E2V Technologies
MG6030
Water Cooled Electromagnet

DESCRIPTION

Water cooled electromagnet for use with linear accelerator magnetrons M5028, MG6028, MG6098 and MG6099.

GENERAL DATA

Electrical (See note 1)

The electromagnet coils should be fed from a constant current power supply.

Magnetic field range, measured at point on diagram overleaf	0 to 165	mT
Typical current condition for 155 mT field (see notes 2 and 3)	33.5	A
Power consumption (approx.)	1.5	kW

Field Strength

A typical field strength -v- current characteristic is shown below.

Cooling

Minimum water flow required (see note 4)	4.5	l./min
Inlet water temperature (see note 3)	40	°C max

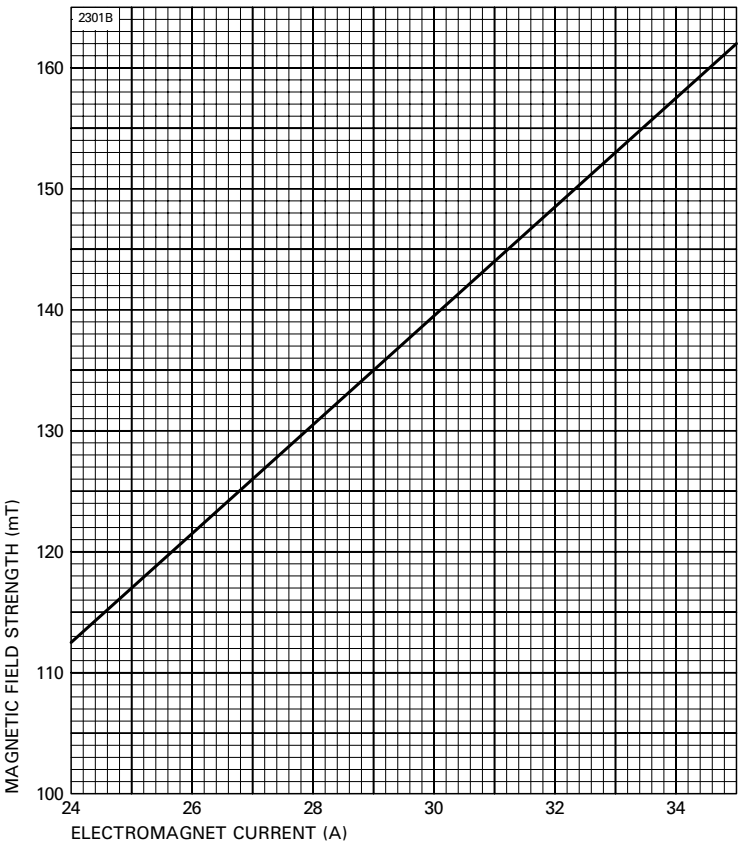
Mechanical

Overall dimensions	see outline
Net weight	50 kg approx

NOTES

1. The DC electrical connections are made via flexible cables to a connector block as shown on the outline.
2. The field coil resistance increases after initial switch on, due to heating effects, necessitating an increase in voltage to maintain a constant current.
3. The field coil resistance varies with inlet water temperature.
4. For a water flow of 4.5 l./min, a pressure of approximately 14 kPa is required.

FIELD STRENGTH -v- CURRENT CHARACTERISTIC



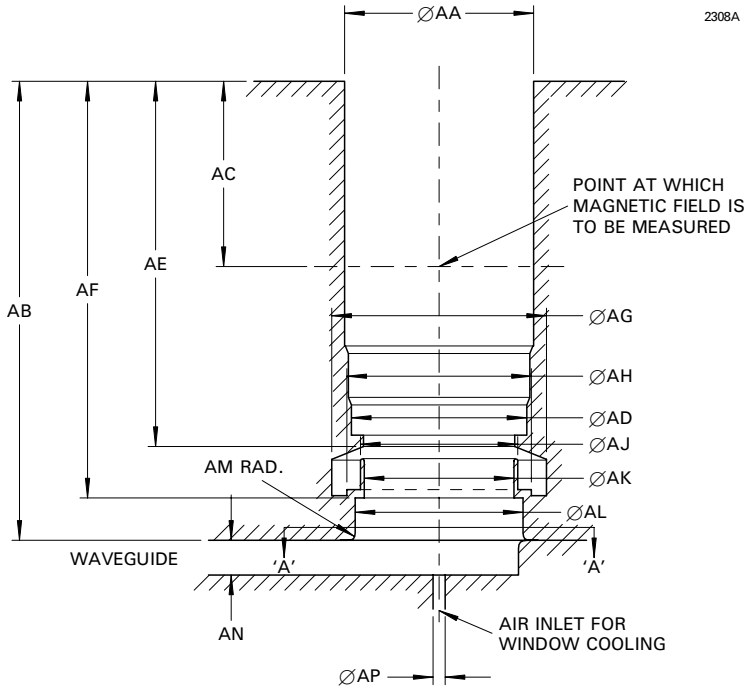
E2V Technologies Limited, Waterhouse Lane, Chelmsford, Essex CM1 2QU England Telephone: +44 (0)1245 493493 Facsimile: +44 (0)1245 492492
e-mail: enquiries@e2vtechnologies.com Internet: www.e2vtechnologies.com Holding Company: E2V Holdings Limited

E2V Technologies Inc. 4 Westchester Plaza, PO Box 1482, Elmsford, NY10523-1482 USA Telephone: (914) 592-6050 Facsimile: (914) 592-5148
e-mail: enquiries@e2vtechnologies.us

