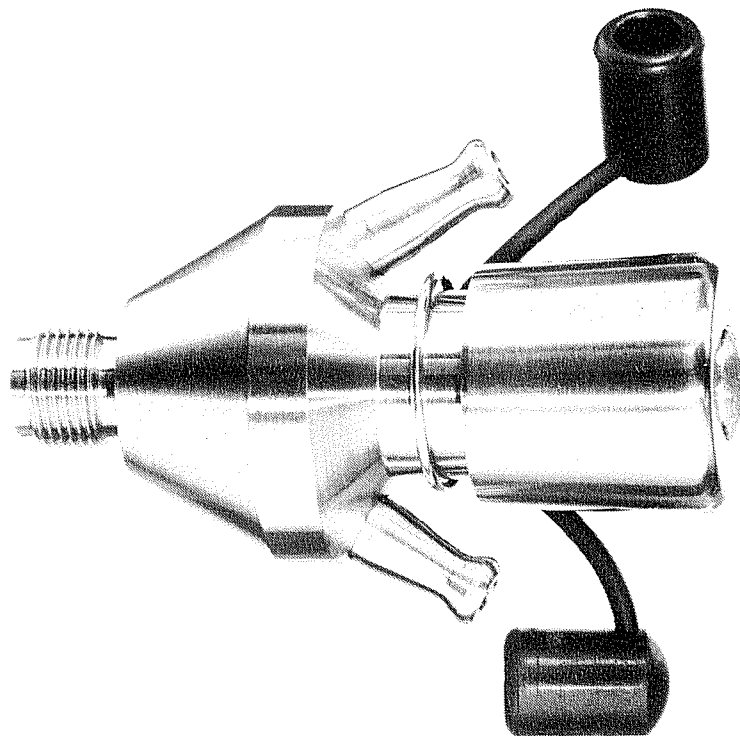


*Introducing  
the new*

## **Combi Sample Valve**

81.05. Makeo ApS



**type s for socket**

Design, patent, production and distribution by  
**Kai Ottung, Askebyvej 8, DK-2830 Virum**  
Telex: 16600 fotex dk att keofitt copenhagen

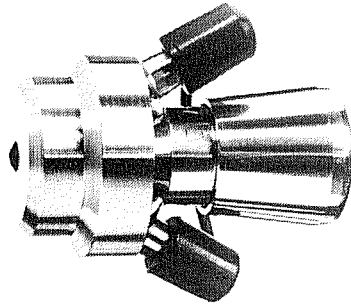
# Combi Sample Valve

(Patent applied for)

*Dual purpose sample valve for drawing larger quantities of fluid and for taking microbiological samples by means of a hypodermic needle.*

**Sanitary, rigid construction  
no maintenance, no wear  
pressure up to 9 kp/cm<sup>2</sup>  
exclusive design and quality**

*type t (tank)*



The drawings overleaf show the extreme simplicity of this valve. Two hose pieces are oriented towards the centre of the valve seat. The valve stem is provided with a silicone rubber plug, which gives a proper sealing against the valve seat and is an ideal material for penetration by a hypodermic needle.

The Combi Sample Valve is welded directly in the tank (type t) or on an extruded collar on a product pipe (type p). The silicone rubber plug is thus flush with the interior of the tank or product pipe, which is ideal for cleaning.

The two hose pieces are connected through a ring channel between the interior of the valve and the rubber plug. Therefore, after having been cleaned, the valve interior can be filled with alcohol and the two hose pieces closed by means of two rubber caps. Only a few ml of alcohol is required.

The Combi Sample Valve can also be supplied with male thread 1/4" BSP or M 14 instead of the hose pieces. These valves are fitted with closing caps in st. st. connected by means of a st. st. chain.

The shape and the length of the valve body make it possible to mount the Combi Sample Valve in the tank wall through an insulation or a cooling jacket.

The Combi Sample Valve can also be delivered for mounting in a socket 3/8" BSP. We take it for granted that many brewers instead of repairing their old sample cocks would prefer to substitute these with the new Combi Sample Valve, which will last forever without maintenance.

The Combi Sample Valve with slight modifications is also well suited for »circulating sampling systems«. The valve has a prolonged neck and is mounted vertically on a wall by means of a 25 mm pipe hanger with the silicone rubber plug downwards. The Combi Sample Valve is connected to the tank by means of rubber hoses 9/13 mm or st. st. pipes 6/8 mm and the beer is circulated through the valve using a small pump. The samples are drawn from the bottom of the valve.

The Combi Sample Valve substitutes the traditional sample cock, which has served the brewers well for many years. It also replaces the sample fitting with a rubber membrane for aseptic sampling by means of a hypodermic needle. Therefore, instead of two fittings, only one Combi Sample Valve is needed.

However, for the very careful microbiologist we can deliver a Sample Fitting with the same silicone rubber plug as used in the Combi Sample Valve for his own exclusive use. The holes in the Sample Fitting are covered air tight by means of a closed hand nut and an O-ring.

