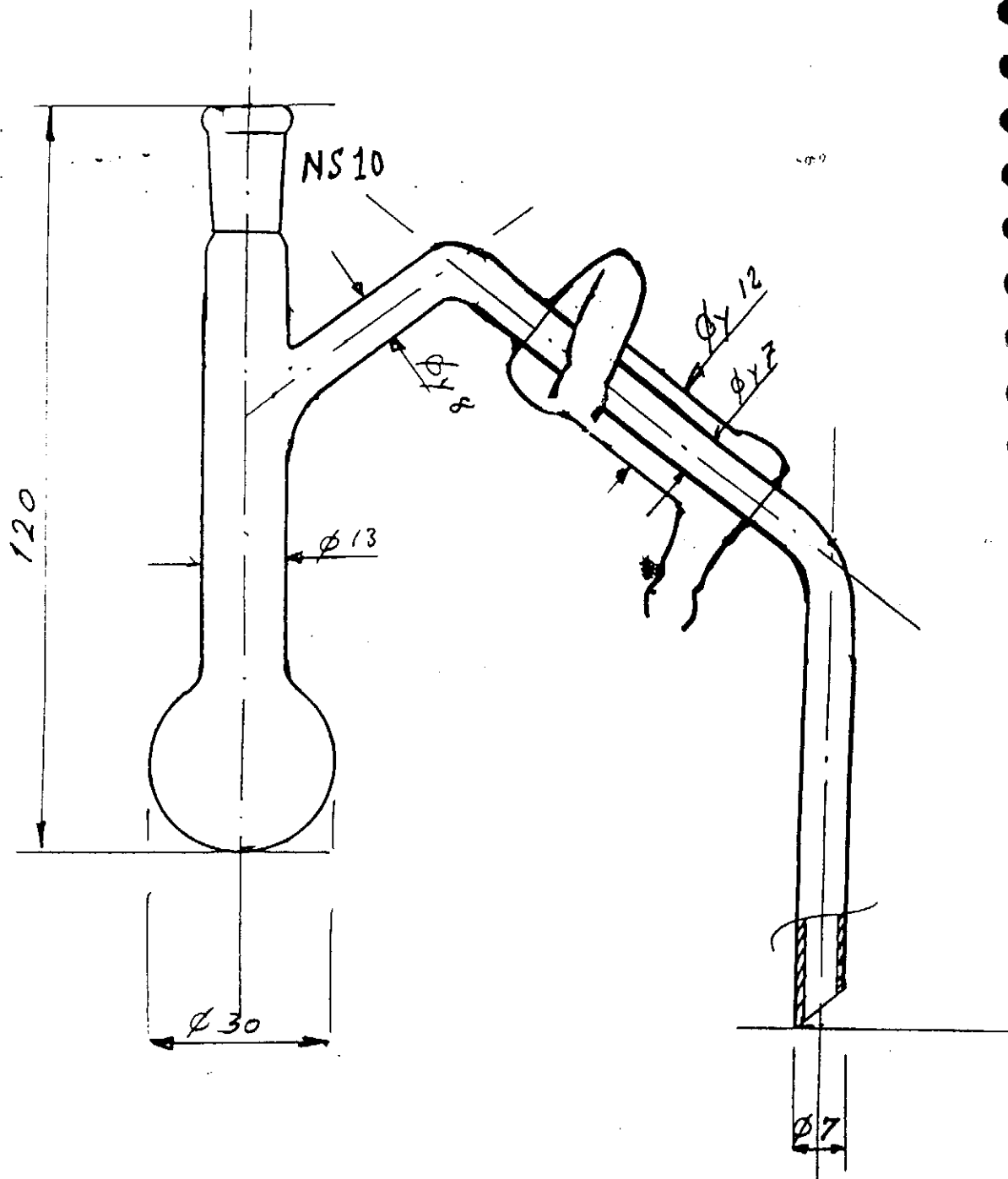
MIKRODEST UPPSATS

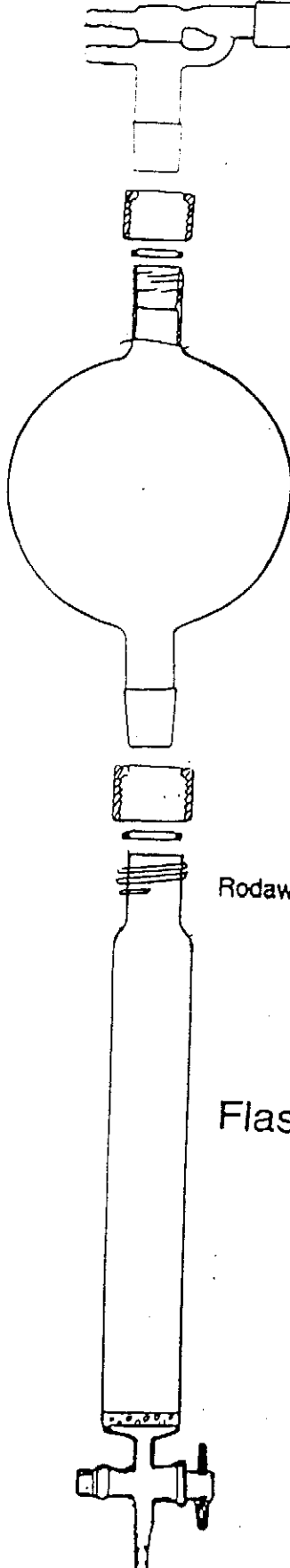
8/4-86

Matr. Pyrex-Dura
scala 1:1

