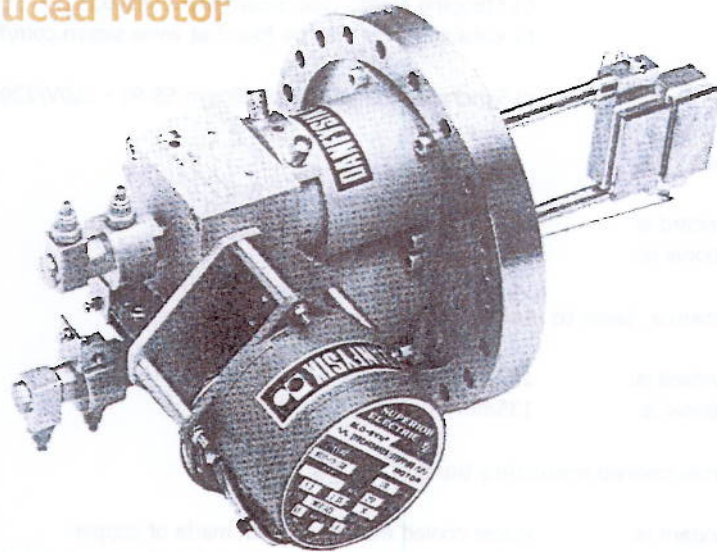


## Water Cooled Slit 563

### Gear Reduced Motor



#### Features

- Precise and stable mechanical alignment and symmetry
- Easy and reproducible adjustment
- Withstands 1000 W beam power
- Slit width adjustable to an accuracy of 0.04 mm

#### General description

In the Danfysik Water Cooled Slit 563<sup>1</sup> the water cooled mounting blocks for the slit jaws are mounted on coaxial tubular supporting rods which are also used for feeding cooling water to the blocks. The blocks are electrically insulated from the jaws by BeO spacers. The jaws are individually connectors to BNC receptables.

Sleeves welded to the outer tubes move the mounting rods axially via a worm gear. Vacuum sealing between the moving rods and the base flange is obtained by means of flexible stainless steel bellows. Rotation of the worm gear moves the slit jaws in opposite directions to each other and the centre line between the slit edges stay fixed. However, the centre line can be adjusted manually by turning the worm wheels when the worm shaft is demounted.

Setting the adjustment of the slit width is remotely controlled via a stepping motor driving the worm gear. Optionally the slit may be equipped with a 10-turn (1KOhm.) potentiometer, enabling a remote indication of the slit width.

#### Specifications

Min. slit opening	0+0.1 mm
Max. slit opening	35+0.1 mm
Min. increment in adjustment	0.04 mm
Accuracy of setting	0.1 mm
Centre line changeable in steps of	0.07 mm
Max. allowable beam power dissipation	1000 W
Flange	NW 150 CF

Standard jaws are made of Tungsten. For higher energies, high density graphite can be offered to limit permanent activation.

<sup>1</sup> Licensed from Hahn-Meitner-Institute, Berlin

## List of options

Please refer to the below list of options to be specified when ordering the Water Cooled Slit 563

### Motors

Options are:

a) 12V-DC Motor, type SWF

or

b) Stepping Motor, type Slosyn MO91-FD 03

(a suitable driver may be found at [www.slosyn.com/Motors.htm](http://www.slosyn.com/Motors.htm))

