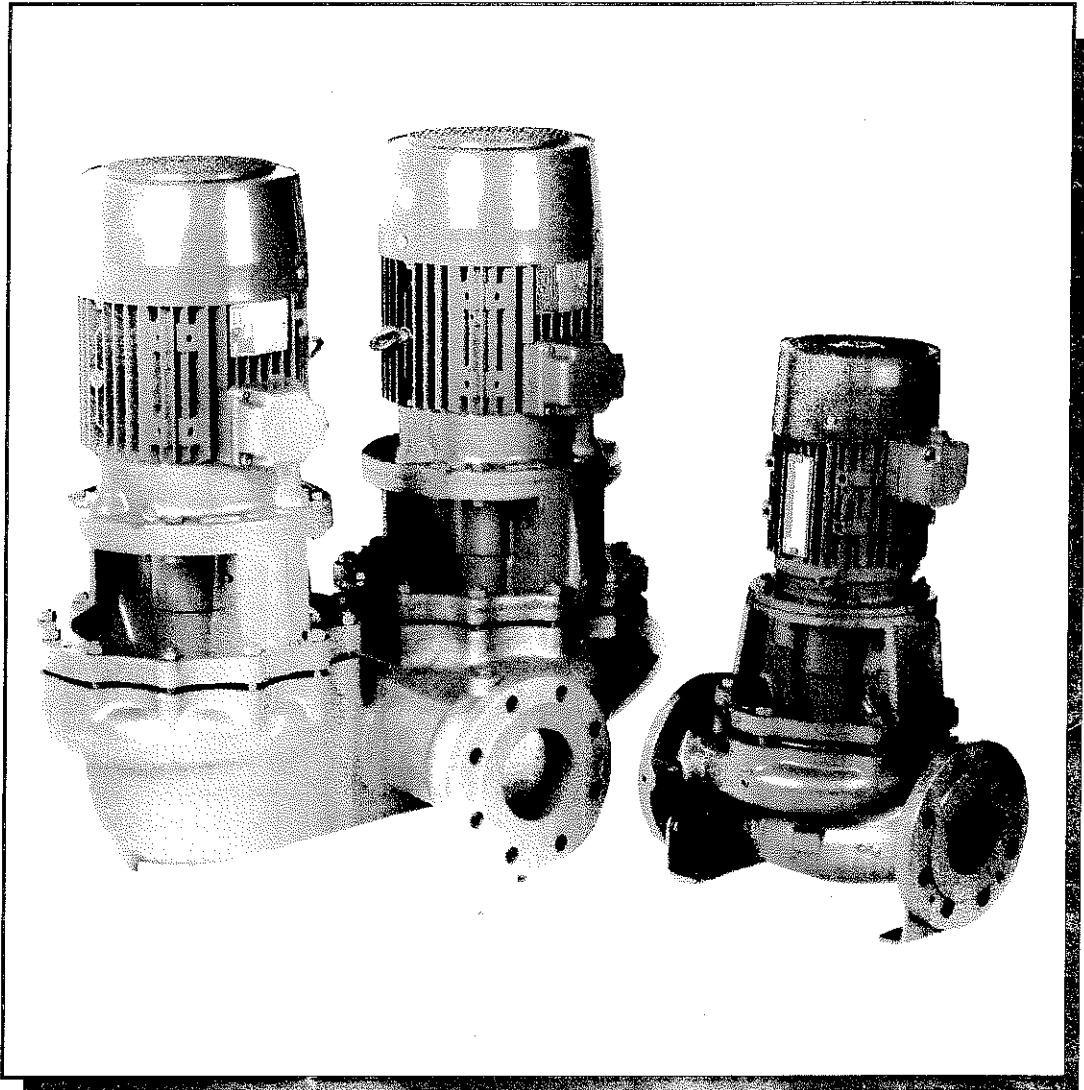


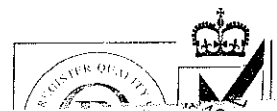


*A wealth of experience*



## Starline Startwin

In-line centrifugal pumps  
Single and run and standby versions



40 50 60 70 80 90 100  
10 15 20 25

## Applications

The Building Services industry demands high efficiency, great reliability and long life from today's pumps. The Starline and Startwin meet these needs. Designed for continuous quiet running on heating, hot water and chilled water, they offer a robust solution for most HVAC applications. Flow rates up to 150 l/s. Heads up to 1500 kPa.

### Glanded or Glandless?

This is a regular question when selecting pumps. Both designs have their strong points.

#### Glanded pumps

- are better at handling air and solid particles without damage.
- can be mounted horizontal or upright.
- are less expensive on the larger sizes.
- running at 1450 rpm, should last about 20 years.
- can easily be repaired.
- comply with M and E3. for both heating **and** hot water applications.
- have efficient electric motors.
- require very low static heads.

#### Glandless pumps are

- multispeed so they can be easily site adjusted to match requirements.
- virtually silent when running.
- inexpensive, especially in the smaller sizes.
- pipeline mounted without further support.

