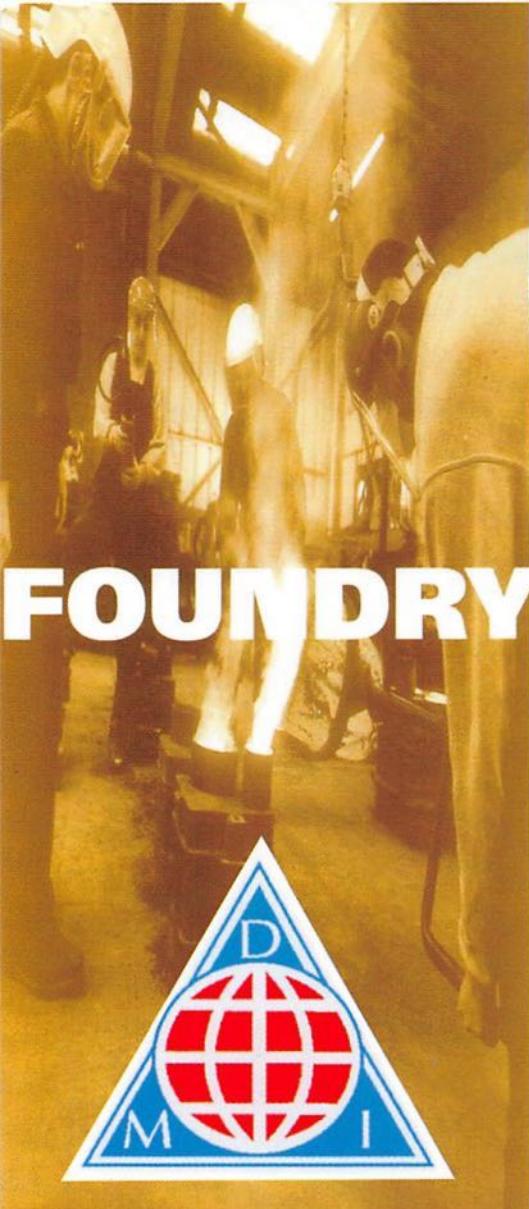


Young & Cunningham
FOUNDRY



FOUNDRY



CAD DESIGN DEPARTMENT

PATTERN SHOP

NON-FERROUS FOUNDRY

MACHINE AND TESTING DEPARTMENT



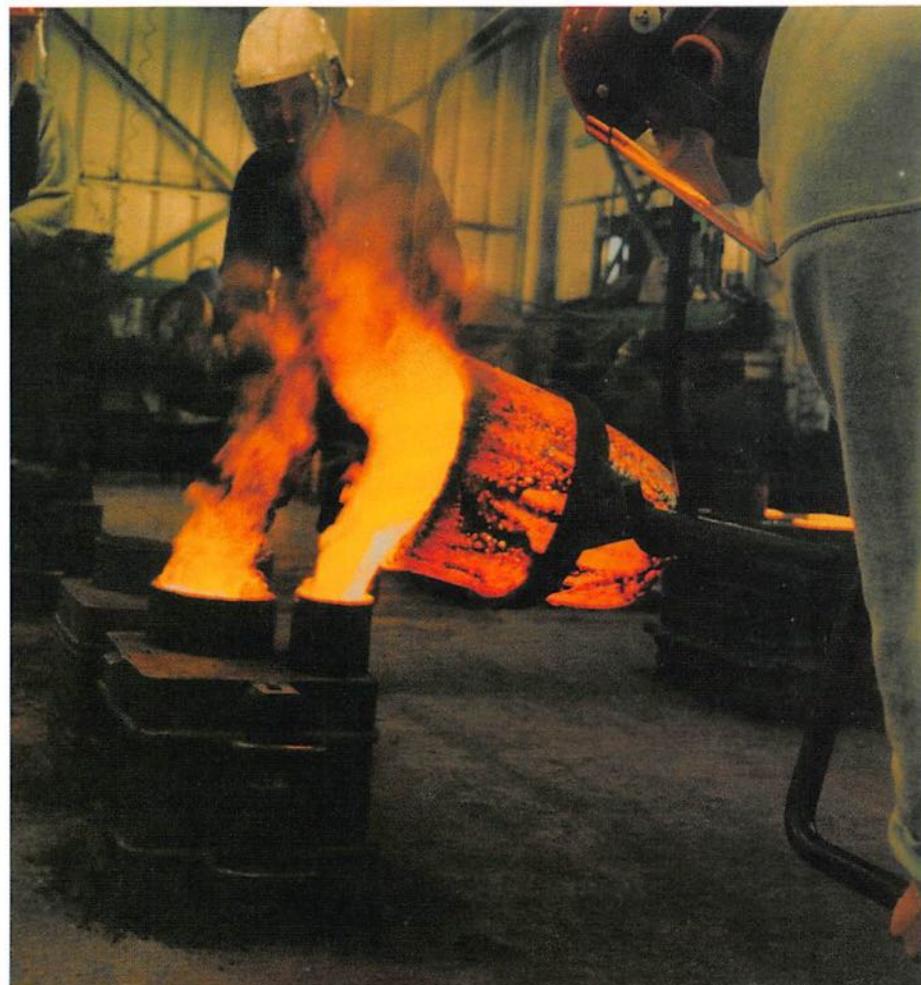
Originally formed in 1924, Young & Cunningham has now been integrated into the DMI Group to form DMI Young & Cunningham Ltd and remains one