or

c) Synchronous motor, type Slosyn SS 80 - 110V/220V - 50Hz, AC

### Jaws

Standard is: Tungsten

Optional is: Graphite

### Distance, jaws to mounting flange

Standard is: 167mm

Optional is: 135mm

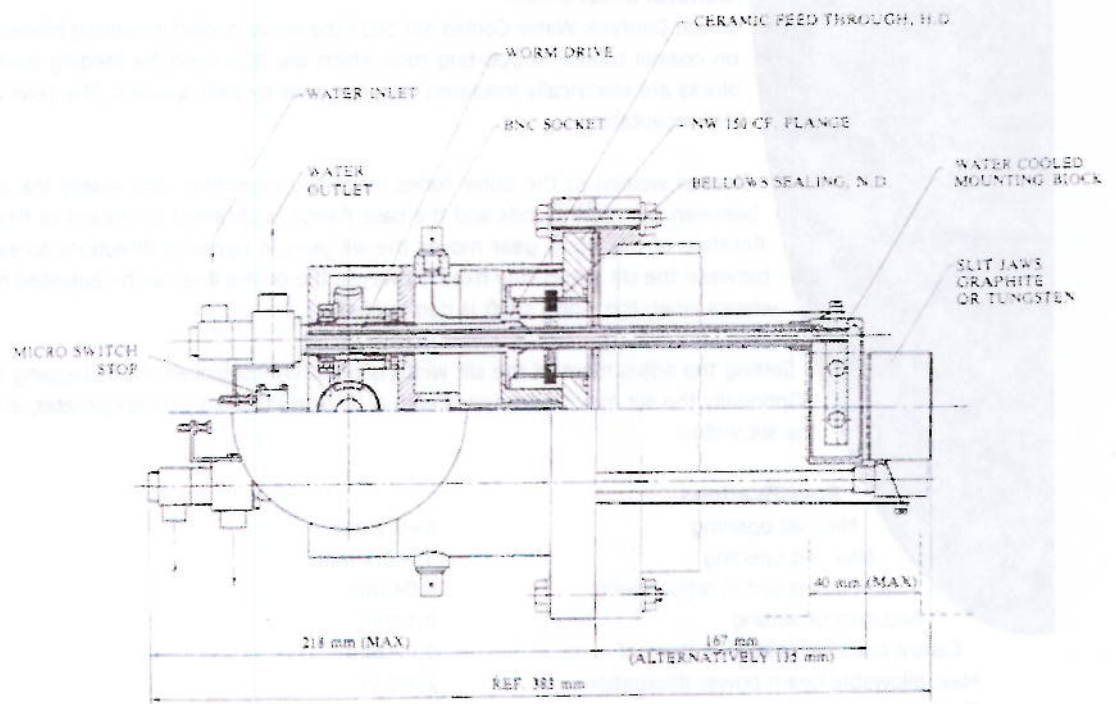
### Water cooled mounting block

Standard is: Water cooled mounting block made of copper

Optional is: Water cooled mounting block made of stainless steel

### Potentiometer for position monitoring

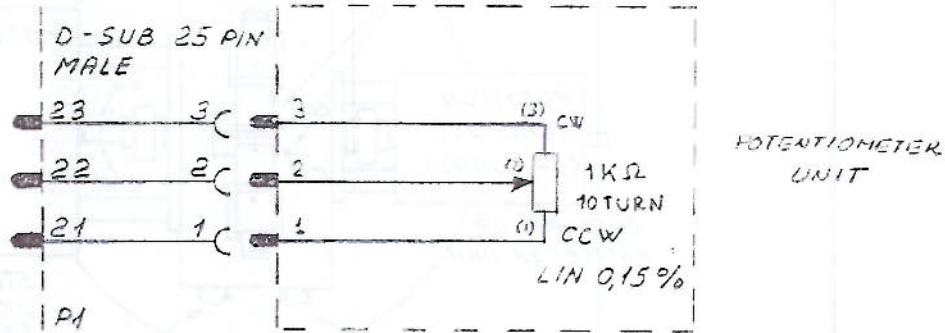
Optional is provision of a 10-turn (1kOhm) potentiometer mounted on the slit for position sensing. In this case the 12V-DC motor should be used for the drive.



