

U Series – Industrial pumps (close coupled)

Documentation packs		
Documentation pack	Inclusive documents	Standard
Bronze pack	Order acknowledgement (electronic)	●
	Installation, Operating & Maintenance manual	●
	Declaration of conformity	●
	ATEX Declaration of conformity – only if contracted	
Silver pack (includes bronze pack)	Standard pump GA drawing	
	Hydrostatic test certificate	
	Pump HQ performance test certificate	
	Spare parts list – commissioning	
	Type 2.2 certificates (* pressure containing + process wetted parts only) – only if contracted	
Gold pack (includes silver pack)	Pump SA & parts list	
	Pump HQ performance test curve	
	Pump datasheet	
	Motor type test certificate	
	Motor GA drawing	
	Motor datasheet	
	Motor Declaration of conformity	
	Motor ATEX Declaration of conformity – if applicable	
	Seal – ATEX Declaration of conformity – if applicable	
	Documentation format	
Electronic CD – Adobe (.pdf), ms office (.xls.doc)		●
Hard copy		

NDT			
Pump test	Test standard	Acceptance criteria	Standard
Hydrostatic	BSEN25199 / ISO 5199	BSEN25199 / ISO 5199 (1.5 x MAWP)	●
Head & flow	BSEN25199 / ISO 5199	ISO 9906 Grade 2	
	BSEN25199 / ISO 5199	ISO 9906 Grade 1	
Mechanical run – 1 hour at rated duty	Amarinth procedure	Amarinth procedure	
NPSH – single point	BSEN25199 / ISO 5199	ISO 9906 Grade 2	
	BSEN25199 / ISO 5199	ISO 9906 Grade 1	
Noise – single point at 1m	BSEN12639 : 2000	Mutual agreement	
Vibration – single point	BSEN25199 / ISO 5199	BSEN25199 / ISO 5199	

NDE	
Various motor tests	

*Pressure containing parts include; volute casing & seal housing. Process wetted parts include additional shaft & impeller. A full range of testing and documentation can be tailored to suit your exact requirements. Amarinth reserves the right to alter any information within this document without prior notification. © Copyright 2005-2017. Amarinth Limited. E&OE.



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U Series – Industrial pumps (close coupled)

technical specification



General Specification	
General description	A range of single stage centrifugal end suction pumps with tangential discharge manufactured in a variety of alloys. All pumps and individual components are fully interchangeable with the equivalent Girdlestone USM series units.
Construction	Front pullout design with machined abutments
Design methodology	Advanced computer techniques including 3D modelling & FEA
Design standards	ATEX EC-Directive 94/9/EC
Design pressure rating	10 bar g @ 20°C
Suction pressure rating	3.5 bar g
Temperature rating	-5°C to 120°C
Performance envelope	
Flow rate	Up to 400m ³ /h
Differential head	Up to 160m
Speed	Up to 3600 rpm
Configurations	Close coupled
Frame sizes	050x040x159 to 150x125x274
Design life	15 years (2 years uninterrupted operation)

Material Options	Casing	Impeller
Cast Iron / Cast Iron	BS EN 1561 Gr EN GJL 250	BS EN 1561 Gr EN GJL 250
Cast Iron / Gunmetal	BS EN 1561 Gr EN GJL 250	BS EN 1982 CC492K GS
Cast Iron / SS 316	BS EN 1561 Gr EN GJL 250	ASTM A744 CF 8M
SS 316 / SS 316	ASTM A744 CF 8M	ASTM A744 CF 8M
Gunmetal / Gunmetal	BS EN 1982 CC492K GS	BS EN 1982 CC492K GS
Titanium / Titanium	ASTM B367 Gr C2	ASTM B367 Gr C2

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Features	Technical notes	Benefits	Standard
▼ Casing			
Construction	Two piece casting with removable suction cover	Prolonged pump life	●
Flange standard	BS 10 Table D BS 10 Table E, PN16, PN10, ASME Class 125/150 Matched to site standard		●
Fasteners	High tensile SS 316	Strength & corrosion resistance	●
Gasket	CSF Customer specified	Covers most fluids Matched to site standard	●
Pressure tapping	3/8" plugged	Aids trouble shooting	●
Drain	1/2" plugged		●
▼ Impeller			
Construction	One piece casting	Strength & integrity	●
Vanes	4 / 5 off designed specifically for low NPSH	Low NPSHr	●
Style	Shrouded Semi-open	Optimum efficiency Handles solids content in fluid	●
Fixing	Screwed with retention nut		●
Hydraulic balancing	Balance hub / holes		●
Mechanical balancing	Static balance	Prolonged pump life	●
▼ Seals & seal housing			
Shaft diameters	1 1/2", 1 3/4"		●
Seal types	Single component	Cost benefit	●
Seal housing	Cast / wrought housing to suit a wide variety of seals	Optimum seal environment	●
Seal piping arrangement	ISO Code 01 ISO Code 02, 09	Optimum seal environment Matched to customer requirement	●
Manufacturers	John Crane AES, Burgmann, or customer specified	Matched to site standard	
▼ Motor adaptor			
Style	One piece casting with integral feet	Better concentricity, less run out	●
Construction	Heavy duty casting with machined abutments	Superior motor alignment	●
Materials	Cast Iron Carbon steel		●

Features	Technical notes	Benefits	Standard
▼ Shafts & bearings			
Bearings	Uses motor bearings (deep groove ball)	Cost benefit	●
Design bearing life	17,500 – 15,000 hrs dependant upon motor fitted		●
Shaft material	Stainless steel 316 Customer specified	Material to match casing / fluid	●
▼ Driver			
Motor type	Safe area, EExN, EExd, EExde, Exe,	Matched to area requirements	
Standards	ISO frames ATEX	Hazardous area requirement	●
Supply	380 – 440 / 3 / 50, 440 – 460 / 3 / 60	Matched to site standard	
Manufacturers	ABB, Brook Hansen, Loher, Seimens, TECO, WEG, Customer specified	Matched to site standard	
▼ Paint			
Industrial specification	One pack polyurethane (Gentian Blue RAL5010)		●
Customer specification		Matched to site standard	
▼ Packing			
Road	Palletised & cling wrap		●
Seafreight	Wooden box paper lined Wooden box with vacuum sealed bag	Long term storage Moisture free	
Airfreight	Wooden box paper lined Wooden box with vacuum sealed bag	Long term storage Moisture free	