RIT: Alf Lundberg

Brödåkra Rödåhus 2
240 33 Löberöd
Tel: 0413-30897
Fax: 0413-30857





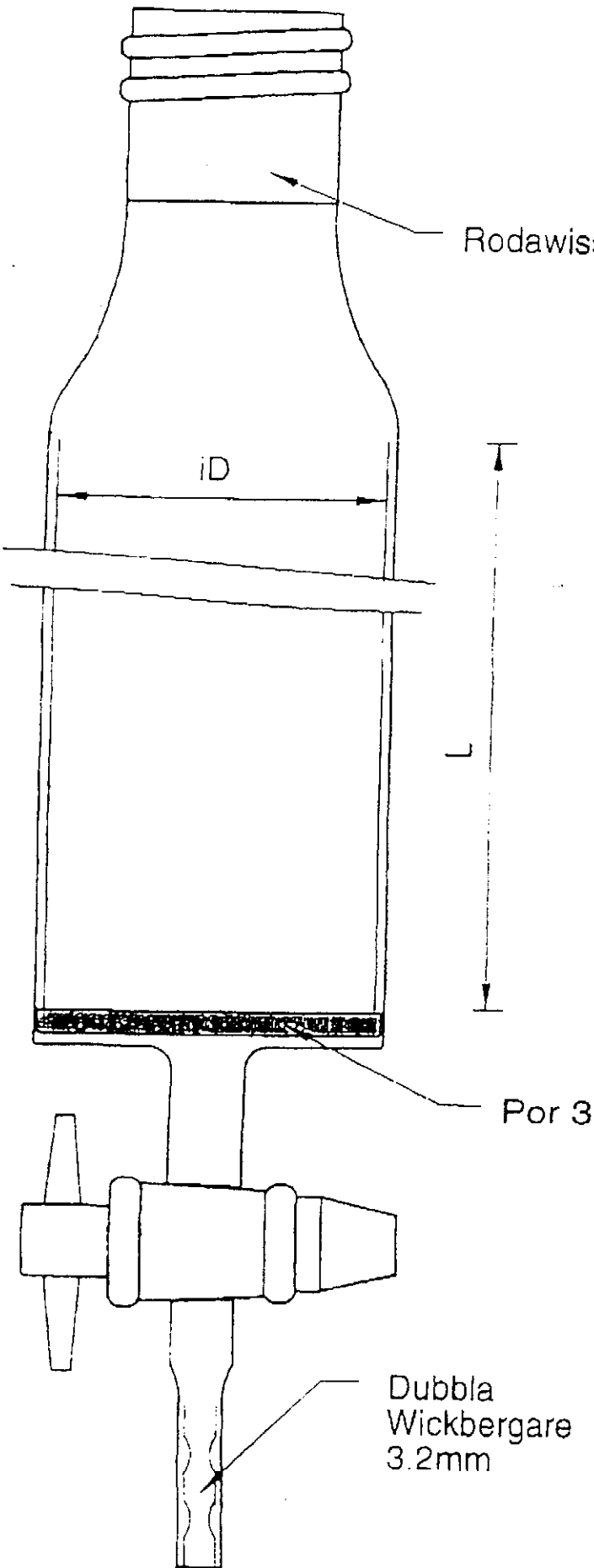
förlag (NS29 Rodawiss)

