

VERDERMAG
Global MII Series

Maintenance Manual



***THIS DOCUMENT SHOULD STAY WITH
THE PUMP UNIT AT ALL TIMES!***

TO BE READ IN CONJUNCTION WITH MAINTENACE MANUAL
Index

- | | | | |
|-----|---|-----|---|
| 1.0 | <u>DOCUMENTATION</u> | 3.0 | <u>DIMENSIONS</u> |
| 1.1 | Type Hydrostatic Test Certificate | 3.1 | Tabulated Drawing |
| 1.2 | Type Performance Certificate | 3.2 | Table Of Dimensions |
| 2.0 | <u>MAINTENANCE</u> | 3.3 | Flange Standards |
| 2.1 | Assembly Instructions | 3.4 | Universal Flange Dimensions |
| 2.2 | On Site Disassembly Instructions | 3.5 | PN16 Flange Dimensions |
| 2.3 | Tag Plate Detail | 3.6 | ANSI.150 Flange Dimensions |
| 2.4 | Type Designation | 3.7 | ANSI.300 Flange Dimensions |
| 2.5 | Standard Sectional Assembly Drawing | | |
| 2.6 | Component List | | |

1.0 DOCUMENTATION

1.1 Type Hydrostatic Test Certificate

Global MII type PC

We hereby certify that the above specified equipment supplied by Verder has been hydrostatically tested in accordance with the current issue of procedure reference VMP.005 and is satisfactory in all respects thereof: -

Test Pressure: 24 barG

Test Temperature: 20 °C

1.2 Type Performance Test Certificate

(For units supplied with drive motor fitted by Verder Ltd in the UK)

Global MII type PC

We hereby certify that the above specified equipment supplied by Verder has been tested in accordance with the current issue of procedure reference VMP.007 and meets the following requirements: -

- Standard relevant performance curve at trim diameter detailed on tag plate.
- Duty flowrate and differential pressure detailed within purchase order (where stated).

2.1 Assembly Instructions

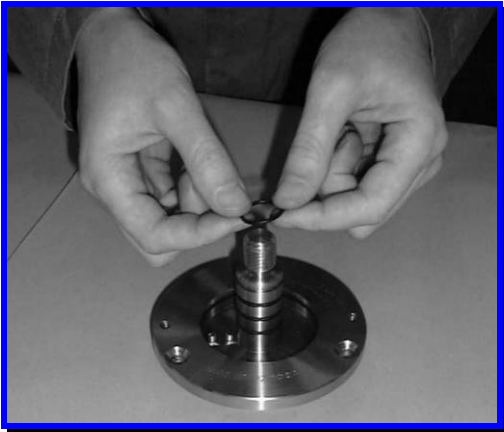
Global MII

The pump unit is assembled to the following procedure in accordance with the standard build specification (see relevant section).

Step 1 Cartridge Assembly

Items required

Reference	Description
3	Backplate
4.1	Casing joint
4.2	Containment tube joint
5.1	Containment tube assembly
5.2	End cap spigot
6	Pump shaft assembly
10.1	Front bearing assembly
10.2	Front bearing O-ring kit
12.1	Rear bearing assembly
12.2	Rear bearing O-ring kit



Rear bearing o-ring kits are separated into the two common size o-rings. The smallest set is fitted into the external grooves in the rear shaft (see picture) on the end cap spigot. The largest set is fitted into the internal groove in the rear of the end cap spigot and the rear of the pump shaft.

Front bearing o-ring kits are separated into the two common size o-rings. The smallest set is fitted into the external grooves in the front of the pump shaft. The largest set is fitted into the internal groove in the front of the pump shaft and the rear of the backplate.

Note: Care should be taken not to damage any o-rings. Any o-rings damaged during fitting should be replaced prior to continuation of assembly.



Bearing lubricant is applied to all surfaces machined with o-ring grooves.

Front and rear bearings components can now be fitted to onto/into the relevant components as follows:

- | | | |
|---------------------------|----|----------------------|
| Rear bearing thrust ring | -> | Endcap spigot |
| Rear bearing sleeve | -> | End cap spigot shaft |
| (see picture) | | |
| Rear bearing bush | -> | Pumpshaft (rear) |
| Front bearing thrust ring | -> | Pumpshaft (front) |
| Front bearing sleeve | -> | Pumpshaft |
| Front bearing bush | -> | Backplate |

Note: Care should be taken not to damage any bearing components particularly when passing over anti-rotation pins. Any bearings damaged during fitting should be replaced prior to continuation of assembly.



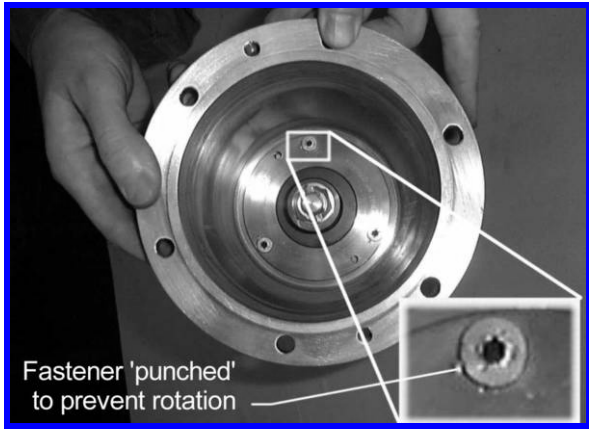
Warning.

Extreme care should be taken when handling damaged bearings. Silicon carbide is a very hard and brittle material. The edges of any fractures or breaks will be very sharp.

The supplied rear bearing washer and locknut is fitted with fastener anti-seize to the containment tube shaft once rear bearing thrust ring and sleeve are in place. The locknut should be tightened to a torque of 40Nm (28.8 ft.lb).



Position the containment tube assembly on a flat surface with the flange upwards.



Lower the end cap spigot to the bottom of the containment tube and secure using the supplied fasteners ensuring that the top face is parallel to the containment tube flange.

At this point each fastener should be 'punched' to prevent rotation as detailed.

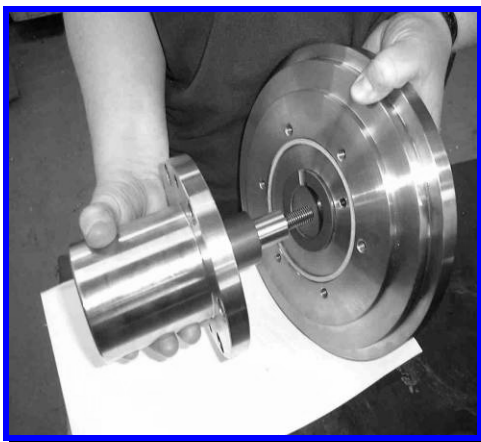


Tip.

To maintain concentricity of components within the pump unit it is necessary to have an interference fit between the end cap spigot and the containment tube assembly. Therefore the fitting of the end cap spigot is made easier if the containment tube is warm. Running the containment tube under a warm tap will cause sufficient expansion of the material to enable the end cap to be pushed down.

Note: Ensure that the pumpshaft is free from particles collected by the magnetised area.

The pump shaft can now be carefully lowered into the containment tube. To aid grip on the pumpshaft it may be useful to hand tighten the domed nut onto the pumpshaft before lowering into the containment tube.