Please see our Starkan or Varistar leaflets for more details.

### Design features

All sizes feature vertical pull out facility enabling repairs without disturbing the pipework. Long bearing life is ensured by impellers with back vanes giving hydraulic balance. We use completely standard high efficiency motors enabling good deliveries and easy replacements. Pumps with optional W series or Energy Efficient motors are even quieter and smoother running. All units comply fully with M and E3. Neoprene in shear pads or inertia base anti-vibration mountings are available as options.

### Startwin Pumps

A Startwin pump comprises two Starline pumps in one common casing with an integral non-return valve. This enables duty alternation from a remote point. In the event of one of the pumps having a blanking plate can be fitted to stop it from running. The Starline pumps are mounted on a common base and are driven by a single motor.

## Mounting

Screwed branches      Pipeline mounted  
Flanged branches      Foot or pipeline mounting.  
Feet supplied on all sizes.

## Material Specification

Body & Pedestal:      Cast iron BS 1452 Gr. 260 or Gr. 220.

Impeller:      Gunmetal BS 1400 Gr.LG 2C or Cast iron BS 1452 Gr. 150/180.

Shaft:      Stainless Steel BS 970 431.S29.

Seal:      Mechanical type, DIN 24960 standard John Crane or equal.

Note:      Single and twin pumps can be supplied with all gunmetal wetted parts.

## Operating Limits

Pressure:      5Bar 25-90 and 32-105.  
6Bar 32-120, 65-125 and 65-200.  
10Bar all other sizes.

Temperature:      90°C - 25-90 and 32-105  
120°C - 32-120, 65-125 and 65-200.  
125°C - all other sizes with standard seal.  
150°C - all 50mm and larger sizes with carbon/tungsten carbide seal.

Note:      Pressure and temperature limitations are the maximum in each case and are not a combination of both.

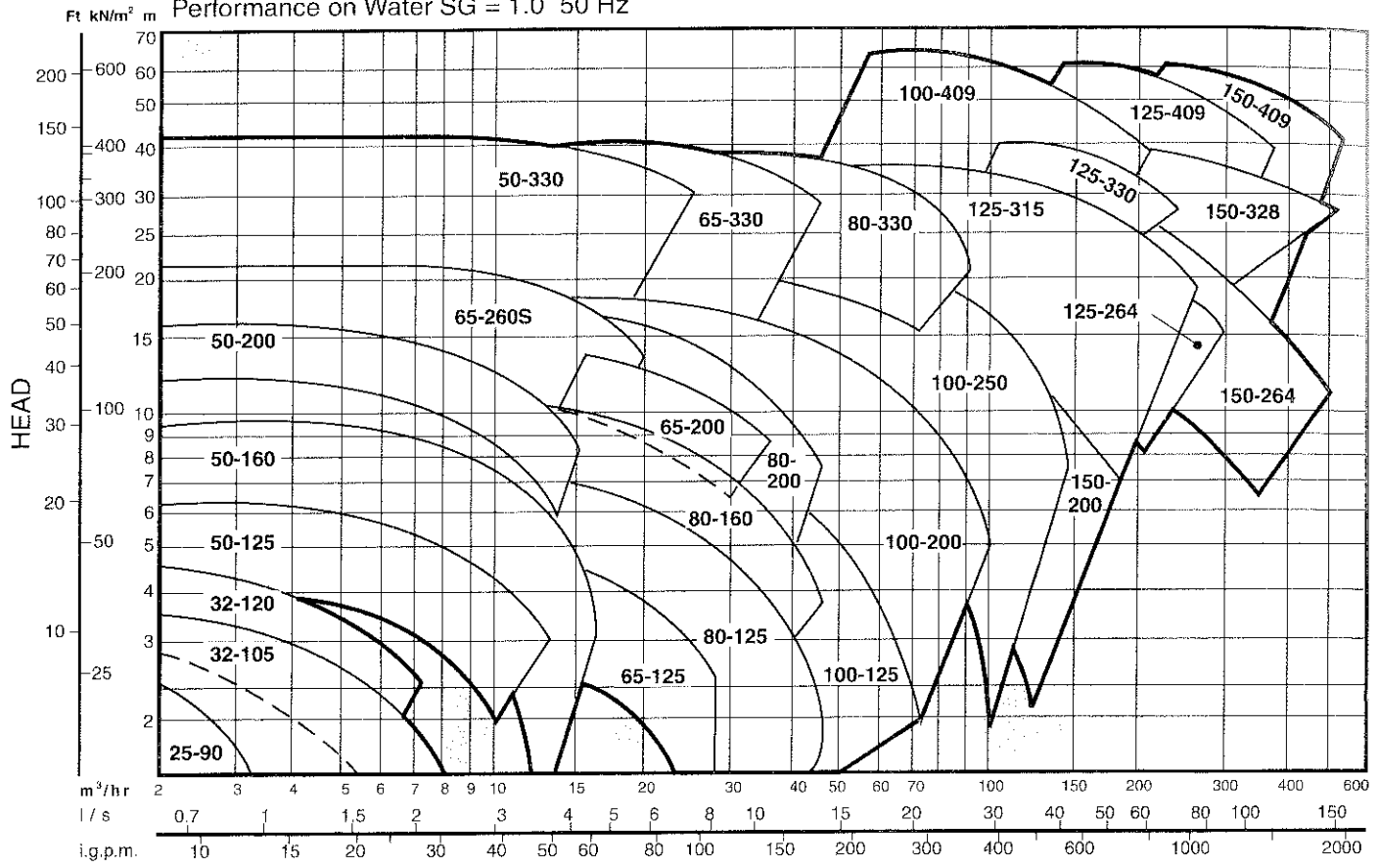
Glycol:      For aqueous ethylene glycol solutions we fit a special carbon/ni-resist seal. Please specify if units are intended for this application.