Rodawiss NS 29

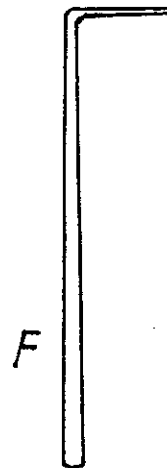
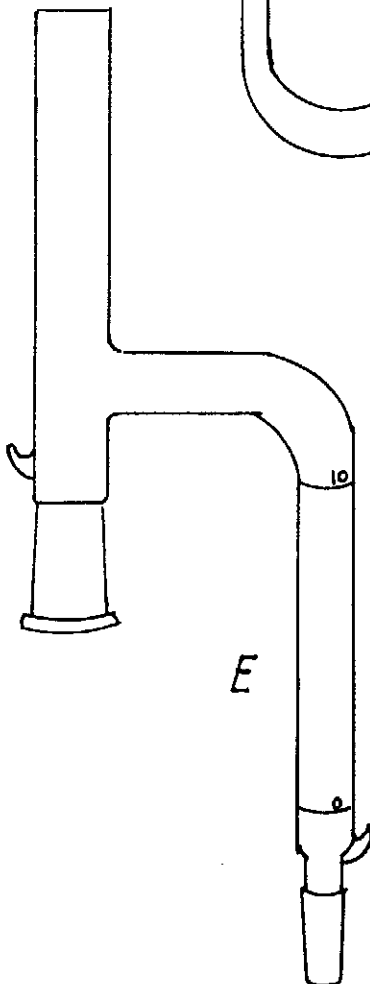
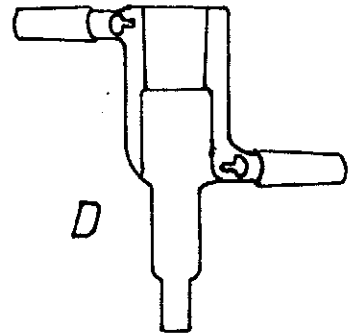
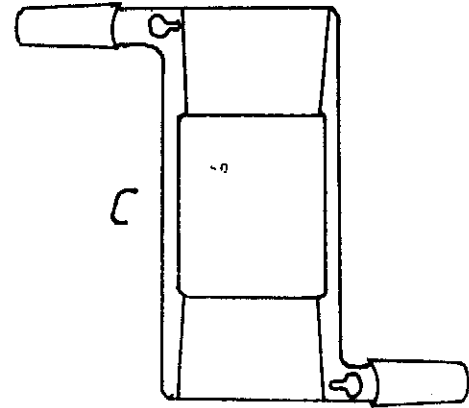
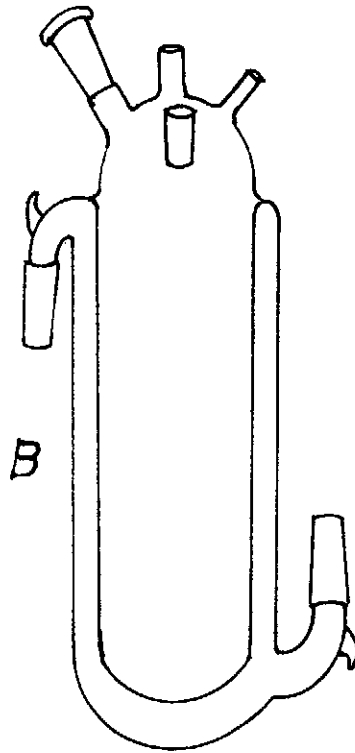
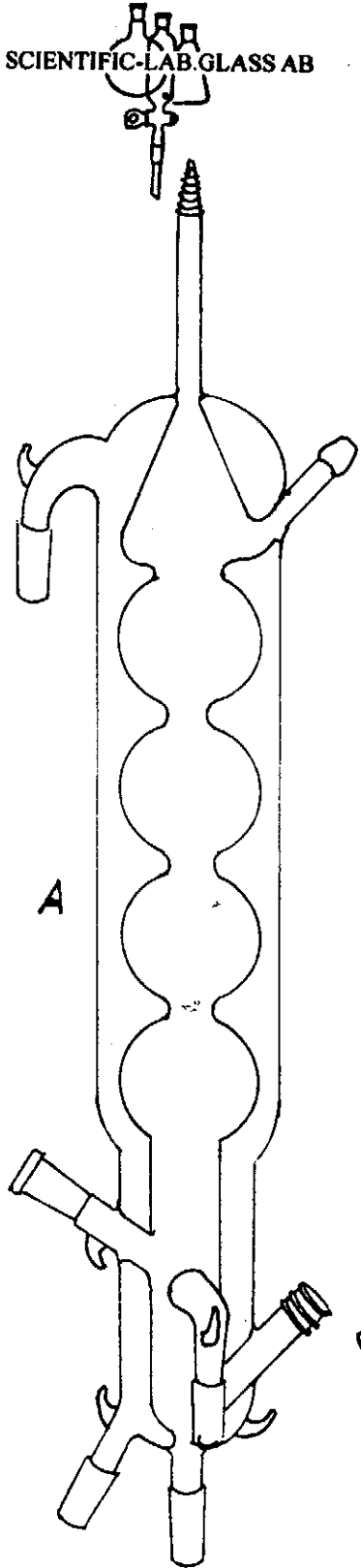
Flash kolonn