The containment tube joint is secured into the rear of the backplate. Then the backplate is fitted to the containment tube over the protruding pump shaft and secured using the supplied fasteners with fastener anti-seize.

Note: Screws should be tightened ensuring that the containment tube is pulled towards and into the backplate perpendicular to the pumpshaft. i.e. Screws diametrically opposite should be tightened as pairs.

For backplates fitted with a gasket type seal the screws should be tightened to a torque of 30Nm (21.6 ft.lb).

For backplates fitted with an o-ring type seal the screws should be tightened to a torque of 20Nm (14.4 ft.lb).



Step 2
Outer Magnet Assembly

Items required

Reference	Description
7.1	Outer magnet assembly
7.2	Taper lock adaptor
7.3	Taper lock bush
8.1	Pedestal
8.2	Pedestal adaptor flange (where required)

If required the pedestal adaptor flange should be fitted to the pedestal.

The taper lock bush and adaptor are pushed into the outer magnet. The supplied grub screws are loosely fitted to enable movement of the bush within the adaptor.

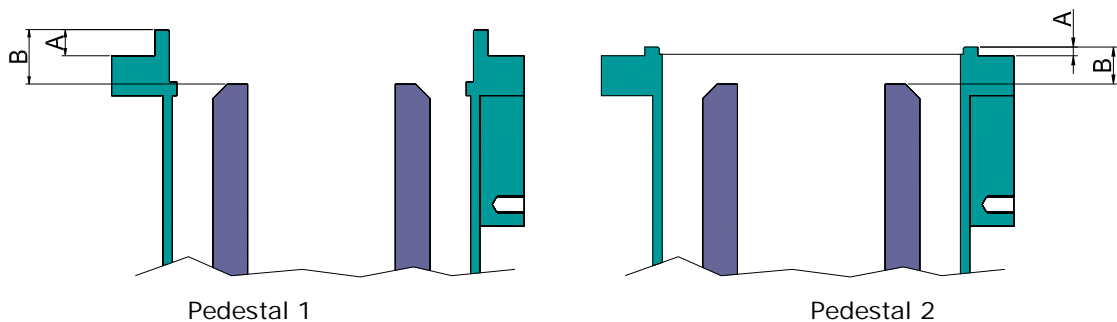
The motor is placed on its cowl with the motor shaft facing upwards. The pedestal is fitted onto the motor flange and secured using the supplied fasteners with fastener anti-seize



The outer magnet complete with taper lock adaptor and bush are then lowered onto the motor shaft. The outer magnet setting distance, taken from the highest point on the magnet assembly to the highest point on the pedestal should be now checked as follows: -

Lifting or lowering the magnet assembly makes any adjustments in outer magnet height.

Rotor setting distance table



Dimension A > 10mm

Dimension B for

'C3' / 'C6' / 'D6' / 'E6' drives = 38mm
60mm
'E9' drive =

Dimension A < 10mm

Dimension B for

'C3' / 'C6' / 'D6' / 'E6' drives = 26mm
48mm
'E9' drive =

When the setting distance is correct the grub screws are tightened. The magnet height is then to be re-checked.

Note: The action of tightening the grub screws affects a 1-2mm increase in the setting distance. Account should be taken of this when setting the rotor.

(In picture shown the pedestal has been removed for clarity)



Step 3 Pump 'wet end' Assembly

Items required

Reference	Description
-	Cartridge assembly
-	Outer magnet / pedestal/motor (when fitted) assembly
1	Casing
2	Impeller

The impeller key is fitted into the keyway of the pump shaft. The impeller is fitted to the shaft and secured with the impeller locknut and washer using fastener anti-seize. The locknut should be tightened to a torque of 50Nm (36 ft.lb).

Vent and drain plugs as supplied are fitted to the casing with sealant. The pump casing is then placed on a flat surface on the inlet flange of the casing.

The pedestal (bareshaft unit) or the pedestal/motor assembly are placed on a flat surface with the front of the pedestal facing vertically upwards. The cartridge assembly complete with impeller is then lowered into the pedestal.

Note: Care should be taken when passing the containment tube into the outer magnet assembly to ensure no damage is caused to the magnets. The correct lifting apparatus should be used to aid fitting of the assemblies.

Where a bareshaft pump only is required the impeller washer tab is knocked over in two places at this stage (as shown below – picture 1) to produce effect detailed in picture 2.



The casing joint is then secured into the casing and the casing is lowered onto the assembly and secured with the supplied fasteners using fastener anti-seize. The screws should be tightened to a torque of 50Nm (36 ft.lb).

Note: The outer diameter of the backplate and the adjoining surface of the casing are a close tolerance. Therefore care should be taken to ensure the cartridge assembly is lowered perpendicular to the bench to prevent 'snagging' of the two components.

2.2 On Site Disassembly Instructions

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Generally disassembly should be carried out in the reverse order to the assembly instructions detailed above. However the following exceptions may apply dependant on pump size, site conditions etc.

2.3 Tag Plate

The tag plate will be supplied with 4 fixing studs and the model code, pump / serial number and test pressure already stamped.

VERDERMAG	
Model	
Date	
Serial No.	
Impeller Ø	mm
Weight	kg
Test pressure	Bar
Speed	rpm
Flow	mCu/hr
Head	m
<small>ATEX 01/03</small>	<small>TECH. FILE REF. 03ATEX0529DR</small>
Temp. Class	
Max Liquid Temp.	
P.E.D. REF	
DO NOT RUN DRY	
	
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See code sheet in Installation And Operating Manual

Date of construction

Serial number (required for reference)

Installed final diameter

Pump head weight

Hydrostatic test pressure

Nominal motor speed from motor tag plate

Nominal flowrate

Nominal differential head

ATEX classification (pump head only)

ATEX temperature classification

ATEX maximum allowable pump liquid temperature

* Pressure Equipment Directive notified body EC reference number

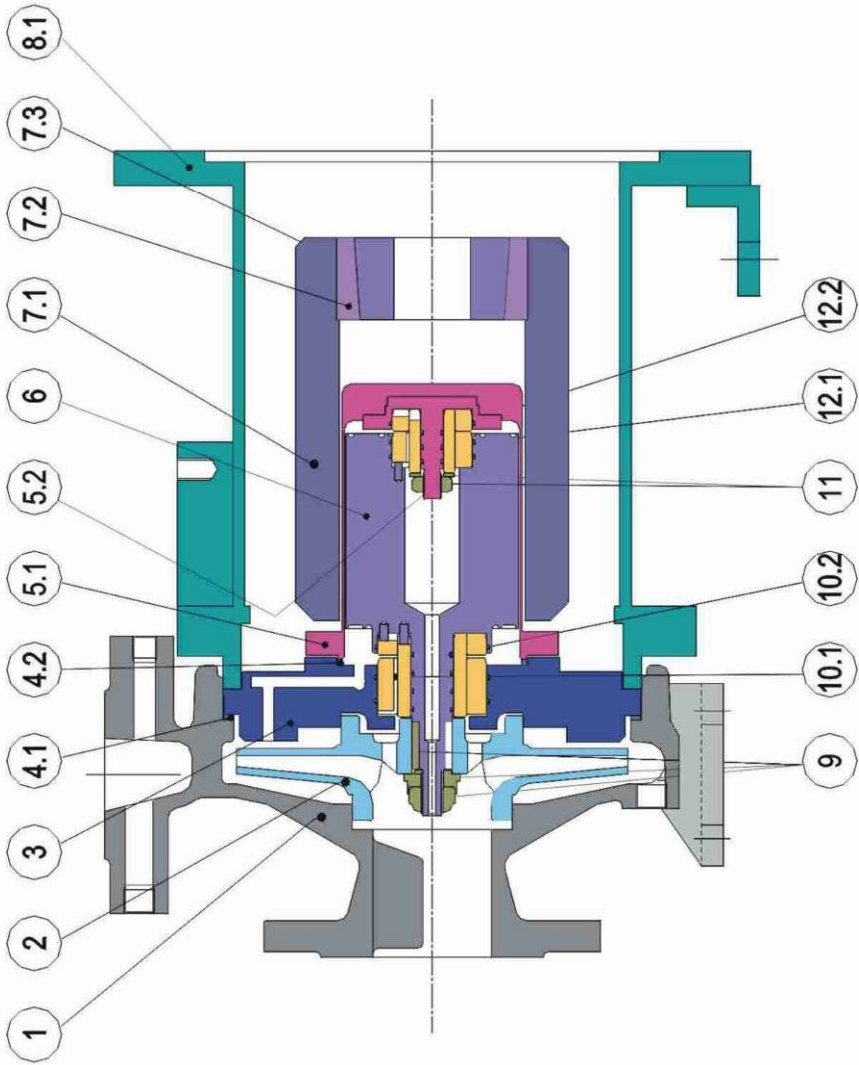
The pump model codes are detailed in the Installation And Operating Manual.

