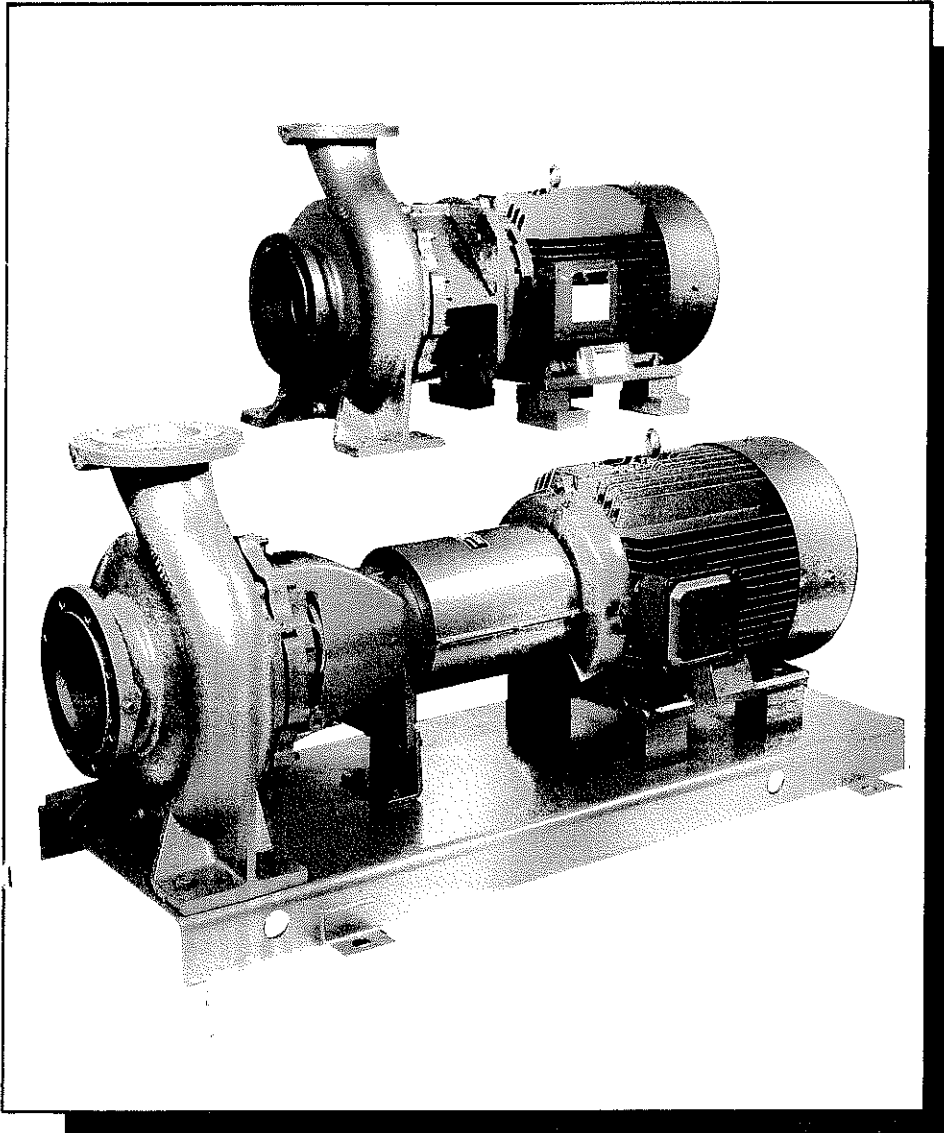


Starbloc Starnorm

Horizontal Close Coupled/Long Coupled End Suction Pumps



Holden and Brooke Limited

Manchester London Belfast

STAR RANGE END SUCTION PUMPS

The Holden and Brooke Star Range end suction direct coupled pumps bring the latest in pumping technology to meet the demands of today's market.

APPLICATIONS

Hot and cold water circulation, process liquid transfer, industrial liquid transfer, boosting and pressurisation installations.

FEATURES

The robust pump housing has integral mounting feet. This ensures that pipe loads are passed direct to the foundations. Strain on the pump set is thus avoided.