Dubbla
Wickbergare
3.2mm

Flash kolonn



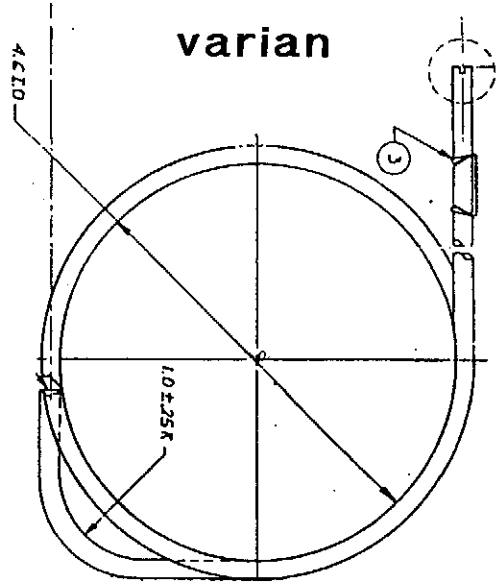
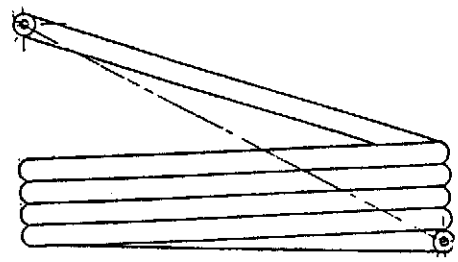
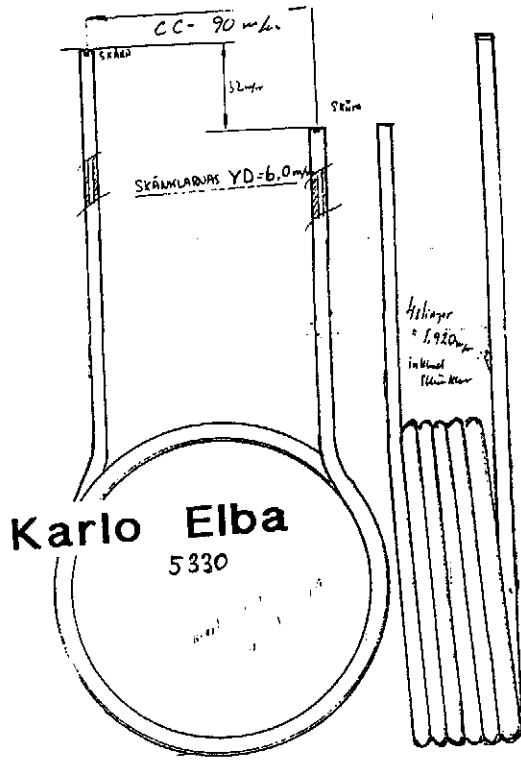
Heart Perfusion Aparatus



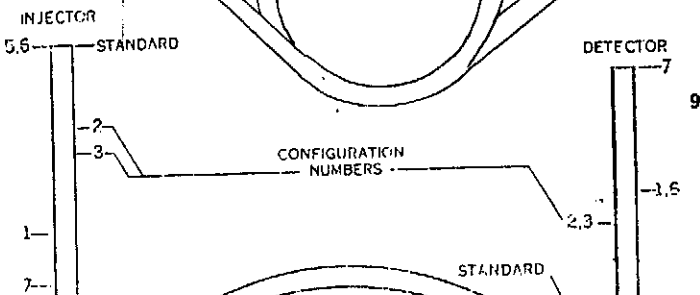
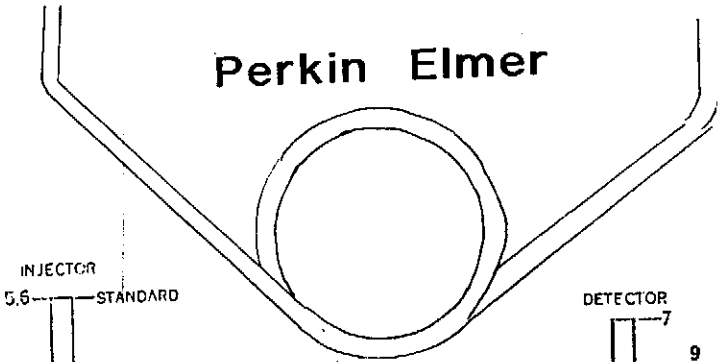
- A Oxygenator
- B Reservoir
- C Heart Chamber
- D Compression "
- E Overflow
- F Canula