* This pump type falls into the list of excluded items contained within the 'Pressure Equipment Directive' 97/23/EC 29th May 1997.

2.4 Standard Sectional Assembly Drawing

REF.	DESCRIPTION	
1	VOLUTE CASING	
2	IMPELLER	(*S3)
3	BACKPLATE	
4.1	CASING JOINT	(1-OFF *S1) (2-OFF *S2)
4.2	BACKPLATE JOINT	(1-OFF *S1) (2-OFF *S2)
5.1	CONTAINMENT TUBE ASSEMBLY	
5.2	END CAP SPIGOT	(*S2)
6	PUMP SHAFT ASSEMBLY	
7.1	OUTER ROTOR ASSEMBLY	
7.2	OUTER ROTOR TAPER LOCK ADAPTOR	
7.3	OUTER ROTOR TAPER LOCK BUSH	
8.1	PEDESTAL	
8.2	PEDESTAL ADAPTOR FLANGE (where required)	
9	FASTENER KIT FRONT NUT, TAB WASHER & KEY	(*S2)
10.1	FRONT BEARING ASSEMBLY	(*S2)
10.2	O-RING SET	(*S2)
11	FASTENER KIT REAR LOCKNUT & WASHER	(*S2)
12.1	REAR BEARING ASSEMBLY	(*S2)
12.2	O-RING SET	(*S2)
—	CARTRIDGE ASSEMBLY	(*S3)

RECOMMENDED SPARES:-
 *S1 COMMISSIONING SPARES
 *S2 2 YEARS OPERATIONAL SPARES
 *S3 HOLDING SPARES



2.5 Component List

125 Nominal Frame Size

Item	Part Number	Long Description	Material Specification
1.1	CAS.5032125.SWS	CASING STD 50-32-125 316SS STD RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6550125.SWS	CASING STD 65-50-125 316SS STD RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.5032125.SWA1	CASING STD 50-32-125 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6550125.SWA1	CASING STD 65-50-125 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.8065125.SWA1	CASING STD 80-65-125 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.10080125.SWA1	CASING STD 100-80-125 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.5032125.SWP1	CASING STD 50-32-125 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6550125.SWP1	CASING STD 65-50-125 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.8065125.SWP1	CASING STD 80-65-125 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.10080125.SWP1	CASING STD 100-80-125 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.5032125.SM	IMPELLER 50-32-125 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.6550125.SM	IMPELLER 65-50-125 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.8065125.SM	IMPELLER 80-65-125 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.10080125.SM	IMPELLER 100-80-125 316SS	STAINLESS STEEL 316C16 TO BS 1504

160 Nominal Frame Size

Item	Part Number	Long Description	Material Specification
1.1	CAS.5032160.SWS	CASING STD 50-32-160 316SS STD RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6550160.SWS	CASING STD 65-50-160 316SS STD RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.5032160.SWA1	CASING STD 50-32-160 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6550160.SWA1	CASING STD 65-50-160 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.8065160.SWA1	CASING STD 80-65-160 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.10080160.SWA1	CASING STD 100-80-160 316SS ANS150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.125100160.SWA 1	CASING STD 125-100-160 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.5032160.SWP1	CASING STD 50-32-160 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6550160.SWP1	CASING STD 65-50-160 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.8065160.SWP1	CASING STD 80-65-160 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.10080160.SWP1	CASING STD 100-80-160 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.125100160.SWP 1	CASING STD 125-100-160 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.5032160.SM	IMPELLER 50-32-160 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.6550160.SM	IMPELLER 65-50-160 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.8065160.SM	IMPELLER 80-65-160 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.10080160.SM	IMPELLER 100-80-160 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.125100160.SM	IMPELLER 125-100-160 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.10080160.SM9	IMPELLER 100-80-160 316SS E9	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.125100160.SM9	IMPELLER 125-100-160 316SS E9	STAINLESS STEEL 316C16 TO BS 1504

200 Nominal Frame Size

Item	Part Number	Long Description	Material Specification
1.1	CAS.5032200.SWS	CASING STD 50-32-200 316SS STD RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6540200.SWS	CASING STD 65-40-200 316SS STD RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.5032200.SWA1	CASING STD 50-32-200 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6540200.SWA1	CASING STD 65-40-200 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.8050200.SWA1	CASING STD 80-50-200 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.10065200.SWA1	CASING STD 100-65-200 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.125100200.SWA1	CASING STD 125-100-200 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.150125200.SWA1	CASING STD 150-125-200 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.5032200.SWP1	CASING STD 50-32-200 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6540200.SWP1	CASING STD 65-40-200 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.8050200.SWP1	CASING STD 80-50-200 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.10065200.SWP1	CASING STD 100-65-200 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.125100200.SWP1	CASING STD 125-100-200 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.150125200.SWP1	CASING STD 150-125-200 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.5032200.SM	IMPELLER 50-32-200 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.6540200.SM	IMPELLER 65-40-200 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.8050200.SM	IMPELLER 80-50-200 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.10065200.SM	IMPELLER 100-65-200 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.125100200.SM	IMPELLER 125-100-200 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.150125200.SM	IMPELLER 150-125-200 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.8050200.SM9	IMPELLER 80-50-200 316SS E9	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.10065200.SM9	IMPELLER 100-65-200 316SS E9	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.125100200.SM9	IMPELLER 125-100-200 316SS E9	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.150125200.SM9	IMPELLER 150-125-200 316SS E9	STAINLESS STEEL 316C16 TO BS 1504