Flow rates up to 300L/s. Heads to 1000kpa.

Back vanes are an integral part of all the shrouded impellers which ensure hydraulic balance and prolong bearing life. Impellers are cast in one piece thereby removing stress and corrosion points.

The back pullout design enables the pedestal/seal/impeller module to be withdrawn from the pump body casing without the necessity to break the pipework connections.

Many sizes have double volute casings. This feature reduces impeller loads on the shaft and thus increases bearing life.

As the casing and seal cavity dimension are based around ISO 2858 and BS 5257 the pumps are interchangeable in pipe fixing dimensions and performance with any pump built to the same specifications.

The robust construction of these pumps ensures trouble free operation with minimal maintenance even on the most arduous of operations.

Where sound attenuation is advisable, anti-vibration mountings or inertia bases can be supplied as an optional extra.

The **STARBLOC** is a compact horizontal, single stage, close coupled end suction pump. We use off the shelf motors. This ensures good deliveries irrespective of specification and easy replacement in the far future.

The **STARNORM** is a horizontal single stage long coupled end suction pump. It complies with relevant sections of ISO 2858, DIN 24255 and BS5257.

STARNORM pumps have a generously sized stainless steel shaft running in grease lubricated bearings. The unit is supplied complete with a drive motor on a fabricated steel bedplate complying to ISO 3661. A flexible coupling drives the pump and takes up minor misalignment. The optional spacer coupling enables the motor to be left in position when the rotating element is withdrawn. This maintains coupling alignment. Always check alignment on set before start-up.

SPECIFICATION

Pump Body: Cast Iron BS1452 GR 260.

Impeller: Gunmetal BS 1400 LG.2C
alternative Cast Iron BS 1452 GR260

**Pedestal/
Seal Box:** Cast Iron BS 1452 GR220 (Bloc)
GR260 (Norm).

Shaft: Stainless Steel BS 970 GR
431 S29.

Seal: DIN 24960 Self Adjusting
other than 25-95 & 32-120 Starbloc.
Gland packing available on Starnorm

Bearings: Medium series, ball, grease
lubricated.

Motor: Totally enclosed fan ventilated or drip
proof foot/flange mounted to BS 5000
and BS 4999. Class 'F'. insulation
with class 'B' rise.
Energy efficient and 'W' series are
available on all sizes. Super silent
motors available up to 15.0kW.

**Starnorm
Coupling:** Non spacer type. Spacer type fitted
as optional extra.

OPERATING CONDITIONS

Pressure: 10 Bar Starbloc.
16 Bar Starnorm.
6 Bar on 25-95 and 32-120 Starbloc.
Consisting of system static plus
developed head.
Higher pressures can be
accommodated. Please refer to local
branch office for details.

Temperature: Up to 125°C with carbon/ni-resist
uncooled mechanical seal.

Up to 150°C with carbon/sintered
tungsten carbide uncooled
mechanical seal.

Up to 175°C with water cooled
packed gland (not available on
Starbloc).

Up to 120°C for 25-95 & 32-120
Starbloc.

Note: Temperature and pressure
limitations are the maximum in each
case, not a combination of both.