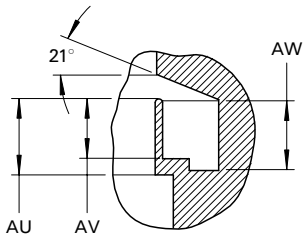
© E2V Technologies Limited 2002

CROSS-SECTION OF SUITABLE ELECTROMAGNET AND LAUNCHING SECTION

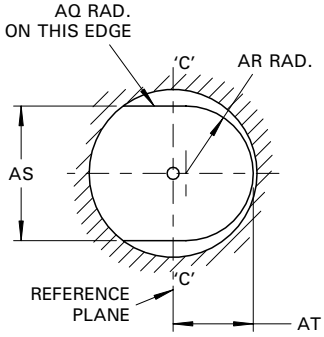
(All dimensions without limits are nominal)



Ref	Millimetres
AA	$101.600^{+0.076}_{-0.000}$
AB	242.6
AC	100.1
AD	$95.250^{+0.051}_{-0.000}$
AE	194.0
AF	218.5
AG	110.24 ± 0.13
AH	94.310 ± 0.076
AJ	86.61 ± 0.13
AK	82.55 ± 0.13
AL	92.075 ± 0.076
AM	3.18
AN	34.04
AP	6.35
AQ	3.18
AR	35.99 ± 0.13
AS	72.14
AT	42.34 ± 0.25
AU	20.65 ± 0.25
AV	17.48 ± 0.25
AW	19.05 ± 0.25



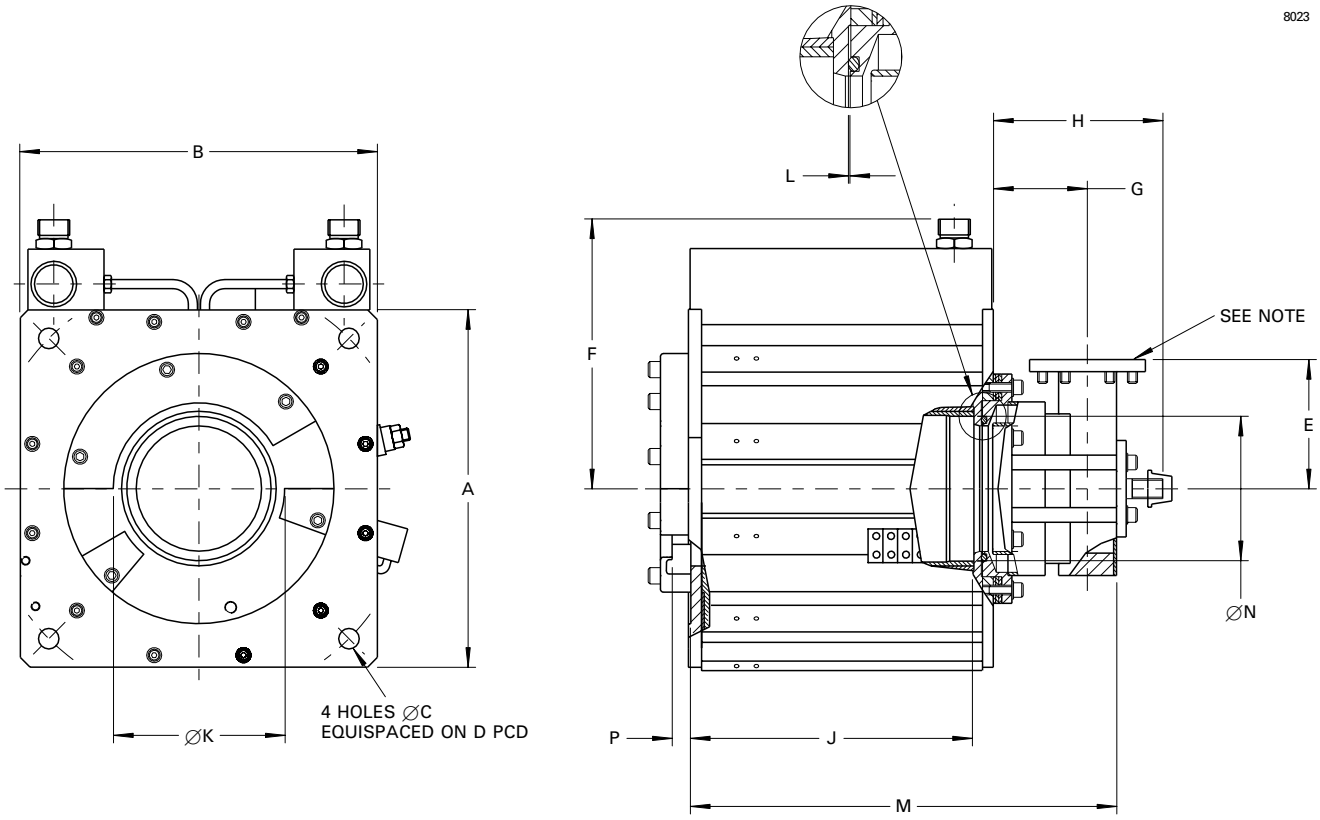
Detail of Choke Ditch



Section 'A' - 'A'

© E2V Technologies

OUTLINE
(All dimensions without limits are nominal)



Outline Note

S-band waveguide coupling CPR284F.

Ref	Millimetres
A	235.0 ± 3.0
B	235.0 ± 3.0
C	13.5
D	279.4
E	85.0
F	198.12 max
G	64.26
H	120.65
J	185.42 min
K	112.70 ± 1.52
L	0.2 ± 0.1
M	276.63 ± 0.64
N	95.315 ± 0.065
P	12.12 max

Whilst E2V Technologies has taken care to ensure the accuracy of the information contained herein it accepts no responsibility for the consequences of any use thereof and also reserves the right to change the specification of goods without notice. E2V Technologies accepts no liability beyond that set out in its standard conditions of sale in respect of infringement of third party patents arising from the use of tubes or other devices in accordance with information contained herein.