250 Nominal Frame Size

Item	Part Number	Long Description	Material Specification
1.1	CAS.5032250.SWS	CASING STD 50-32-250 316SS STD RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6540250.SWS	CASING STD 65-40-250 316SS STD RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.5032250.SWA1	CASING STD 50-32-250 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6540250.SWA1	CASING STD 65-40-250 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.8050250.SWA1	CASING STD 80-50-250 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.10065250.SWA1	CASING STD 100-65-250 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.125100250.SWA1	CASING STD 125-100-250 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.150125250.SWA1	CASING STD 150-125-250 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.200150250.SWA1	CASING STD 200-150-250 316SS ANSI150 RF	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.5032250.SWP1	CASING STD 50-32-250 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.6540250.SWP1	CASING STD 65-40-250 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.8050250.SWP1	CASING STD 80-50-250 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.10065250.SWP1	CASING STD 100-65-250 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.125100250.SWP1	CASING STD 125-100-250 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.150125250.SWP1	CASING STD 150-125-250 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504
1.1	CAS.200150250.SWP1	CASING STD 200-150-250 316SS PN16	STAINLESS STEEL 316C16 TO BS 1504

Item	Part Number	Long Description	Material Specification
2.1	IMP.5032250.SM	IMPELLER 50-32-250 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.6540250.SM	IMPELLER 65-40-250 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.8050250.SM	IMPELLER 80-50-250 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.10065250.SM	IMPELLER 100-65-250 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.125100250.SM	IMPELLER 125-100-250 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.150125250.SM	IMPELLER 150-125-250 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.200150250.SM	IMPELLER 200-150-250 316SS	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.8050250.SM9	IMPELLER 80-50-250 316SS E9	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.10065250.SM9	IMPELLER 100-65-250 316SS E9	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.125100250.SM9	IMPELLER 125-100-250 316SS E9	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.150125250.SM9	IMPELLER 150-125-250 316SS E9	STAINLESS STEEL 316C16 TO BS 1504
2.1	IMP.200150250.SM9	IMPELLER 200-150-250 316SS E9	STAINLESS STEEL 316C16 TO BS 1504

C & D Size Drives

Item	Part Number	Long Description	Material Specification
3.1	BPL.125.CDS.02	BACPLATE 125 CD 316L SS	STAINLESS STEEL 316S11 TO BS 1503
3.1	BPL.160.CDS.02	BACKPLATE 160 CD 316L SS	STAINLESS STEEL 316S11 TO BS 1503
3.1	BPL.200.CDS.02	BACKPLATE 200 CD 316L SS	STAINLESS STEEL 316S11 TO BS 1503
3.1	BPL.250.CDS	BACKPLATE 250 CD 316L SS	STAINLESS STEEL 316S11 TO BS 1503
4.1	CSJ.125.NRG1	JOINT CASING 125 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.125.VIT1	JOINT CASING 125 VITON - 250	
4.1	CSJ.125.PTFE1	JOINT CASING 125 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.160.NRG1	JOINT CASING 160 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.160.VIT1	JOINT CASING 160 VITON - 250	
4.1	CSJ.160.PTFE1	JOINT CASING 160 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.200.NRG1	JOINT CASING 200 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.200.VIT1	JOINT CASING 200 VITON - 250	
4.1	CSJ.200.PTFE1	JOINT CASING 200 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.250.VIT1	JOINT CASING 250 VITON - 250	POLYTETRAFLUOROETHYLENE
4.2	BPJ.CD.NRG1	JOINT BACKPLATE CD NRG 300	NICKEL RE-INFORCED GRAPHITE
4.2	BPJ.CD.VIT1	JOINT BACKPLATE CD VITON - 250	
4.2	BPJ.CD.PTFE1	JOINT BACKPLATE CD PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
5.1	CTA.D6.SH.02	CONTAINMENT TUBE ASSY D6 316L/C276	STAINLESS STEEL 316S11 TO BS 1503 / HASTELLOY C276 TO ASTM-SB575-95
5.1	CTA.C3.SH.02	CONTAINMENT TUBE ASSY C3 316L/C276	STAINLESS STEEL 316S11 TO BS 1503 / HASTELLOY C276 TO ASTM-SB575-95
5.1	CTA.C6.SH.02	CONTAINMENT TUBE ASSY C6 316L/C276	STAINLESS STEEL 316S11 TO BS 1503 / HASTELLOY C276 TO ASTM-SB575-95
6.1	PSA.D6.SH.01	PUMP SHAFT D6 HIGH TEMP 316L/C276	STAINLESS STEEL 316S11 TO BS 1503 / HASTELLOY C276 TO ASTM-SB575-110
6.1	PSA.C3.SH.01	PUMP SHAFT C3 HIGH TEMP 316L/C276	STAINLESS STEEL 316S11 TO BS 1503 / HASTELLOY C276 TO ASTM-SB575-104
6.1	PSA.C6.SH.01	PUMP SHAFT C6 HIGH TEMP 316L/C276	STAINLESS STEEL 316S11 TO BS 1503 / HASTELLOY C276 TO ASTM-SB575-107
7.1	OMR.D6.02	OUTER MAGNET RING D6 STANDARD	MILD STEEL (En3B)
7.1	OMR.C3.02	OUTER MAGNET RING C3 STD	MILD STEEL (En3B)
7.1	OMR.C6.02	OUTER MAGNET RING C6 STANDARD	MILD STEEL (En3B)
7.2	TLA.2517	TAPER LOCK ADAPTOR 2517PM	070M20 TO BS 970Pt.1
7.3	TLB.2517/24	TAPER LOCK BUSH 2517 24mm BORE	070M20 TO BS 970Pt.1
7.3	TLB.2517/28	TAPER LOCK BUSH 2517 28mm BORE	070M20 TO BS 970Pt.1
7.3	TLB.2517/38	TAPER LOCK BUSH 2517 38mm BORE	070M20 TO BS 970Pt.1
7.3	TLB.2517/42	TAPER LOCK BUSH 2517 42mm BORE	070M20 TO BS 970Pt.1
7.3	TLB.2517/48	TAPER LOCK BUSH 2517 48mm BORE	070M20 TO BS 970Pt.1

BORE			
8.1	PED.125.C3.112.0 1	PEDESTAL 125 C3 100/112	MILD STEEL (En3B)
8.1	PED.125.C3.132.0 1	PEDESTAL 125 C3 132	MILD STEEL (En3B)
8.1	PED.160.C3.112.0 1	PEDESTAL 160 C3 100/112	MILD STEEL (En3B)
8.1	PED.160.C3.132.0 1	PEDESTAL 160 C3 132	MILD STEEL (En3B)
8.1	PED.160.E6.132.0 1	PEDESTAL 160 E6 D132	MILD STEEL (En3B)
8.1	PED.160.E6.160.0 1	PEDESTAL 160 E6 D160	MILD STEEL (En3B)
8.1	PED.200.C3.132.0 1	PEDESTAL 200 C3 132	MILD STEEL (En3B)
8.1	PED.200.E6.132.0 1	PEDESTAL 200 C6/D6/E6 132	MILD STEEL (En3B)
8.1	PED.200.E6.180.0 1	PEDESTAL 200 C6/D6/E6 160/180	MILD STEEL (En3B)
8.1	PED.200.E6.200.0 1	PEDESTAL 200 E6 D200	MILD STEEL (En3B)
8.1	PED.250.E6.180.0 1	PEDESTAL 250 E6 D160/180	MILD STEEL (En3B)
9.1	FKF.CD.SS.01	FASTENER KIT FRONT CD NUT, TAB & KEY	STAINLESS STEEL 316S11 (WASHERS 316S12) TO BS 1503
10.1	SCB.3	BEARING ASSY SILICON CARBIDE SIZE 3 (E1)	SILICON CARBIDE (SILICA FREE)