GASCROMATOGRAFI Kolonner

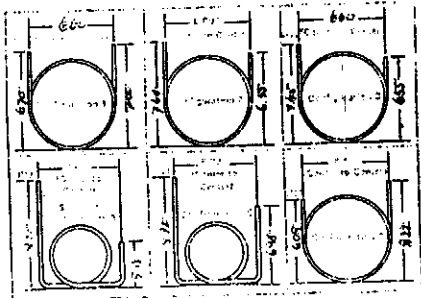
SCIENTIFIC-LAB. GLASS AB



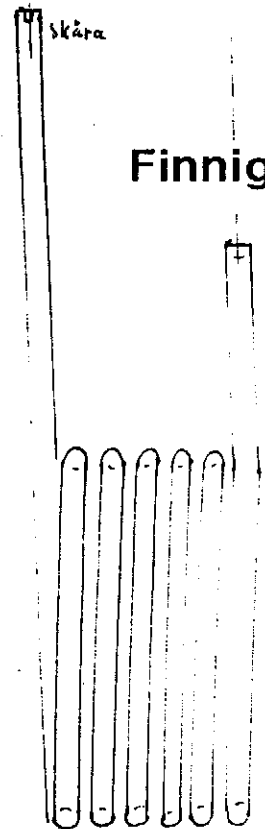
Perkin Elmer



HEWLETT PACKARD



Finnigan



A SIMPLE GLASS TEFLON CO-AXIAL VALVE

ALF LUNDBERG AND BÖRJE WICKBERG

Glass Workshop and Department of Organic Chemistry 2

Chemical Center, University of Lund, P.O.B. 740

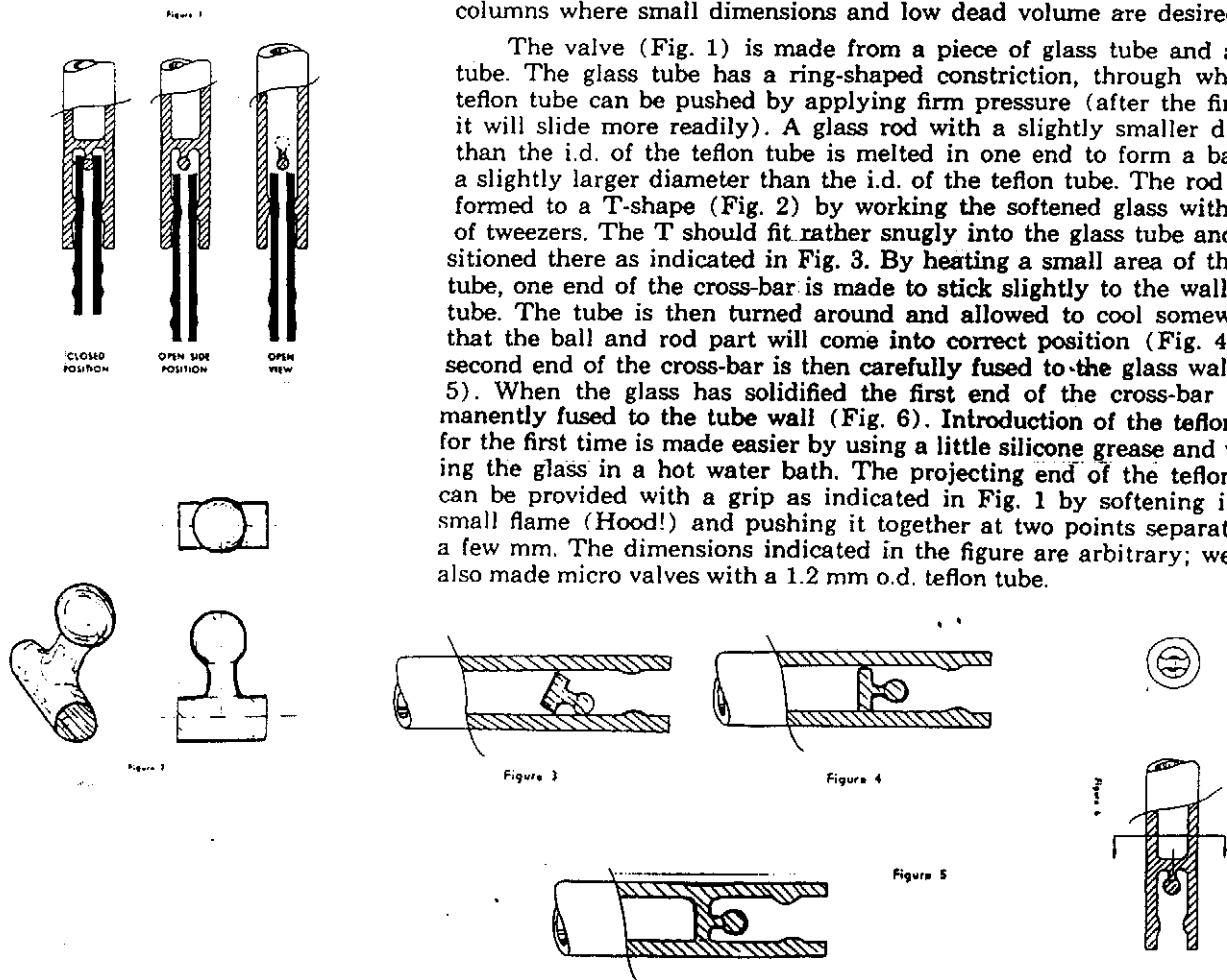
S-220 07 Lund 7, Sweden

SCIENTIFIC-LAB. GLASS AB



A glass-teflon connection, which is described separately, can be adapted to serve as a simple, efficient and non-sticking valve, which is very convenient for many purposes, for instance for chromatographic columns where small dimensions and low dead volume are desired.

The valve (Fig. 1) is made from a piece of glass tube and a teflon tube. The glass tube has a ring-shaped constriction, through which the teflon tube can be pushed by applying firm pressure (after the first pass it will slide more readily). A glass rod with a slightly smaller diameter than the i.d. of the teflon tube is melted in one end to form a ball with a slightly larger diameter than the i.d. of the teflon tube. The rod is then formed to a T-shape (Fig. 2) by working the softened glass with a pair of tweezers. The T should fit rather snugly into the glass tube and is positioned there as indicated in Fig. 3. By heating a small area of the glass tube, one end of the cross-bar is made to stick slightly to the wall of the tube. The tube is then turned around and allowed to cool somewhat so that the ball and rod part will come into correct position (Fig. 4). The second end of the cross-bar is then carefully fused to the glass wall (Fig. 5). When the glass has solidified the first end of the cross-bar is permanently fused