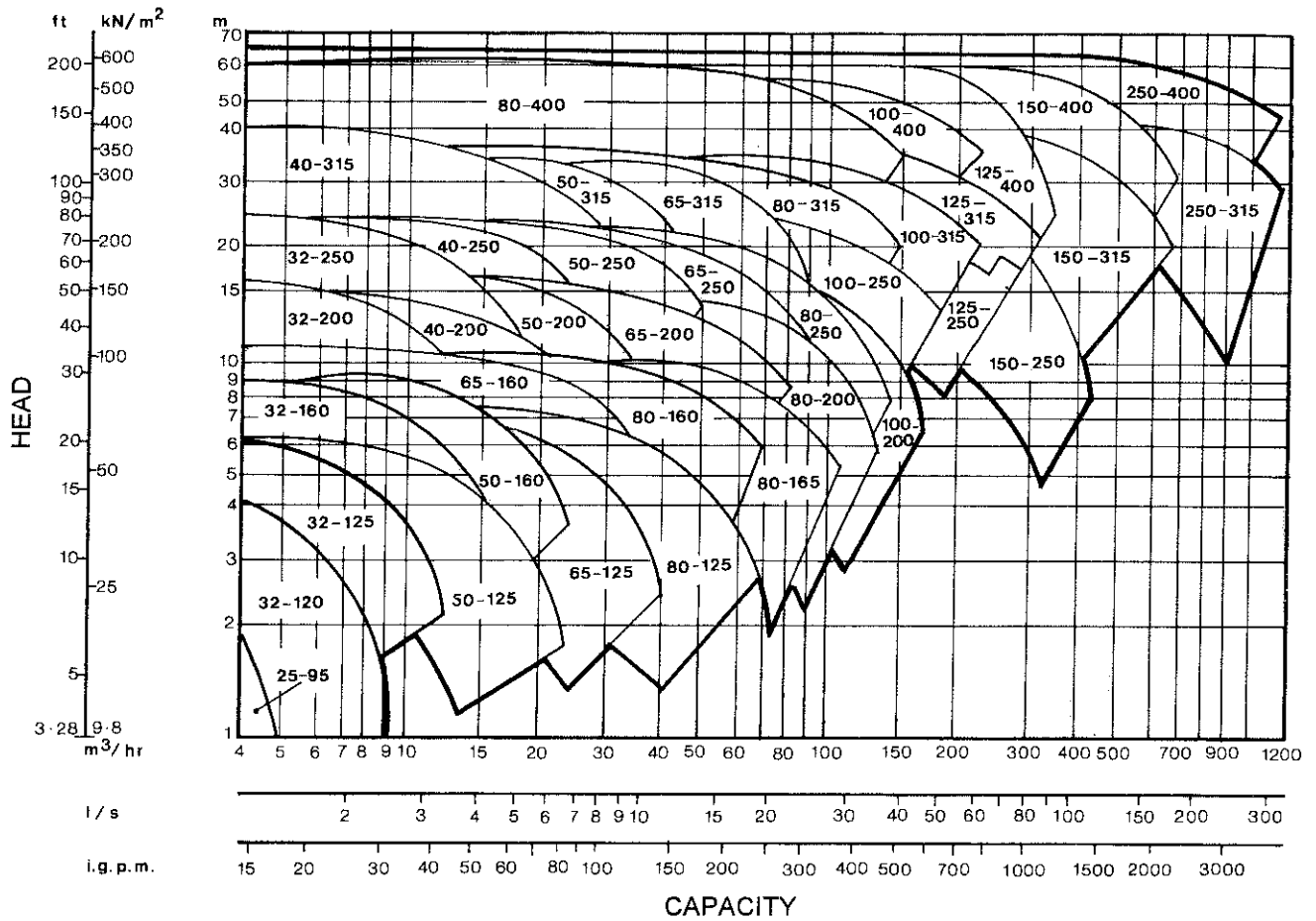
Pump Flanges: BS 4504-16 Bar rating.

Discharge: North only.