of the UK'S foremost suppliers of fluid control equipment. Valves and associated equipment are supplied to many industries throughout the world including shipbuilding and offshore.

The manufacturing facility and foundry, now based at North Shields, has built a reputation for producing non-ferrous castings of the highest quality.



Young & Cunningham FOUNDRY





Castings from 0.1kg upwards are regularly supplied to valve and pump manufacturers throughout the UK as well as for our own equipment.

Quantities range from single castings to large volume runs

in materials including gunmetal, phosphor bronze, aluminium bronze and aluminium.

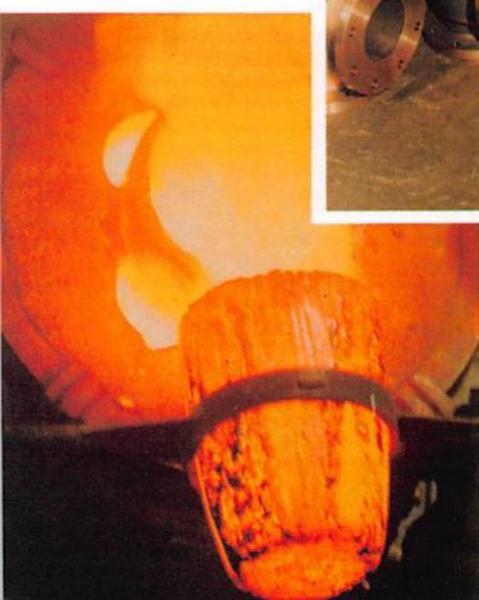
We can produce pattern equipment on site in wood, metal and resin or we may be able to utilise customers existing equipment.

DMI Young & Cunningham operate a quality system to BS EN ISO 9001 : 2000

All castings produced in our factory are certified and copies of technical tests and chemical analysis are available and fully traceable to castings.

A full range of non-destructive testing is available in-house or from accredited

test houses.