to the tube wall (Fig. 6). Introduction of the teflon tube for the first time is made easier by using a little silicone grease and warming the glass in a hot water bath. The projecting end of the teflon tube can be provided with a grip as indicated in Fig. 1 by softening it in a small flame (Hood!) and pushing it together at two points separated by a few mm. The dimensions indicated in the figure are arbitrary; we have also made micro valves with a 1.2 mm o.d. teflon tube.



85

A FLEXIBLE GLASS TEFLON TUBE CONNECTION

Many laboratory operations require a flexible yet chemically resistant connection between different vessels. Teflon tubes are often ideally suited for the purpose provided they can be attached reliably to glass. A very simple but efficient connection can be made by pushing the teflon tube through a slightly narrower constriction in a glass tube (Fig. 1). If the constriction is made properly, the connection will be gas-tight, non-slipping and will still allow adjustment of the teflon tube in an axial direction. Minor leaks, for most purposes harmless, may appear if the temperature is allowed to decrease more than 50°. The teflon connection can be used for venting the head space or for siphoning the contents of a flask. In the latter case the tube is simply pushed below the surface of the liquid. Connections of this type have been used for instance for attaching a glass pre-column to a gas chromatograph (1), for transferring solutions of diborane and organo-metal compounds, for feeding eluants to low-pressure chromatographic columns and for passing nitrogen into low-volume photochemical reactors. Connections of the dimensions shown in Fig. 1 have also been used under suitable circumstances at pressures above 10 atm.