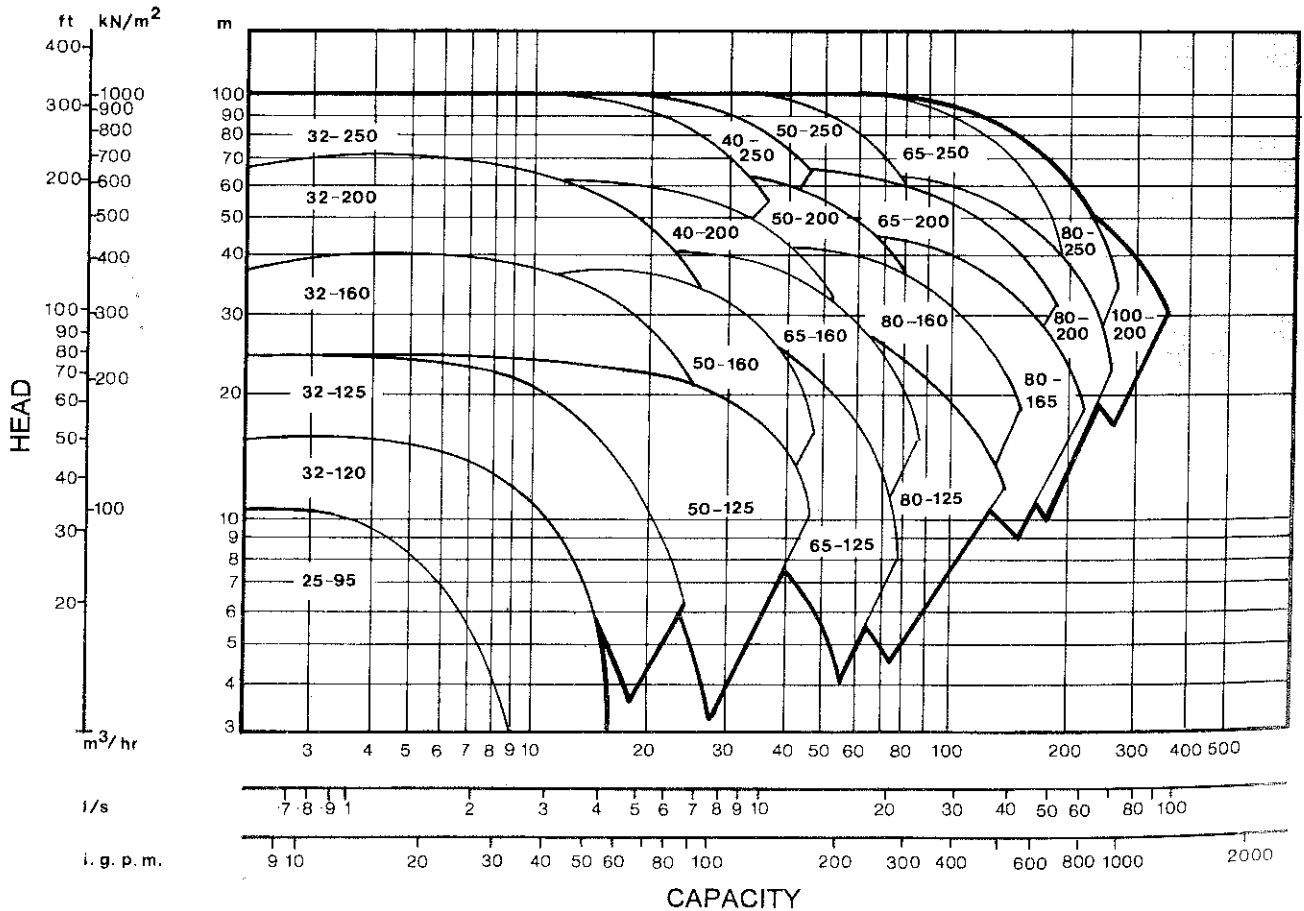
Pump Speeds: Starbloc & Starnorm up to 3600
R.P.M.

Designed and made in Britain.

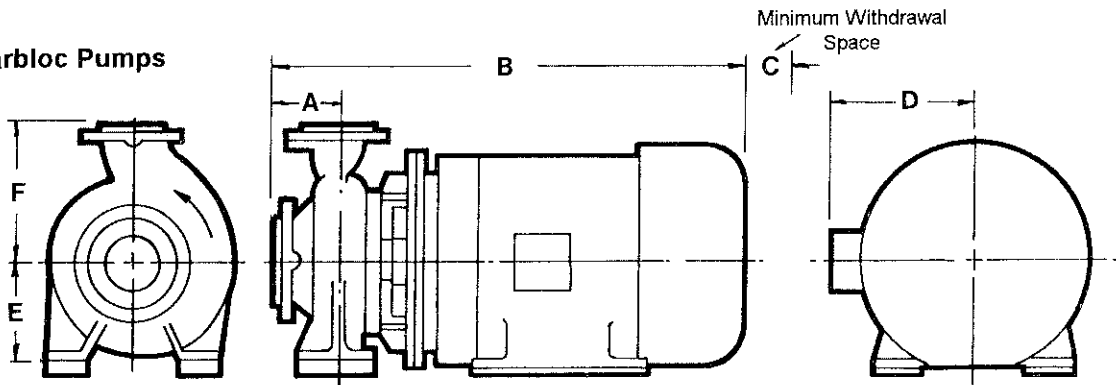
Starbloc/Starnorm Selection Chart 1450 RPM
Performance on Water SG=1.0