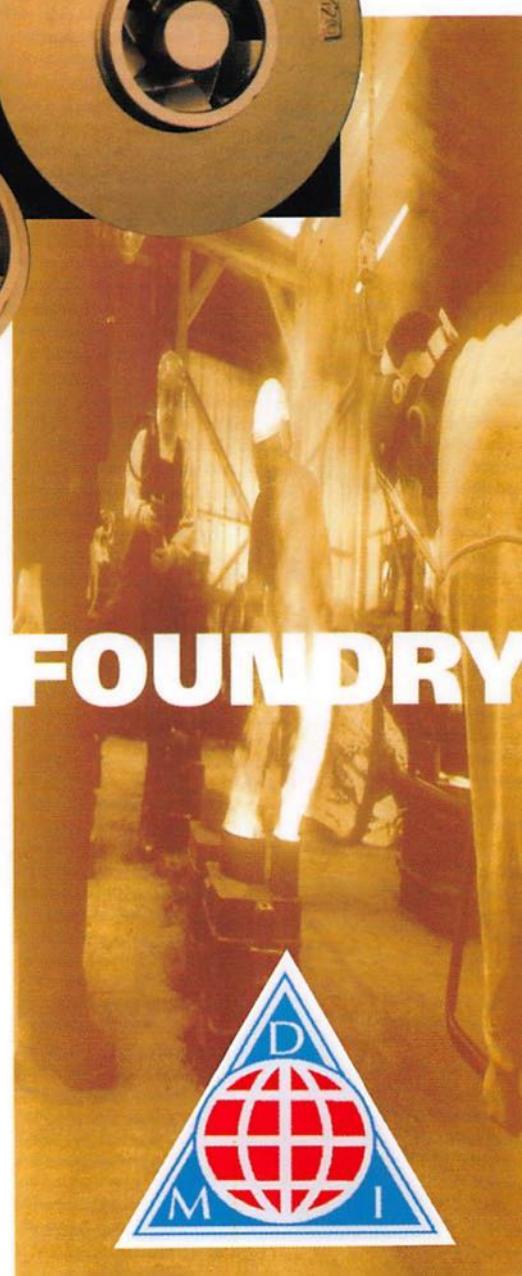
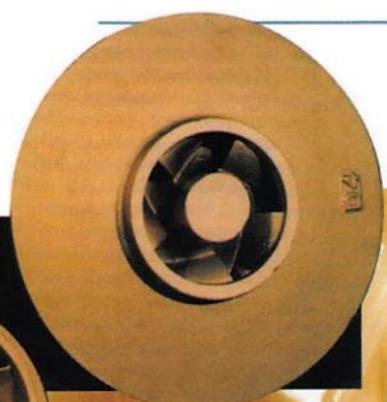


DMI Young and Cunningham manufactures a complete

range of valves including

GATE
GLOBE
ANGLE
QUICKCLOSE
STRAINERS

New types and sizes are constantly being added to the range.