OPTION P FOR SLIT UNIT 563

CONNECTION WHEN DELIVERED TOGETHER WITH

DC MOTOR OPTION

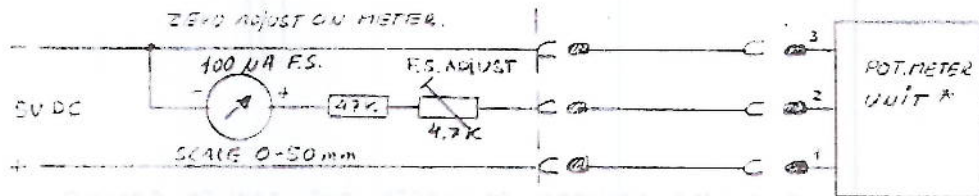


REF. DWG.  
51997A

POTMETER: CW = SLIT CLOSSES  
CCW = SLIT OPENS

AN OPENING OF THE SLIT TO 10mm  
GIVES 2 TURNS ON THE POTMETER, I.E. 0.2 TURN/mm



TYPICAL APPLICATION: (1VOLT/10mm)

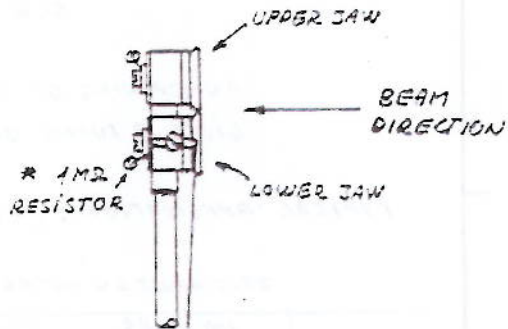
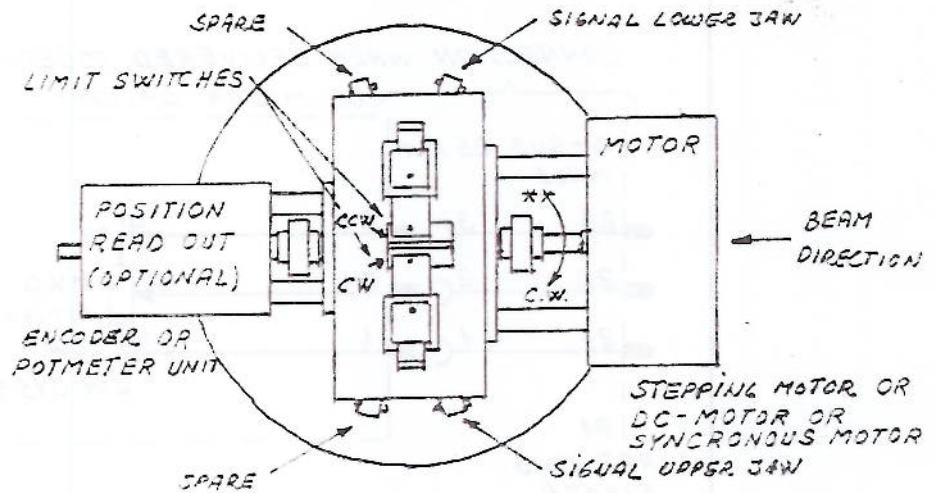


MAX. NONLINEARITY CAUSED BY METER LOAD ~ 5%

ALTERNATIVELY USE D.V.I. FOR READ OUT.

\* MOUNTED ON  
SLIT UNIT.

NO	ITEM	MATERIAL	QTY	ITEM NO	DWG NO
REV A: 26.2.85 AC / B: 15.4.86 AC / C: 10.2.87 AC /					
MACHINING			SURF TREATMENT		
TOLERANCE		POTENTIOMETER-UNIT FOR INNER COILED SLIT DF 563		DRAWN BY DA 30/10-81	
SCALE				DESIGN APP	
		SYSTEM 5000		PROD APP	
				PROJ ENGR	
		SYSTEM 5000		SUPERSEDING DWG 51109C	
				SUPERSEDED BY	



\* 1 + MΩ RESISTOR CONNECTS THE JAW TO GROUND.

USED FOR CHECKING PURPOSES.