Starbloc/Starnorm Selection Chart 2900 RPM
Performance on Water SG=1.0



Starbloc Pumps



Dimensions

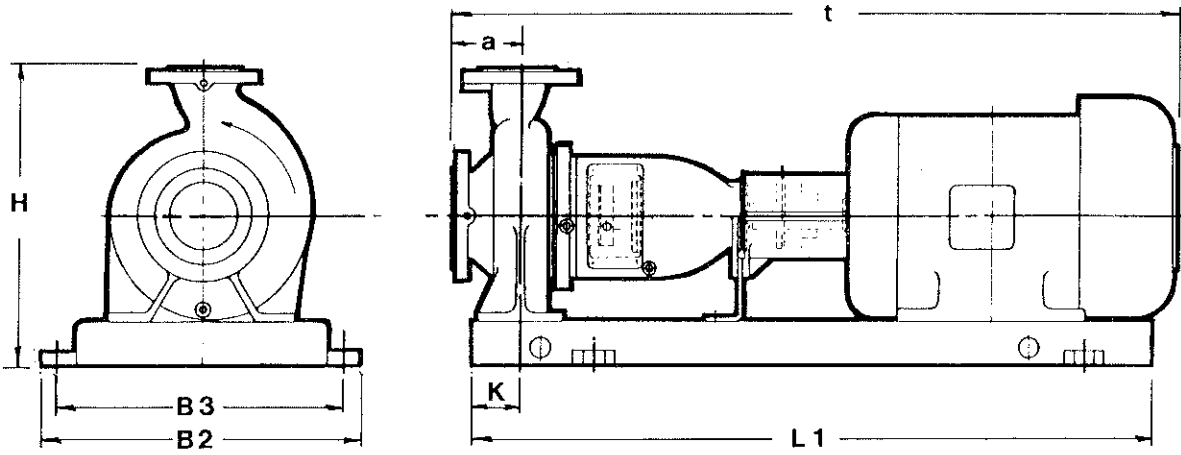
Pump and/or motor pads may be required (see certified G.A. drawing).