Item	Part Number	Long Description	Material Specification
10.2	CSS.3	O'RING SET 316L FOR SCB SIZE 3	316L STAINLESS STEEL
10.2	VIT.3	O'RING SET VITON FOR SCB SIZE 3	VITON E-60C
10.2	EPDM.3	O'RING SET EPDM FOR SCB SIZE 3	ETHYLENE PROPYLENE TERPOLYMER
10.2	PTFE.3	O'RING SET PTFE FOR SCB SIZE 3	FEP ENCAPSULATED VITON
10.2	KAL.3	O'RING SET KALREZ FOR SCB SIZE 3	KALREZ 4079 PERFLUOROELASTOMER
11.1	FKR.CD.SS.01	FASTENER KIT REAR CD LOCKNUT & WASHER	STAINLESS STEEL 316S11 (WASHERS 316S12) TO BS 1503
12.1	SCB.2	BEARING ASSY SILICON CARBIDE SIZE 2 (E3)	SILICON CARBIDE (SILICA FREE)
12.2	CSS.2	O'RING SET 316L FOR SCB SIZE 2	316L STAINLESS STEEL
12.2	VIT.2	O'RING SET VITON FOR SCB SIZE 2	VITON E-60C
12.2	EPDM.2	O'RING SET EPDM FOR SCB SIZE 2	ETHYLENE PROPYLENE TERPOLYMER
12.2	PTFE.2	O'RING SET PTFE FOR SCB SIZE 2	FEP ENCAPSULATED VITON
12.2	KAL.2	O'RING SET KALREZ FOR SCB SIZE 2	KALREZ 4079 PERFLUOROELASTOMER

E6 Size Drives

Item	Part Number	Long Description	Material Specification
3.1	BPL.200.E6S	BACKPLATE 200 E6 316L SS	STAINLESS STEEL 316S11 TO BS 1503
4.1	CSJ.125.NRG1	JOINT CASING 125 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.125.VIT1	JOINT CASING 125 VITON - 250	
4.1	CSJ.125.PTFE1	JOINT CASING 125 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.160.NRG1	JOINT CASING 160 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.160.VIT1	JOINT CASING 160 VITON - 250	
4.1	CSJ.160.PTFE1	JOINT CASING 160 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.200.NRG1	JOINT CASING 200 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.200.VIT1	JOINT CASING 200 VITON - 250	
4.1	CSJ.200.PTFE1	JOINT CASING 200 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.250.VIT1	JOINT CASING 250 VITON - 250	POLYTETRAFLUOROETHYLENE
4.2	BPJ.E.NRG1	JOINT BACKPLATE E NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.2	BPJ.E.VIT1	JOINT BACKPLATE E VITON - 250	
4.2	BPJ.E.PTFE1	JOINT BACKPLATE E PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
5.1	CTA.E6.SH.02	CONTAINMENT TUBE ASSY E6 316L/C276	STAINLESS STEEL 316S11 TO BS 1503 / HASTELLOY C276 TO ASTM-SB575-95
6.1	PSA.E6.SH.01	PUMP SHAFT E6 HIGH TEMP 316L/276L	STAINLESS STEEL 316S11 TO BS 1503
7.1	OMR.E6.01	OUTER MAGNET ROTOR E6 STD	MILD STEEL (En3B)
7.2	TLA.2517	TAPER LOCK ADAPTOR 2517PM	070M20 TO BS 970Pt.1
7.3	TLB.2517/42	TAPER LOCK BUSH 2517 42mm BORE	070M20 TO BS 970Pt.1
7.3	TLB.2517/48	TAPER LOCK BUSH 2517 48mm BORE	070M20 TO BS 970Pt.1
7.3	TLB.2517/55	TAPER LOCK BUSH 2517 55mm BORE	070M20 TO BS 970Pt.1
8.1	PED.200.C3.132.01	PEDESTAL 200 C3 132	MILD STEEL (En3B)
8.1	PED.200.E6.132.01	PEDESTAL 200 C6/D6/E6 132	MILD STEEL (En3B)
8.1	PED.200.E6.180.01	PEDESTAL 200 C6/D6/E6 160/180	MILD STEEL (En3B)
8.1	PED.200.E6.200.01	PEDESTAL 200 E6 D200	MILD STEEL (En3B)
9.1	FKF.CD.SS.01	FASTENER KIT FRONT CD NUT, TAB & KEY	STAINLESS STEEL 316S11 (WASHERS 316S12) TO BS 1503
10.1	SCB.3	BEARING ASSY SILICON CARBIDE SIZE 3 (E1)	SILICON CARBIDE (SILICA FREE)
10.2	CSS.3	O'RING SET 316L FOR SCB SIZE 3	316L STAINLESS STEEL
10.2	VIT.3	O'RING SET VITON FOR SCB SIZE 3	VITON E-60C
10.2	EPDM.3	O'RING SET EPDM FOR SCB SIZE 3	ETHYLENE PROPYLENE TERPOLYMER
10.2	PTFE.3	O'RING SET PTFE FOR SCB SIZE 3	FEP ENCAPSULATED VITON
10.2	KAL.3	O'RING SET KALREZ FOR SCB SIZE 3	KALREZ 4079 PERFLUOROELASTOMER
11.1	FKR.CD.SS.01	FASTENER KIT REAR CD LOCKNUT & WASHER	STAINLESS STEEL 316S11 (WASHERS 316S12) TO BS 1503
12.1	SCB.2	BEARING ASSY SILICON CARBIDE SIZE 2 (E3)	SILICON CARBIDE (SILICA FREE)

12.2	CSS.2	O'RING SET 316L FOR SCB SIZE 2	316L STAINLESS STEEL
12.2	VIT.2	O'RING SET VITON FOR SCB SIZE 2	VITON E-60C
12.2	EPDM.2	O'RING SET EPDM FOR SCB SIZE 2	ETHYLENE PROPYLENE TERPOLYMER
12.2	PTFE.2	O'RING SET PTFE FOR SCB SIZE 2	FEP ENCAPSULATED VITON
12.2	KAL.2	O'RING SET KALREZ FOR SCB SIZE 2	KALREZ 4079 PERFLUOROELASTOMER