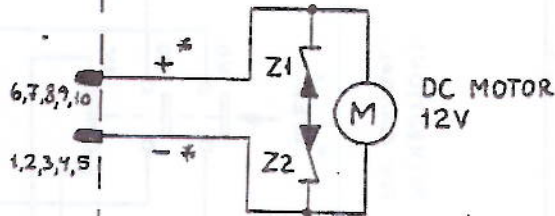
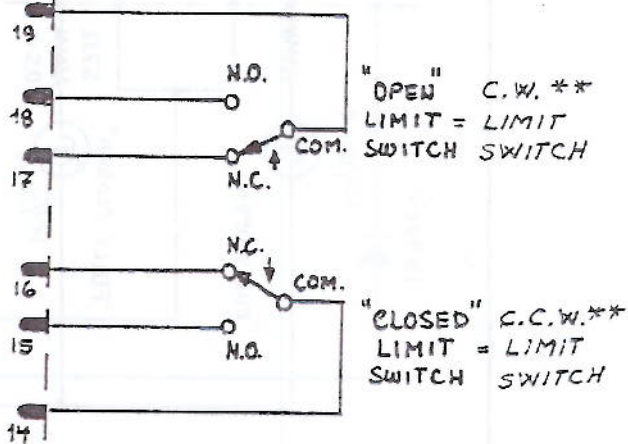
\*\* ROTATION AS VIEWED AGAINST SHAFT END OF MOTOR  
 C.W. ⇒ SLIT OPENS; C.C.W. ⇒ SLIT CLOSSES

NO	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.
REV. A: 15. 4. 85 PC/					
MACHINING			SURF. TREATMENT.		
TOLERANCE		SIGNAL CONNECTIONS WATER COOLED SLIT DF S63  SYSTEM 5000		DRAWN BY 7/2-80 PA	
SCALE				DESIGN APP.	
				PROD. APP.	
				PROJ. ENGR.	
				SUPERSEDED	
				DWG	
				51111A	
				SUPERSEDED BY	

DANFYSIK JYLLINGE DENMARK



D-Sub 25pin MALE  
WITH LOCK NUTS.  
P1



\*\* ROTATION AS VIEWED AGAINST SHAFT-  
END OF MOTOR

\* POLARITY SHOWN WILL  
OPEN SLIT

Z1 & Z2 16V ZEUSERS, 3W

NO.	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.
-----	------	----------	-----	----------	----------

REV A: 15.4.86 AC/

MACHINING: SURF. TREATMENT:

TOLERANCE:

SCALE:



CONTROL CONNECTIONS  
WATERCOOLED SLIT DF 563  
D.C. MOTOR  
SYSTEM 5000

CUSTOM.

ORDER NO.

DRAWN BY PA 24/8-84

DESIGN APP.

PROD. APP.

PROJ. ENGR.