Pump Type	Inlet Size	Outlet Size	No. of Poles	Max'm Motor Frame	kW Rating	A	B	C	D	E	F	Weight kgs																						
25-95	1.1/4" BSP Female	1" BSP Female	4	D71	0.25	80	370	60	100	90	110	13																						
			2	D71	0.37		395		120			15																						
32-120	1.1/2" BSP Female	1.1/4" BSP Female	4	D71	0.25	80	365	55	100	112	135	19																						
			2	D80	1.1		445		120			22																						
32-125	50	32	4	D71	0.37	80	507	120	120	132	160	180	48																					
32-160			2	D90L	2.2		517		140				55																					
			4	D80	0.55		507		120				67																					
32-200			2	D112M	4.0		568		202				90																					
			4	D90S	1.1		510		140				125																					
32-250			2	D132S	7.5		654		230				106																					
			4	D100L	2.2		602		154				205																					
40-200			65	40	2		D180M		15.0				100	850	160	258	180	225	250	106														
	4	D90L			1.5	555	140	77																										
2	D160M	15.0			836	258	175																											
40-250	4	D100L			3.0	602	154	108																										
	2	D180M			22.0	943	279	263																										
40-315	4	D132M			7.5	751	230	180																										
	2	D200L			30.0	1025	357	377																										
50-125	65	50			4	D71	0.37	80	507	120	120	132		160		180				55														
			2	D112M	4.0	568	202		69																									
50-160			4	D80	0.75	507	120		65																									
			2	D132S	5.5	654	230		127																									
50-200			4	D100L	2.2	588	154		93																									
			2	D160L	18.5	881	258		208																									
50-250			80	50	4	D112M	4.0		100		647		160		202		180	225	250	130														
					2	D200L	37.0				1025				357					377														
50-315	4	D132M			7.5	751	230	195																										
	2	D250M			75.0	1165	407	703																										
65-125	80	65			4	D80	0.75	100		527	140	120		132	160	180				59														
					2	D132S	7.5			655		230								120														
65-160					4	D90S	1.1			530		140								67														
					2	D160M	15.0			836		258								175														
65-200			100	65	4	D112M	4.0		125	622		160	202				180	225	250	105														
					2	D200L	30.0			1000			357							358														
65-250					4	D132M	7.5			751			230							170														
					2	D250S	55.0			1127			407							595														
65-315	100	80			4	D160M	11.0	100		878	200		258	225	280	315				278														
					2	D90L	1.5			537			140							69														
80-125					4	D160M	11.0			817			258							172														
					2	D100L	2.2			602			154							91														
80-160			125	80	2	D160L	18.5		125	896		170	258				180	225	280	209														
					4	D100L	3.0			627			154							94														
80-165					2	D200L	30.0			1025			357							358														
					4	D132S	5.5			713			230							158														
80-200	150	125			2	D200L	37.0	140		1025	170		357	180	225	280				380														
					4	D160M	11.0			875			258							220														
80-250					2	D250M	75.0			1165			407							703														
					4	D180M	18.5			944			210							351														
80-315			200	150	4	D200L	30.0		160	1034		260	357				280	315	400	527														
					2	D225M	45.0			1120			362							632														
100-200					300	250	4			D132M			7.5							225	751	315	230	400	560	630	171							
							2			D250M			75.0								1165		407				802							
100-250	350	200					4	D160L		15.0	140		938	220	258	280					355		400				276							
							2	D200L		30.0			1049		357												456							
100-315							400	150		4			D225M		45.0												160	1120	260	362	280	315	400	632
										2			D250M		75.0													1187		407				878
125-250			450	125					4	D200L		30.0	170		1069		230	357	280									315		400				491
									2	D250M		75.0			1187			407																878
125-315					500	150			4	D250M		75.0			180			1590		260		407		280	315	400								875
									2	D280M		110.0						1715				420												1124
150-250	550	200							4	D250M	110.0	225		1780		315		420			400	560	630											1249
									2	D315M	185.0			1873				450																1647

NOTE: Drip Proof, Super silent, 'W' Series and Energy Efficient motors can be supplied if required.

'D' frame motors are totally enclosed fan cooled (IP54). Motors shaded are 2900 RPM