FOUNDRY



Young & Cunningham



COMPOSITION OF EN 1982:1998 INGOTS

Alloy Symbol	Alloy Number	Old BS Name	Cu %	Al %	Fe %	Mn %	Ni %	P %	Pb %	S %	Sb %	Si %	Sn %	Zn %	Others %
CuZn33Pb2-B 1	CB750S	SCB3	63.0 - 66.0	<0.1	<0.7	<0.2	<1.0	<0.02	1.0 - 2.8	---	---	<0.04	<1.5	Rem	---
CuZn33Pb2Si-B 1	CB751S	DZR2	63.5 - 65.5	<0.10	0.25 - 0.50	<0.1	<0.80	---	0.8 - 2.0	---	<0.05	0.70 - 1.0	<0.80	Rem	As
CuZn35Pb2Al-B 2	CB752S	DZR1	61.5 - 65.0	0.3 - 0.7	<0.3	<0.15	<0.25	---	1.5 - 2.4	---	<0.04	<0.02	<0.40	Rem	0.04 - 0.12
CuZn37Pb2Ni1AlFe-B 1	CB753S	---	58.0 - 60.0	0.4 - 0.8	0.5 - 0.8	<0.20	0.5 - 1.2	<0.02	1.8 - 2.50	---	<0.05	<0.05	<0.8	Rem	---
CuZn39Pb1Al-B	CB754S	DCB3	58.0 - 62.0	0.10 - 0.8	<0.7	<0.5	<1.0	<0.02	0.5 - 2.4	---	---	<0.05	<1.0	Rem	---
CuZn39Pb1Al/B- 3	CB755S	---	59.0 - 60.5	0.4 - 0.65	0.05 - 0.2	<0.05	<0.2	---	1.2 - 1.7	---	---	<0.03	<0.3	Rem	As
CuZn15As-B	CB760S	SCB6	83.0 - 87.5	<0.01	<0.15	<0.1	<0.1	---	<0.5	---	---	<0.02	<0.3	Rem	0.06 - 0.15
CuZn16Si4-B	CB761S	---	78.5 - 82.0	<0.10	<0.5	<0.2	<1.0	<0.02	<0.6	---	<0.05	3.0 - 5.0	<0.25	Rem	---
CuZn25Al5Mn4Fe3-B 1	CB762S	HTB3	60.0 - 66.0	4.0 - 7.0	1.5 - 3.5	3.0 - 5.0	<2.7	<0.02	<0.20	---	<0.03	<0.08	<0.20	Rem	---
CuZn32Al2Mn2Fe1-B 1	CB763S	---	59.0 - 67.0	1.0 - 2.5	0.5 - 2.0	1.0 - 3.5	<2.5	---	<1.5	---	<0.08	<1.0	<1.0	Rem	---
CuZn34Mn3Al2Fe1-B 1	CB764S	---	55.0 - 65.0	1.5 - 3.0	0.8 - 2.0	1.0 - 3.5	<2.7	<0.02	<0.2	---	<0.05	<0.08	<0.3	Rem	---
CuZn35Mn2Al1Fe1-B 1	CB765S	HTB1	56.0 - 64.0	0.7 - 2.2	0.5 - 1.80	0.5 - 2.5	<6.0	<0.02	<0.5	---	<0.08	<0.10	<0.8	Rem	---
CuZn37Al1-B 1	CB766S	---	60.0 - 63.0	0.6 - 1.8	<0.4	<0.4	<1.8	<0.02	<0.4	---	<0.05	<0.5	<0.4	Rem	---
CuZn38Al1-B 1	CB767S	DCB1	59.0 - 64.0	0.1 - 0.8	<0.4	<0.4	<0.8	<0.05	<0.1	---	<0.05	<0.1	Rem	---	
CuSn10-B 1	CB480K	CT1	88.5 - 90.5	<0.01	<0.15	<0.10	<1.8	<0.05	<0.8	<0.04	<0.15	<0.01	9.3 - 11.0	<0.5	---
CuSn11P-B	CB481K	PB1	87.0 - 89.3	<0.01	<0.10	<0.05	<0.10	0.6 - 1.0	<0.25	<0.05	<0.05	<0.01	10.2 - 11.5	<0.05	---
CuSn11Pb2-B	CB482K	---	83.5 - 86.5	<0.01	<0.15	<0.2	<2.0	<0.05	0.7 - 2.5	<0.08	<0.20	<0.01	10.7 - 12.5	<2.0	---
CuSn12-B	CB483K	PB2	85.5 - 88.5	<0.01	<0.15	<0.2	<2.0	<0.20	<0.6	<0.05	<0.15	<0.01	11.2 - 13.0	<0.4	---
CuSn12Ni2-B	CB484K	CT2	84.0 - 87.0	<0.01	<0.15	<0.1	1.5 - 2.4	<0.05	<0.2	<0.04	<0.05	<0.01	11.3 - 13.0	<0.3	---
CuSn3Zn8Pb5-B 1	CB490K	LG1	81.0 - 85.5	<0.01	<0.50	---	<2.0	<0.03	3.5 - 5.8	<0.08	<0.25	<0.01	2.2 - 3.5	7.5 - 10.0	---
CuSn5Zn5Pb5-B 1	CB491K	LG2	83.0 - 86.5	<0.01	<0.25	---	<2.0	<0.03	4.2 - 5.8	<0.08	<0.25	<0.01	4.2 - 6.0	4.5 - 6.5	---