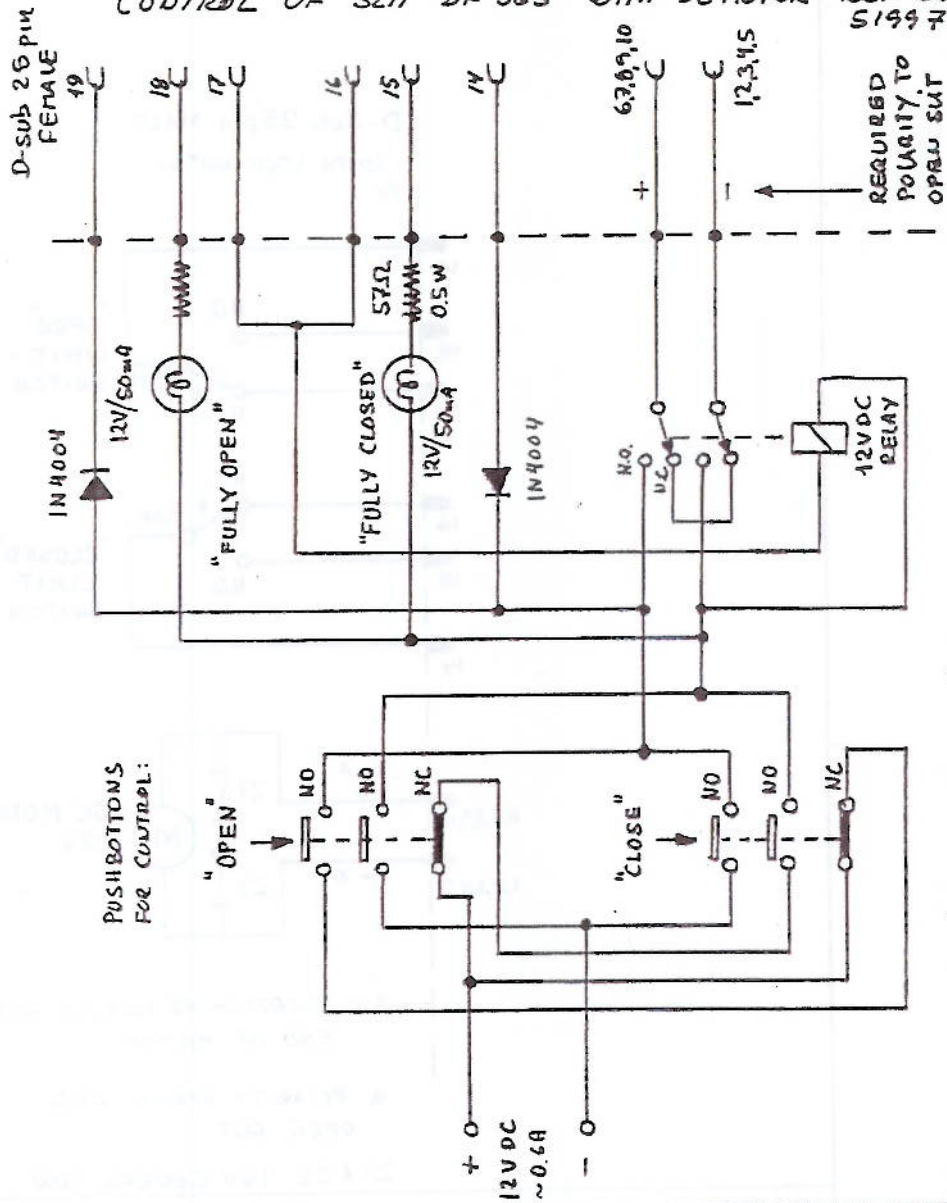
SUPERSEDING

DWG.

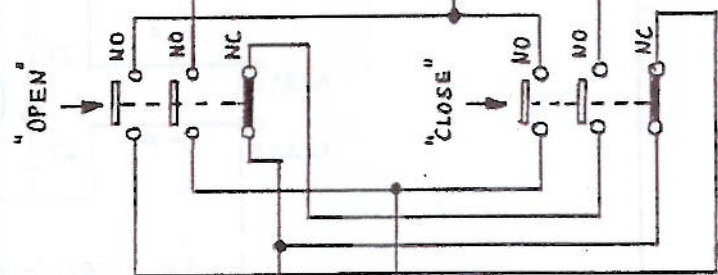
51997A


SUPERSEDED BY

CONTROL OF SLIT DF 563 WITH DC MOTOR REF DWG 51997



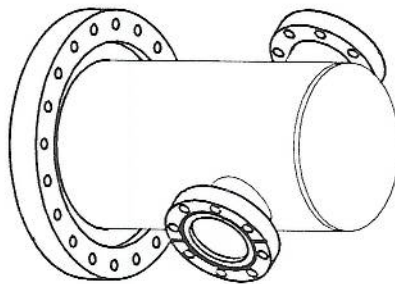
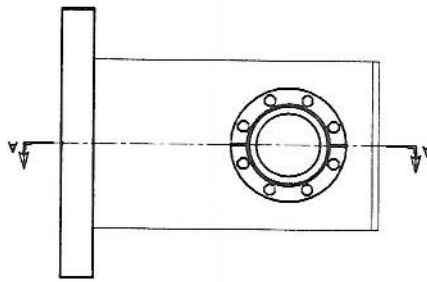
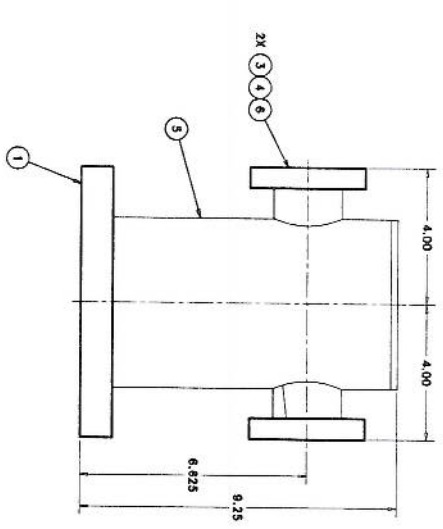
PUSHBUTTONS FOR CONTROL:



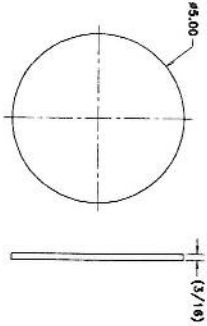
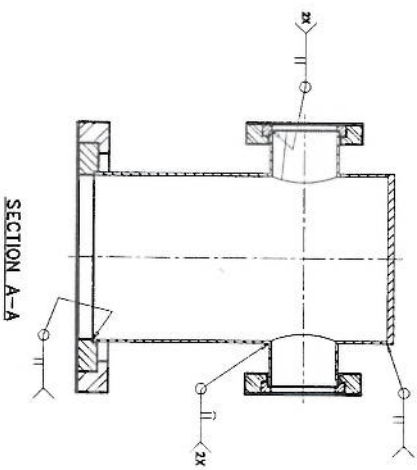
NO	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.
REV					
MACHINING:			SURF. TREATMENT:		
TOLERANCE					
SCALE					
<p>TYPICAL CONTROL CIRCUIT FOR DC MOTOR OPTION WATER COOLED SLIT DF 563 <b>SYSTEM 5000</b></p>				<p>DRAWN BY <i>JA 24/8-81</i></p> <p>DESIGN APP</p> <p>PROD. APP</p> <p>PROJ. ENGR.</p> <p>SUPERSEDING DWG. <b>51998</b></p> <p>SUPERSEDED BY</p>	
 <b>DANFYSIK</b> JYLLINGE-DENMARK		CUSTM ORDER NO			

Dwg. 2.5 K. Chapter 31-24-44-22

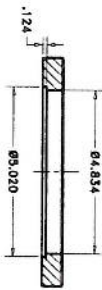
- NOTES:
1. LEAK CHECK TO  $2 \times 10^{-10}$  SCC/SEC HE.
  2. ALL MACHINED SURFACES TO BE  $\sqrt{16}$ .
  3. TOLERANCE FOR FOCAL LENGTHS, TARGET POINTS AND OAL DIMENSIONS  $\pm .025$ .



ISOMETRIC VIEW



⑦ MACHINING DETAIL FOR ITEM#7



③ MACHINING DETAIL FOR ITEM#2

REV	DESCRIPTION	BY	DATE	APP'D
1	INITIAL RELEASE			

ITEM NO.	QTY	DESCRIPTION	UNIT
7	010242	DISC 05.25 X 3/16" THK.	1
8	040232	TUBE 02.0X 0.08X 1.48	2
5	040242	TUBE 02.0X 0.08X 0.57	1
4	010012	FIBER OPTIC INSERT	2
3	010012	FIBER OPTIC INSERT	2
2	010010	FIBER OPTIC INSERT	2
1	010008	FIBER OPTIC INSERT	2
1	010008	FIBER OPTIC INSERT	2

REV	DESCRIPTION	DATE	BY	APP'D
1	INITIAL RELEASE			

REV	DESCRIPTION	DATE	BY	APP'D
1	INITIAL RELEASE			

REV	DESCRIPTION	DATE	BY	APP'D
1	INITIAL RELEASE			

REV	DESCRIPTION	DATE	BY	APP'D
1	INITIAL RELEASE			

