

DESCRIPTION

Water-cooled split yoke electromagnet for use with linear accelerator magnetron type MG6090.

GENERAL DATA

Electrical

The electromagnet contains two coils connected in series; these should be fed from a constant current power supply.

Maximum current	28	A
Maximum voltage	30	V

Typical conditions for 160 mT field:

current	25	A
voltage (see notes 1 and 2)	25	V

The DC electrical connections are made via 6 mm² flexible cables to screw clamps on the yoke (see outline).

Calibration

An individual calibration chart is supplied with each electromagnet (see below).

Cooling

MG6053 is water cooled via 1/4-inch BSP threaded connections, with a union coupling between the two halves of the cooling circuit (see note 3).

Minimum water flow required

(see note 4)	5.0	l./min
Inlet water temperature (see note 2)	40	°C max

Mechanical

Overall dimensions 288 x 242 x 180 mm max
11.339 x 9.528 x 7.087 inches max

Net weight 25 kg (55 pounds) approx

The electromagnet yoke is split with the bottom section hinged to allow insertion of the magnetron MG5349. The bottom section is normally clamped to the top section with four cap screws.

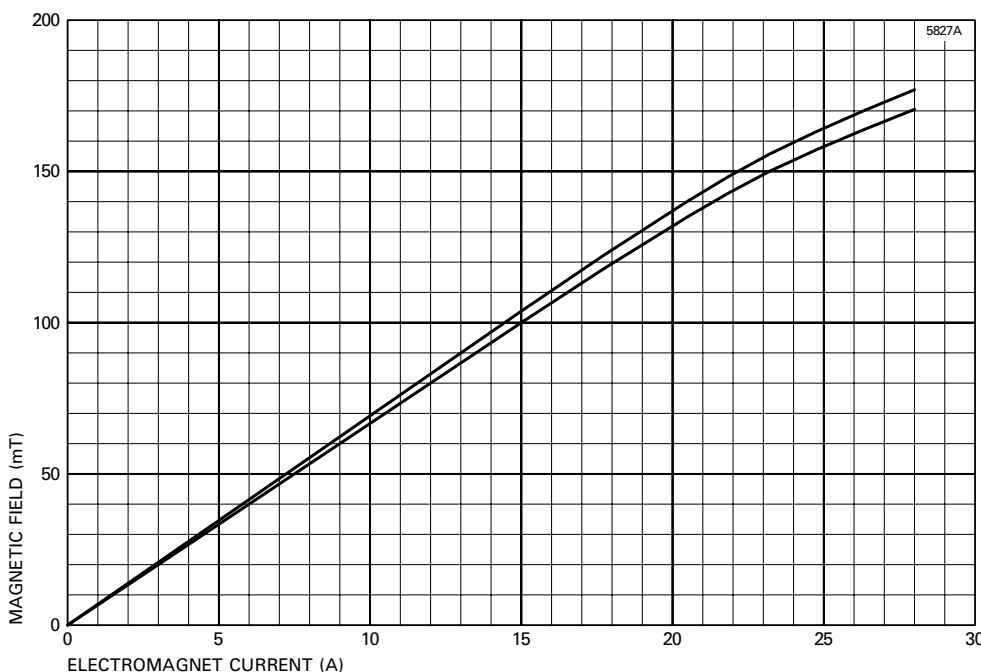
The electromagnet is mounted by means of holes, threaded 5/16 UNC, on each side of the top section of the yoke.

An A.F.C. mounting facility is provided by four threaded holes on the yoke.

NOTES

1. The field coil resistance increases after initial switch on, due to heating effects, necessitating an increase in voltage to maintain a constant current.
2. The field coil resistance varies with inlet water temperature.
3. When opening the yoke, disconnect the cooling pipe union between the two parts of the cooling circuit.
4. For a water flow of 5 l./min, a pressure of approximately 1.25 kg/cm² is required.