*Further details:*

The nut has a threaded bronze bushing, thus securing a smooth run of the nut on the valve. For a fine regulation of the flow from the valve, the valve stem is provided with a spring, which keeps the valve in the set position.

When closing the valve, the hand nut should be turned to the bottom, which gives the silicone rubber plug a compression of 2,5 mm. The silicone rubber plug can thus not be ruined by overcompression.

The rubber caps are connected by means of a rubber string, which is fastened in a ring round the neck of the valve body.

Filling of the valve with alcohol must be done dropwise in order to let the air escape. It is also possible to connect the two hose pieces with a clear plastic hose filled with alcohol.

A rubber syringe 50 ml with a rubber spout 9/13 mm for rinsing and cleaning the valve interior through the hose pieces can be supplied. If the valve is filled with alcohol, the syringe can also be used to put the valve under pressure and slowly blow the alcohol into the tank, thus sterilizing the valve seat before the sample is taken.

If the Combi Sample Valve is under high pressure, when drawing samples, the rubber cap on the upper hose piece can be secured by means of a st. st. hose clamp operated by hand by means of a large hexagon nut.

A membrane filter with hose piece can be connected to the Combi Sample Valve by means of a short rubber hose 9/13 mm and two hose clamps.

An inexpensive beer gauge can be obtained by means of two Combi Sample Valves connected by means of clear plastic hose 9/13 mm.

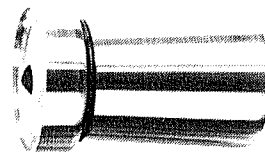
It is possible to control the temperature inside the valve by means of a dial bimetallic thermometer, with a stem 4 mm Ø. A thermometer pocket in the valve is made by drilling a hole 4,2 mm Ø in the valve stem and the assembling left-hand screw.

## Sample Fitting

(for microbiological samples only)

**Qualities as above**  
**easy operation**  
**air tight closure**

*type p (pipe)*

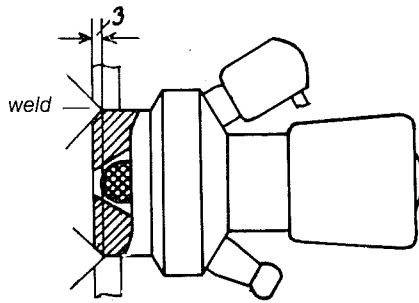
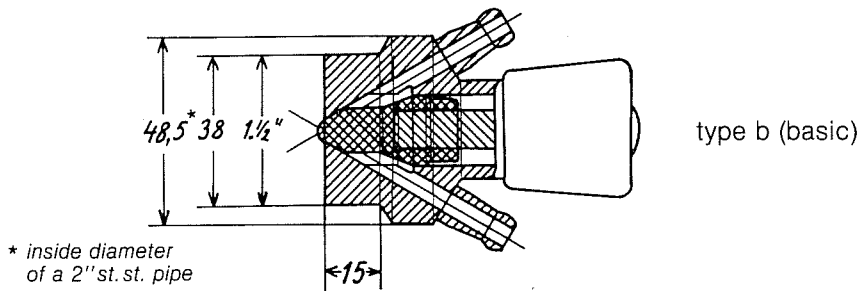


*The silicone rubber plug is the same in both fittings and the only replacement part needed.*  
*Both fittings are in stainless steel AISI 304.*  
*The silicone rubber plug can withstand almost all chemicals and temperatures up to 180°C.*

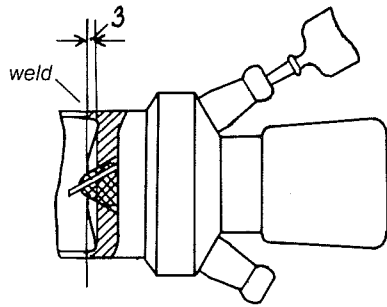
The dimensions overleaf show both fittings type b (basic), which can be machined to type t for tank or type p for pipe. Further is shown the Combi Sample Valve type s for socket.

## Combi Sample Valve

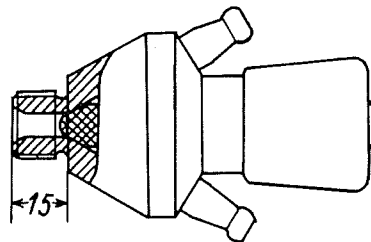
(CSV)



type t for tank  
(shown open)



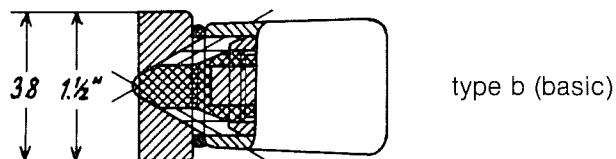
type p for pipe  
(shown with needle)



type s for socket

## Sample Fitting

(SF)



scale 1:2

May 1981  
Kai Ottung