CuSn7Zn2Pb3-B 1	CB492K	LG4	85.0 - 88.5	<0.01	<0.20	---	<2.0	<0.03	2.7 - 3.5	<0.08	<0.25	<0.01	6.2 - 8.0	1.7 - 3.2	---
CuSn7Zn4Pb7-B 1	CB493K	---	81.0 - 84.5	<0.01	<0.20	---	<2.0	<0.03	5.2 - 8.0	<0.08	<0.30	<0.01	6.2 - 8.0	2.3 - 5.0	---
CuSn6Zn4Pb2-B 1	CB498K	---	86.0 - 89.5	<0.01	<0.25	---	<1.0	<0.03	1.2 - 2.0	<0.08	<0.25	<0.01	5.7 - 6.5	3.2 - 5.0	---
CuSn5Pb9-B 1	CB494K	LB4	80.0 - 86.5	<0.01	<0.20	<0.2	<2.0	<0.10	8.2 - 10.0	<0.08	<0.5	<0.01	4.2 - 6.0	<2.0	---
CuSn10Pb10-B 1	CB495K	LB2	78.0 - 81.5	<0.01	<0.20	<0.2	<2.0	<0.10	8.2 - 10.5	<0.08	<0.5	<0.01	9.2 - 11.0	<2.0	---
CuSn7Pb15-B 1	CB496K	LB1 4	74.0 - 79.5	<0.01	<0.20	<0.20	0.5 - 2.0	<0.10	13.2 - 17.0	<0.08	<0.5	<0.01	6.2 - 8.0	<2.0	---
CuSn5Pb20-B 1	CB497K	LB5	70.0 - 77.5	<0.01	<0.20	<0.20	0.5 - 2.5	<0.10	19.0 - 23.0	<0.08	<0.75	<0.01	4.2 - 6.0	<2.0	---
CuAl9-B 1	CB330G	---	88.0 - 91.5	8.2 - 10.5	<1.0	<0.50	<1.0	---	<0.25	---	---	<0.15	<0.25	<0.40	---
CuAl10Fe2-B	CB331G	AB1	83.0 - 89.0	8.7 - 10.5	1.5 - 3.3	<1.0	<1.5	---	<0.03	---	---	<0.15	<0.20	<0.50	<0.05 Mg
CuAl10Ni3Fe2-B	CB332G	---	80.0 - 85.5	8.7 - 10.5	1.0 - 2.8	<2.0	1.5 - 4.0	---	<0.03	---	---	<0.15	<0.20	<0.50	<0.05 Mg
CuAl10Fe5Ni5-B	CB333G	AB2	76.0 - 82.5	8.8 - 10.0	4.0 - 5.3	<2.5	4.0 - 5.5	---	<0.03	---	---	<0.10	<0.1	<0.40	a
CuAl11Fe6Ni6-B	CB334G	---	72.0 - 77.0	10.3 - 12.0	4.2 - 7.0	<2.5	4.3 - 7.5	---	<0.04	---	---	<0.10	<0.20	<0.40	<0.05 Mg
CuMn11Al8Fe3Ni3 5	C212E	CMA1	68.0 - 77.0	7.0 - 8.5	2.0 - 4.0	11.0 - 15.0	1.5 - 4.5	<0.05	<0.05	---	---	<0.1	<0.50	<1.0	---
CuNi10Fe1Mn1-B	CB380H	---	>84.5	<0.01	1.2 - 1.8	1.2 - 1.5	9.2 - 11.0	---	<0.03	---	<0.10	---	<0.50	b	
CuNi30Fe1Mn1-B	CB381H	---	>64.5	<0.01	0.5 - 1.5	0.7 - 1.2	29.2 - 31.0	<0.01	<0.03	<0.01	---	<0.10	---	<0.50	<0.02 C

This table is for guidance only and shows the main details of the Ingot compositions. Reference must be made to the full standard for details of variations for different uses, allowances for unspecified impurities and other requirements. Some of the element/limits for Ingots differ from those for castings. The old BE equivalents given do not precisely match the EN 1982 alloy in all cases and both standards need to be referred to.

Notes: 1) The range given for Cu includes Ni. 2) Arsenic inhibited version. 3) Ingots to this specification are to be grain refined, usually with boron. 4) LB1 has Sn at 8.0 - 10.0% and does not conform to this specification. 5) There is no Ingot specification listed so that given is based on CMA1.

a) Bi <0.01%, Cr <0.05%, Mg <0.05%. b) c <0.10%, Nb <1.0%

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