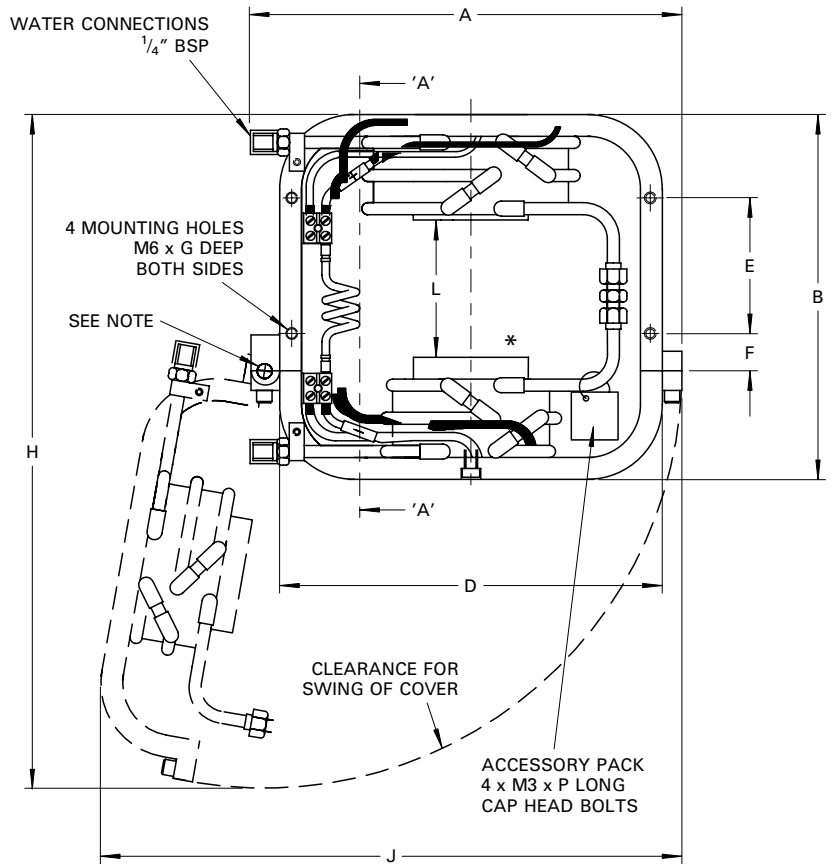
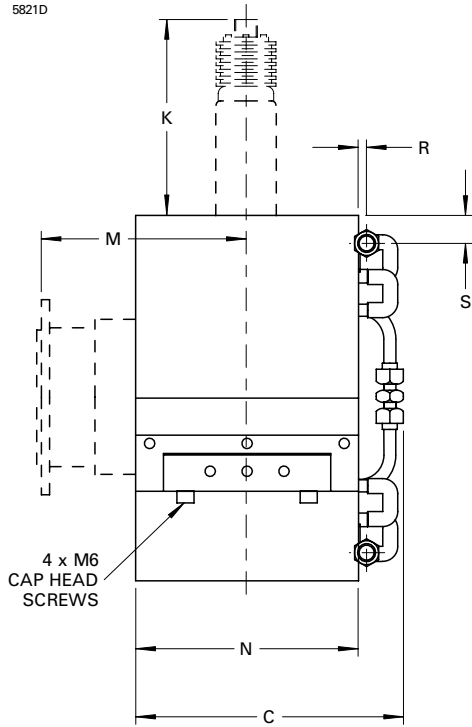
TYPICAL CALIBRATION CHART



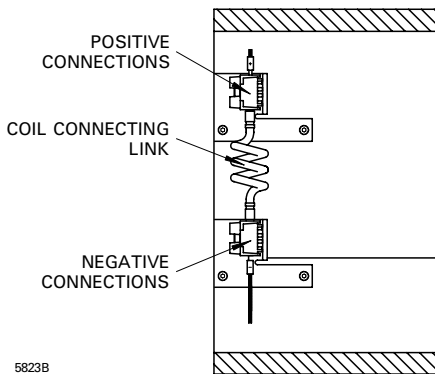
OUTLINE

(All dimensions without limits are nominal)

5821D



Detail of Electrical Connections



5823B

Sectional View on 'A' - 'A'

* NORTH SEEKING POLE OF MAGNET

Ref	Millimetres	Inches
A	288.0 max	11.339 max
B	242.0 max	9.528 max
C	180.0 max	7.087 max
D	238.0	9.370
E	90.0	3.543
F	25.0	0.984
G	20.0 min	0.787 min
H	450.0 max	17.717 max
J	420.0 max	16.535 max
K	115.0 max	4.528 max
L	88.0 min	3.5
M	134.5 ± 0.5	5.295 ± 0.020
N	148.0 max	5.827 max
P	40.0	1.575
R	5.2	0.205
S	19.5	0.768

Inch dimensions have been derived from millimetres.

Outline Note

The hinge pins may be removed and the bottom section lifted off.

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