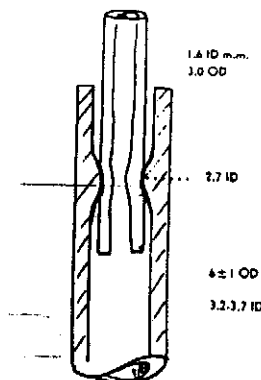
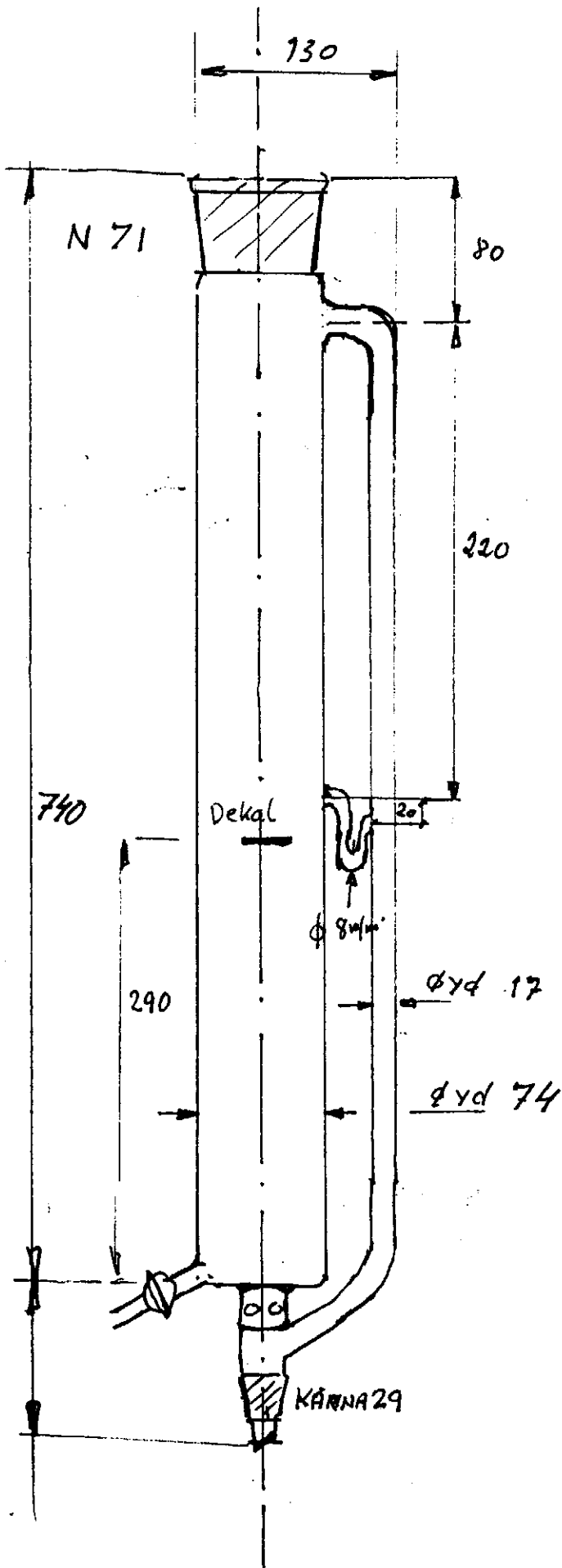
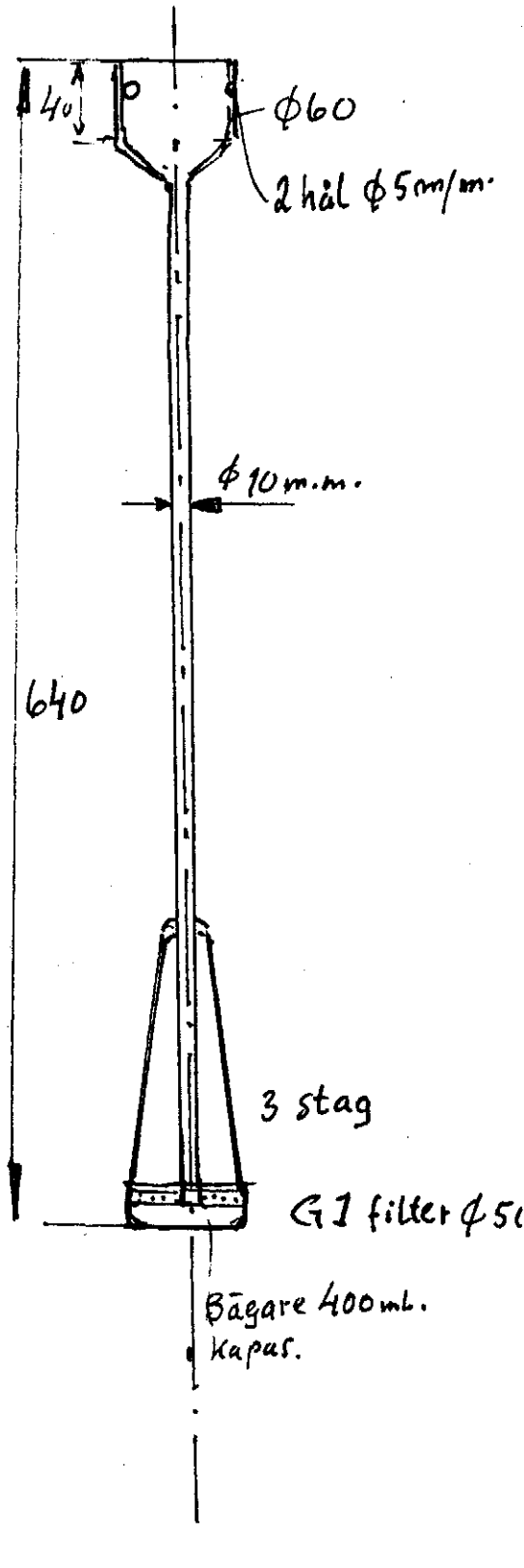