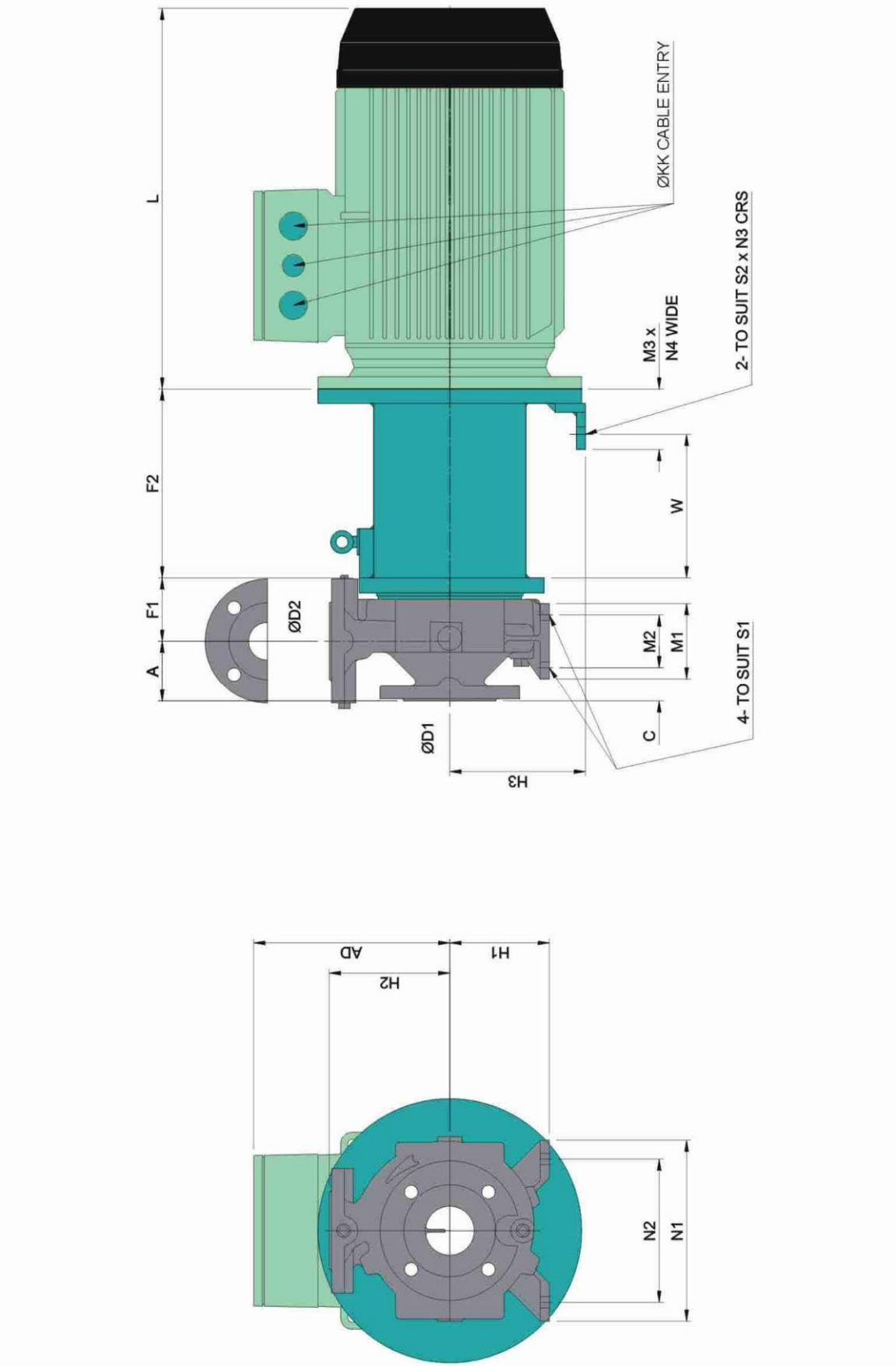
E9 Size Drives

Item	Part Number	Long Description	Material Specification
3.1	BPL.200.E9S.02	BACKPLATE 200 E9 316L SS	STAINLESS STEEL 316S11 TO BS 1503
3.1	BPL.250.E9S	BACKPLATE 250 E9 316L SS	STAINLESS STEEL 316S11 TO BS 1503
4.1	CSJ.125.NRG1	JOINT CASING 125 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.125.VIT1	JOINT CASING 125 VITON - 250	
4.1	CSJ.125.PTFE1	JOINT CASING 125 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.160.NRG1	JOINT CASING 160 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.160.VIT1	JOINT CASING 160 VITON - 250	
4.1	CSJ.160.PTFE1	JOINT CASING 160 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.200.NRG1	JOINT CASING 200 NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.1	CSJ.200.VIT1	JOINT CASING 200 VITON - 250	
4.1	CSJ.200.PTFE1	JOINT CASING 200 PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
4.1	CSJ.250.VIT1	JOINT CASING 250 VITON - 250	POLYTETRAFLUOROETHYLENE
4.2	BPJ.E.NRG1	JOINT BACKPLATE E NRG 300c	NICKEL RE-INFORCED GRAPHITE
4.2	BPJ.E.VIT1	JOINT BACKPLATE E VITON - 250	
4.2	BPJ.E.PTFE1	JOINT BACKPLATE E PTFE (FDA) 204c	POLYTETRAFLUOROETHYLENE
5.1	CTA.E9.SH.02	CONTAINMENT TUBE ASSY E9 316L/C276	STAINLESS STEEL 316S11 TO BS 1503 / HASTELLOY C276 TO ASTM-SB575-95
6.1	PSA.E9.SH.01	PUMP SHAFT E9 HIGH TEMP 316L/276L	STAINLESS STEEL 316S11 TO BS 1503
7.1	OMR.E9.01	OUTER MAGNET RING E9 STD	MILD STEEL (En3B)
7.2	TLA.3030	TAPER LOCK ADAPTOR 3030PM	070M20 TO BS 970Pt.1
7.3	TLB.3030/55	TAPER LOCK BUSH 3030 55mm BORE	070M20 TO BS 970Pt.1
7.3	TLB.3030/60	TAPER LOCK BUSH 3030 60mm BORE	070M20 TO BS 970Pt.1
8.1	PED.200.E9.225	PEDESTAL 200 E9 225	MILD STEEL (En3B)
8.1	PED.250.E9.200/225	PEDESTAL 250 E9 D200/225	MILD STEEL (En3B)
9.1	FKF.E.SS.00	FASTENER KIT FRONT E NUT, TAB & KEY	STAINLESS STEEL 316S11 (WASHERS 316S12) TO BS 1503
10.1	SCB.4	BEARING ASSY SILICON CARBIDE SIZE 4 (E2)	SILICON CARBIDE (SILICA FREE)
10.2	CSS.4	O'RING SET 316L FOR SCB SIZE 4	316L STAINLESS STEEL
10.2	VIT.4	O'RING SET VITON FOR SCB SIZE 4	VITON E-60C
10.2	EPDM.4	O'RING SET EPDM FOR SCB SIZE 4	ETHYLENE PROPYLENE TERPOLYMER
10.2	PTFE.4	O'RING SET PTFE FOR SCB SIZE 4	FEP ENCAPSULATED VITON
10.2	KAL.4	O'RING SET KALREZ FOR SCB SIZE 4	KALREZ 4079 PERFLUOROELASTOMER
11.1	FKR.E.SS.00	FASTENER KIT REAR E LOCKNUT & WASHER	STAINLESS STEEL 316S11 (WASHERS 316S12) TO BS 1503
12.1	SCB.3	BEARING ASSY SILICON CARBIDE SIZE 3 (E1)	SILICON CARBIDE (SILICA FREE)
12.2	CSS.3	O'RING SET 316L FOR SCB SIZE 3	316L STAINLESS STEEL
12.2	VIT.3	O'RING SET VITON FOR SCB SIZE 3	VITON E-60C
12.2	EPDM.3	O'RING SET EPDM FOR SCB SIZE 3	ETHYLENE PROPYLENE TERPOLYMER

12.2	PTFE.3	O'RING SET PTFE FOR SCB SIZE 3	FEP ENCAPSULATED VITON
12.2	KAL.3	O'RING SET KALREZ FOR SCB SIZE 3	KALREZ 4079 PERFLUOROELASTOMER