Starnorm Pumps



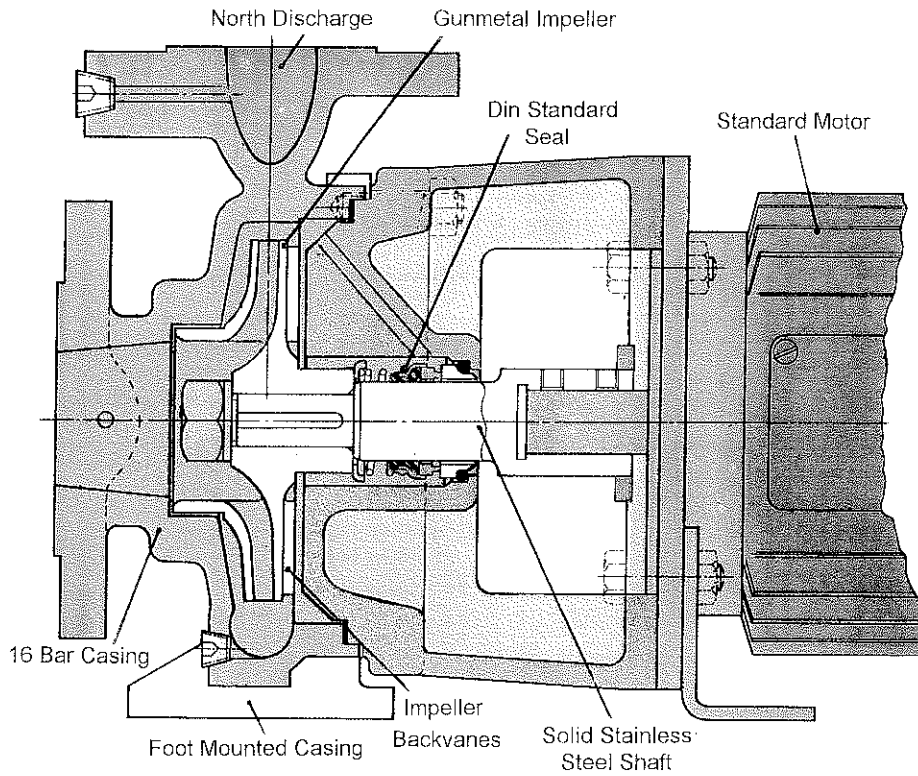
Dimensions

Pump Data			Motor and Baseplate Data (Based on maximum motor frame size)													
Pump Type	Inlet Size	Outlet Size	a	No. of Poles	Max Motor Frame	kW Rating	B2	B3	H	K	L1	t	Weight kgs			
32-125	50	32	80	4	D71	0.37	360	320	312	60	730	780	94			
32-160				2	D90L	2.2	390	350	352		820	820	103			
32-200				4	D80	0.55	360	320	352		730	780	102			
32-250				2	D132S	5.5	450	400	362		910	950	179			
				4	D90S	1.1	360	320	400		730	795	113			
				2	D160M	11.0	450	400	410		910	1095	236			
40-200	65	40	100	4	D100L	2.2	450	400	475	75	910	995	188			
40-250				2	D160L	15.0	540	490	485	1170	1275	326				
40-315				4	D90L	1.5	390	350	400	820	840	127				
				2	D160M	11.0	490	440	410	1020	1115	241				
				4	D100L	3.0	450	400	475	910	995	189				
				2	D180M	22.0	540	490	485	1170	1310	374				
50-125	65	50	80	4	D71	0.37	360	320	312	60	730	780	100			
50-160				2	D112M	4.0	390	350	820		880	142				
50-200				4	D80	0.75	360	320	352		730	795	108			
50-250				2	D132S	5.5	450	400	362		910	950	185			
50-315				4	D100L	2.2	390	350	380		820	870	141			
				2	D160L	18.5	490	440	390		1020	1200	274			
65-125	80	65	100	4	D132S	5.5	490	440	475	75	1020	1110	260			
65-160				2	D200L	37.0	610	550	505		1300	1425	490			
65-200				4	D132M	7.5	490	440	575		1020	1150	278			
65-250				4	D80	0.75	360	320	324		730	815	103			
65-315				2	D132S	7.5	450	400	334		910	970	180			
				4	D90L	1.5	390	350	380		820	840	117			
80-125	100	80	100	2	D160M	11.0	490	440	390	75	1020	1115	231			
80-160				4	D132S	5.5	490	440	475		1020	1085	234			
80-165				2	D200L	30.0	610	550	505		1300	1400	472			
80-200				4	D132M	7.5	490	440	520		1020	1150	266			
80-250				2	D250S	55.0	660	600	600		1450	1730	724			
80-315				4	D280M	110.0	730	670	660		1650	2000	1107			
100-200	125	100	100	4	D90L	1.5	390	350	400	75	820	840	114			
100-250				2	D160M	11.0	490	440	410		1020	1115	228			
100-315				4	D100L	2.2	450	400	430		910	995	168			
100-400				2	D160L	18.5	540	490	440		1170	1310	316			
150-250				4	D112M	4.0	490	440	475		1020	1090	207			
150-315				2	D200L	37.0	610	550	505		1300	1425	470			
150-400	200	150	125	4	D132M	7.5	490	440	500	90	1020	1150	260			
150-400				2	D200L	37.0	610	550	530		1300	1425	487			
250-315				4	D160M	11.0	540	490	585		1170	1255	331			
250-400				2	D250M	75.0	660	600	635		1450	1830	808			
				4	D280M	110.0	730	670	695		1650	2000	1120			
				4	D250M	75.0	660	600	735		1450	1870	906			
250-400	300	250	225	4	D132M	7.5	490	440	550	90	1020	1150	268			
				2	D250M	75.0	660	600	630		1450	1830	787			
									660				1087			
									695				1122			
									735				1187			
									755				1211			
250-400	300	250	225	4	D280S	90.0	730	670	755	110	1650	1970	1021			
					D250M	75.0			840					2045	1045	
					D280M	110.0			890					1800	2175	1297
					D280M	110.0			890					1900	2240	1487
250-400	300	250	225	4	D315L	200.0	890	830	1175	170	2150	2645	2036			