Figure 1
A Flexible Glass Teflon Connection
"Wickbergers"

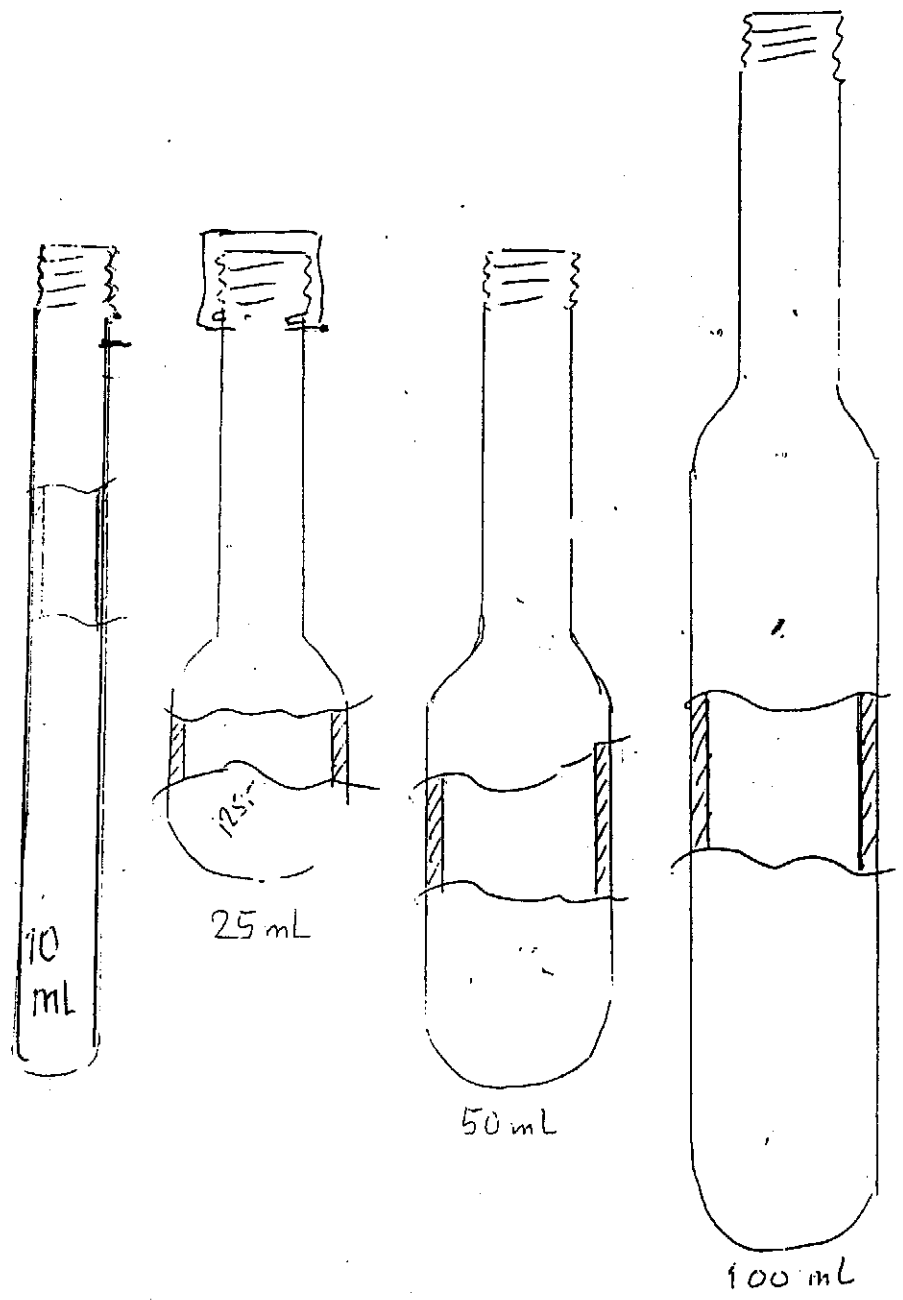
PERFORATOR KOLONN



Insats filter



HIGH PRESSURE AMPULES



MANIFOLD