3.0 DIMENSIONS

3.1 Tabulated Drawing



10.2 Table Of Dimensions

Pump Model	D1	D2	A	C	F1	H1	H2	M1	M2	N1	N2	S1
50-32-125	50	32	80	45	79	112	140	100	70	190	140	M12
65-50-125	65	50	80	45	79	112	140	100	70	190	140	M12
80-65-125	80	65	100	65	79	132	160	100	70	240	190	M12
100-80-125	100	80	100	52.5	79	160	180	125	95	280	212	M12
50-32-160	50	32	80	45	84	132	160	100	70	240	190	M12
65-50-160	65	50	80	45	84	132	160	100	70	240	190	M12
80-65-160	80	65	100	65	84	160	180	100	70	240	190	M12
100-80-160	100	80	100	52.5	93	160	200	125	95	280	212	M12
125-100-160	125	100			93							
50-32-200	50	32	80	45	92.5	160	180	100	70	240	190	M12
65-40-200	65	40	100	65	92.5	160	180	100	70	265	212	M12
80-50-200	80	50	100	65	92.5	160	200	100	70	265	212	M12
100-65-200	100	65	100	52.5	101.5	180	225	125	95	320	250	M12
125-100-200	125	100	125	65	101.5	200	280	160	120	360	280	M16
50-32-250	50	32	100	52.5	92.5	180	225	125	95	320	250	M12
65-40-250	65	40	100	52.5	92.5	180	225	125	95	320	250	M12
80-50-250	80	50	125	77.5	92.5	180	225	125	95	320	250	M12
100-65-250	100	65	125	65	92.5	200	250	160	120	360	280	M12
Drive Size	F2	H3	M3	N3	N4	S2	W					
C3-112	167	132	65	95	125	M12	120					
C3-132	167	160	65	95	125	M12	120					
C6-132	220	160	80	120	160	M16	160					
C6-180	250	180	80	120	160	M16	190					
D6-180	250	180	80	120	160	M16	190					
E6-180	250	180	80	120	160	M16	190					
E6-200	250	210	80	120	160	M16	190					
E9-200	320	210	100	150	200	M20	250					
E9-225	320	250	100	150	200	M20	250					
E9-280	350	280	100	150	200	M20	280					

3.3 Flange Standards

Pump Nomenclature

The pump nomenclature includes the essential information required to identify the pump type and the key elements of its hydraulics: –

Example: - PC 100 L for style 1 (sub-ISO) pumps, PC 50-32-125 for MII (ISO) pumps and HC 160 M for High pressure pumps.

The pump code is formatted as a combination of pump type, branch size (inlet / outlet) and nominal impeller size. It is prefixed with the pump type: –

PC – standard (16 bar) Pump Close coupled, HC High system pressure pump Close coupled.

For ISO pumps the remainder of the code details the inlet or suction bore, followed by the outlet or discharge bore, and lastly, the nominal impeller or pump frame size.

For Style 1 pumps, the remainder of the code details the nominal impeller or pump frame size, followed by a letter L for low flow, M for medium flow and H for high flow. These letters equate as follows: -

L = 25mm suction x 25mm discharge
M = 40mm suction x 25mm discharge
H = 50mm suction x 40mm discharge,

Flange Standards

Nominal bore size Metric - Actual	DIN Norm Flanges PN16	Nominal bore size Imperial - Equivalent	ANSI Norm Flanges 150#	ANSI Norm Flanges 300#	ANSI Norm Flanges 600# to 2500#
25mm	25mm	1"	1"	1"	1"
32mm	32mm	1 ¹ / ₄ "	1 ¹ / ₂ "	1 ¹ / ₂ "	1 ¹ / ₂ "
40mm	40mm	1 ¹ / ₂ "	1 ¹ / ₂ "	1 ¹ / ₂ "	1 ¹ / ₂ "
50mm	50mm	2"	2"	2"	2"
65mm	65mm	2 ¹ / ₂ "	2 ¹ / ₂ "	2 ¹ / ₂ "	2 ¹ / ₂ "
80mm	80mm	3"	3"	3"	3"
100mm	100mm	4"	4"	4"	4"
125mm	125mm	5"	5"	5"	5"
150mm	150mm	6"	6"	6"	6"

The pump code reflects the metric sizing. The coding for ANSI flanges is reflected in the more detailed part number (see separate chapter) and not as in ANSI standard pumps: –
e.g. 1515 to denote a 1.5" suction, 1" discharge and 5" nominal impeller.

Flange machining detail

For MII pumps, were the flanges are cast into the casing, the following tables outline our machining practice and indicate any deviations from standards.

Whilst it is possible to provide full 300lb flanges, in reality, the pump case is only rated to 16 bar at ambient, and this will become the limiting factor. By including flanges of a higher pressure rating does not mean the pump can be used for higher pressures.

3.4 Universal Flange Dimensions

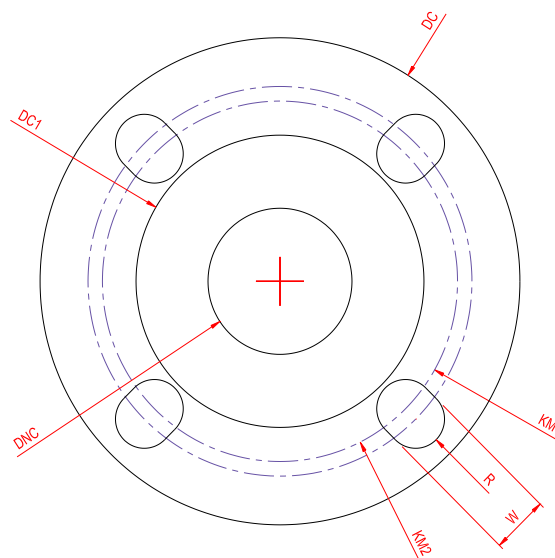
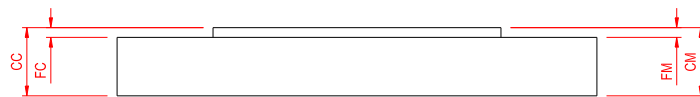
DNC	25mm (1")	32mm (1.1/2")	40mm (1.1/2")	50mm (2")	65mm (2.1/2")
DC	-	140	152	165	185
CC	-	18	19	20	20
FC	-	2	3	3	3
D1C	-	78	92	102	122
DM	115	140	150	165	185
CM	16	17.5	17.5	19	22.2
FM	2	2	2	2	2
D1M	61	78	78	100	118
KM1	79.4	98.4	98.4	120.6	139.7
KM2	85	100	110	125	145
No. Holes	4	4	4	4	4
R			R = 1/2 W		
W	16	18	18	19	19
Notes:					
FLG OD	OK	AS CAST	OK	AS CAST	AS CAST
THK'	OK	OK	OK	OK	AS CAST
R/F OD	OK	AS CAST	OK	OK	OK
HOLE ON					
FLG OD	17.8	20.8	25.8	22.2	22.65

Items suffixed with C for cast dimensions

Items suffixed with M for machined dimensions

Where OD of flange and raised face are as cast dimensions. A full 'clean up' of surfaces is required. Tolerance of OD +/-4.00mm, R/F OD +2.00/-1.00mm.