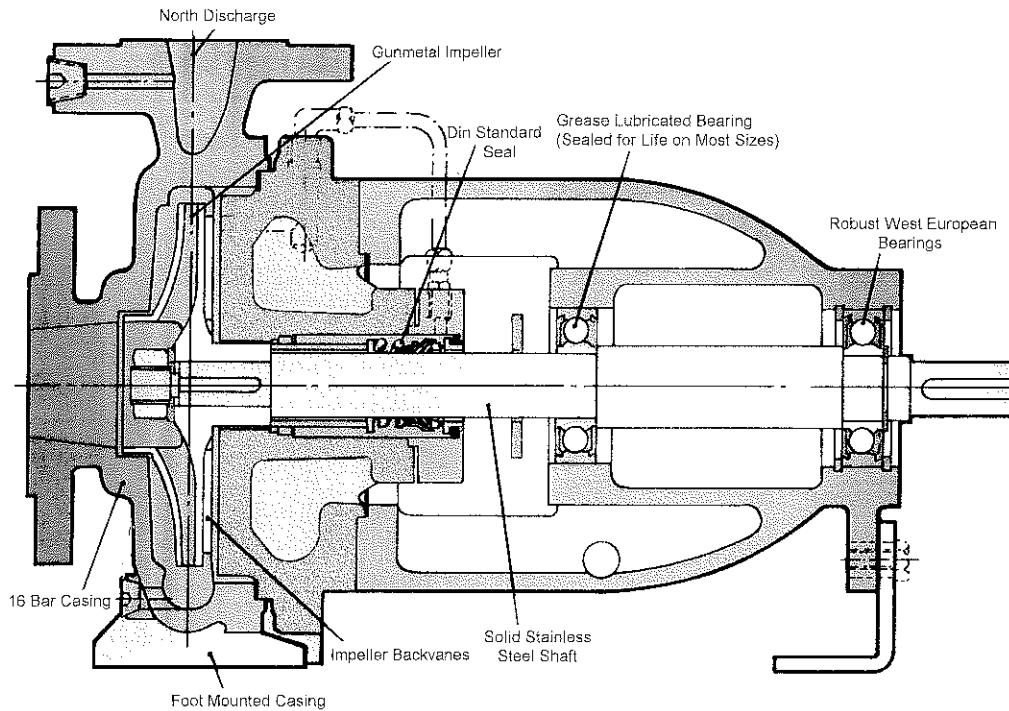
NOTE: Drip Proof, Super silent, 'W' Series and Energy Efficient motors can be supplied if required.
 'D' frame motors are totally enclosed fan cooled (IP54). Motors shaded are 2900 RPM

Typical Section

Starbloc



Starnorm



Certified drawings will be supplied on request

Note: Improvements in general design and modifications in detail will be embodied for the benefit of clients as and when introduced; consequently this specification is subject to alteration, as may be necessary, without notice.

PUMP SPARES AND SERVICE

Centrifugal Pumps . Pressurisation Units . Packaged Sets

Southern Office

Holden and Brooke Limited
Road, Kingston-U-Thames, KT1 2SZ
Tel: 0181-547 0411
Fax: 0181-547 0838

Northern Office

Wenlock Way,
Manchester M12 5JL
Tel: 0161-223 2223
Fax: 0161-220 9660

Northern Ireland (Agent)

Unit 29, Bloomfield Commercial Centre
East Broad Street, Belfast BT5 5AW
Tel: 0232-453339
Fax: 0232-453870