Standard Flange Detail



4- HOLE ORIENTATION (upto 65mm/2.1/2")

3.5 PN16 Flange Dimensions

DNC	25mm (1")	32mm (1.1/2")	40mm (1.1/2")	50mm (2")	65mm (2.1/2")	80mm (3")	100mm (4")	125mm (5")	150mm (6")
DC	-	140	152	165	185	200	228	254	285
CC	-	18	19	20	20	24	24	26	26
FC	-	2	3	3	3	3	3	3	3
D1C	-	78	92	102	122	138	158	188	212
DM	115	140	150	165	185	200	220	250	285
CM	16	16	16	18	18	20	20	22	22
FM	2	2	3	3	3	3	3	3	3
D1M	68	78	88	102	122	138	158	188	212
KM	85	100	110	125	145	160	180	210	240
No. Holes	4	4	4	4	4	8	8	8	8
Dia. Holes	14	18	18	18	18	18	18	18	18

Notes:

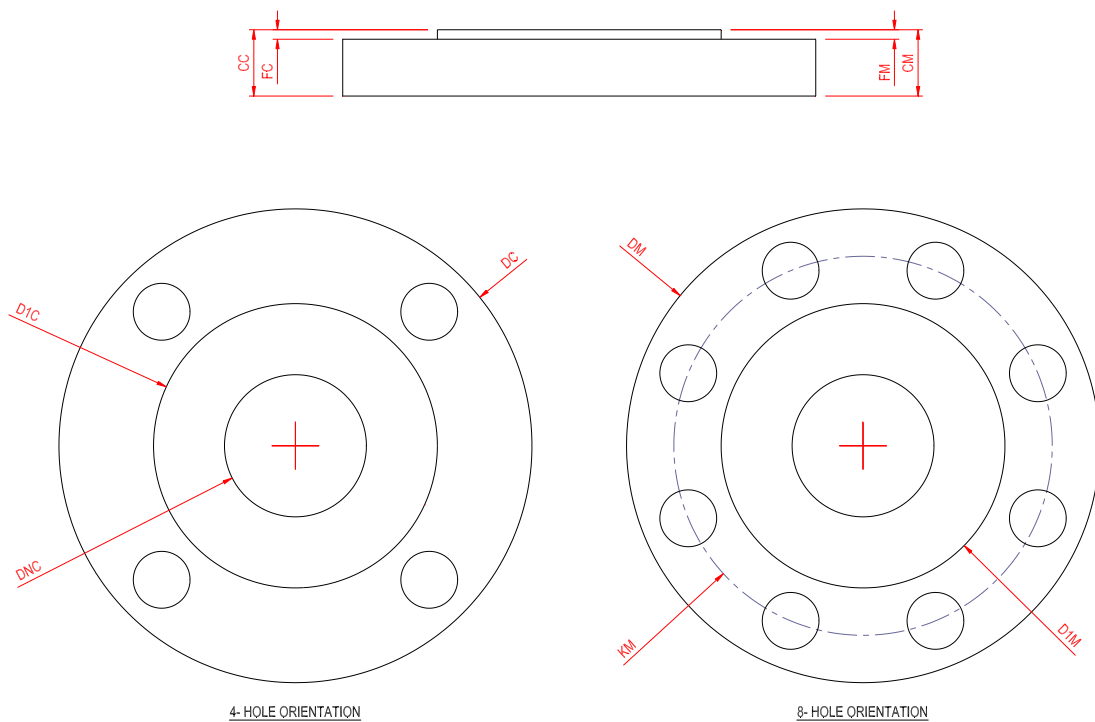
FLG OD	OK	AS CAST	OK	AS CAST	AS CAST	AS CAST	OK	OK	AS CAST
THK'	OK	OK	OK	OK	OK	OK	OK	OK	OK
R/F OD	OK	AS CAST	OK	AS CAST	AS CAST	AS CAST	AS CAST	AS CAST	AS CAST
HOLE ON									
FLG OD	8	11	11	11	11	11	11	11	13.5

Items suffixed with C for cast dimensions

Items suffixed with M for machined dimensions

Where OD of flange and raised face are as cast dimensions. A full 'clean up' of surfaces is required. Tolerance of OD +/-4.00mm, R/F OD +2.00/-1.00mm

General flange detail



3.6 ANSI .150 Flange Dimensions

DNC	25mm (1")	32mm (1.1/2")	40mm (1.1/2")	50mm (2")	65mm (2.1/2")	80mm (3")	100mm (4")	125mm (5")	150mm (6")
DC	-	140	152	165	185	200	228	254	285
CC	-	18	19	20	20	24	24	26	26
FC	-	2	3	3	3	3	3	3	3
D1C	-	78	92	102	122	138	158	188	212
DM	108	127	127	152	178	190	229	254	279
CM	14.3	17.5	17.5	19	22.2	23.8	23.8	23.8	25.4
FM	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
D1M	50.8	73	73	92.1	104.8	127	157.2	185.7	215.9
KM	79.4	98.4	98.4	120.6	139.7	152.4	190.5	215.9	241.3
No. Holes	4	4	4	4	4	4	8	8	8
Dia. Holes	15.9	15.9	15.9	19	19	19	19	22.2	22.2
Notes:									
FLG OD	OK	OK	OK	OK	OK	OK	AS CAST	AS CAST	OK
THK'	OK	OK	OK	OK	AS CAST	OK	OK	OK	OK
R/F OD	OK	OK	OK	OK	OK	OK	OK	OK	OK
HOLE ON									
FLG OD	6.35	6.35	6.35	6.2	9.65	9.3	9.75	7.95	7.75

Items suffixed with C for cast dimensions

Items suffixed with M for machined dimensions

Where OD of flange and raised face are as cast dimensions. A full 'clean up' of surfaces is required. Tolerance of OD +/-4.00mm, R/F OD +/-0.8mm.

3.7 ANSI .300 Flange Dimensions

DNC	25mm (1")	32mm (1.1/2")	40mm (1.1/2")	50mm (2")	65mm (2.1/2")	80mm (3")	100mm (4")	125mm (5")	150mm (6")
DC	-	-	-	-	-	-	-	-	-
CC	-	-	-	-	-	-	-	-	-
FC	-	-	-	-	-	-	-	-	-
D1C	-	-	-	-	-	-	-	-	-
DM	124	156	156	165	190	210	254	279	318
CM	17.5	20.6	20.6	22.2	25.4	28.6	31.8	34.9	36.5
FM	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
D1M	50.8	73	73	92.1	104.8	127	157.2	185.7	215.9
KM	88.9	114.3	114.3	127	149.2	168.3	200	235	269.9
No. Holes	4	4	4	8	8	8	8	8	12
Dia. Holes	19	22.2	22.2	19	22.2	22.2	22.2	22.2	22.2
Notes:									
FLG OD	OK	OK	OK	OK	OK	OK	OK	OK	OK
THK'	OK	OK	OK	OK	OK	OK	OK	OK	OK
R/F OD	OK	OK	OK	OK	OK	OK	OK	OK	OK
HOLE ON									
FLG OD	8.05	9.75	9.75	9.5	9.3	9.75	15.9	10.9	12.95

Items suffixed with C for cast dimensions

Items suffixed with M for machined dimensions

Where OD of flange and raised face are as cast dimensions. A full 'clean up' of surfaces is required. Tolerance of OD +/-4.00mm, R/F OD +/-0.8mm.

Flange sizes detailed without cast dimensions to be fitted with pre-machined flanges.