Speed:      Up to 2900 RPM (50Hz)  
Up to 3500 RPM (60Hz)

## Motor

TEFC IP54 to BS 4999 and BS5000. Insulation to Class 'F' with Class 'B' temperature rise. Electrical supply 3 phase or, up to 1.1 kw, single phase.

Starline Selection Chart 1450 RPM  
Performance on Water SG = 1.0 50 Hz



Starline Selection Chart 2900 RPM  
Performance on Water SG = 1.0 50 Hz



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MANCHESTER  
Tel: ++44(0) 161 223 2222  
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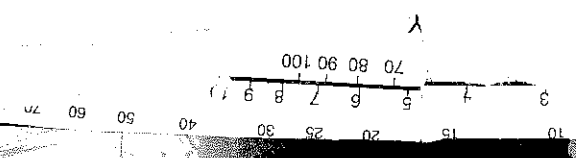
# Starline Dimensions

Pump Type	Branch Detail		N° of Poles	Max,m Motor Frame	KW Rat'g Max	A		B	C	D	E		G	H	J	K	Wgt Kg	
	C.Iron Inlet/Out	G.M.				C.I.	GM				C.I.	G.M.						
25-90		1" BSP	4	D63	0.12		210	65	245	50		22					9	
		Taper	2	D63	0.25												9	
32-105		1.1/4" BSP T	4	D71	0.25		273	75	250	60								11
			2	D71	0.55				270									13
32-120	1.1/4" BSP T	Bored 35	4	D71	0.25	285	304	46	338	46	24	23						18
			2	D80	1.1				434									21
50-125	50/50	10 Bar	4	D71	0.37			127	415	120			266	150				42
			2	D90L	2.2				436									45
50-115			4	D71	0.25				344									38
50-160			4	D80	0.55				415									50
			2	D112M	4.0				537									73
50-145			4	D71	0.37				415									50
50-200			4	D90S	1.1				406									58
			2	D132S	7.5				550									96
50-190			4	D80	0.75				410									56
50-330			65/50		4				D132S									5.5
	2	D225M			45.0	984	400											
65-125		6 Bar	4	D71	0.4	80		345	120									23
			2	D90	2.2													375
65-260S	65/65		4	D100L	2.2	100		530	60									67
			2	D160M	15.0													580
65-260L	100/80	10 Bar	2	D160M	15.0	132		665	100									157
65-330			4	D132M	7.5													1043
65-200	65/65	6 Bar	4	D100L	2.2	110		400	100									62
			2	D160M	15.0													630
80-125	80/80		4	D80	0.75	112		440	140									54
			2	D132S	5.5													603
80-160	80/80		4	D90S	1.1	112		435	130									63
			2	D160M	11.0													773
80-200			4	D100L	2.2	112		479	140									80
			2	D160L	18.5													805
80-330	100/80		4	D180L	15.0	132		792	140									250
			2	D280M	90.0													1157
100-125			4	D90S	1.1	117		439	140									65
			2	D160M	11.0													753
100-200	100/100	10 Bar	4	D112M	4.0	145		523	160									104
			2	D200L	30.0													940
100-250			4	D160M	11.0			793	170			550	452				201	
100-330	125/100		2	D315M	160	150		1290	140			670					1175	
100-409			4	D225S	37.0			780				805					425	
125-264	150/125		4	D180M	18.5			967	180			755					280	
125-330			4	D200L	30.0	160		992	140			735					410	
125-409			4	D250M	75.0			843				850					465	
125-315	125/125		4	D180L	22.0			866	200			680	568	188	110		290	
125-360			4	D200L	30.0	155		766				800	183		200		356	
150-200	150/200		4	D132M	7.5			725	180			610	498	220	110		136	
150-264			4	D180L	22.0	200		913				800					355	
150-328	150		4	D250S	55.0	220		1088	180			900					585	
150-409			4	D250M	75.0	200		1103				950					665	

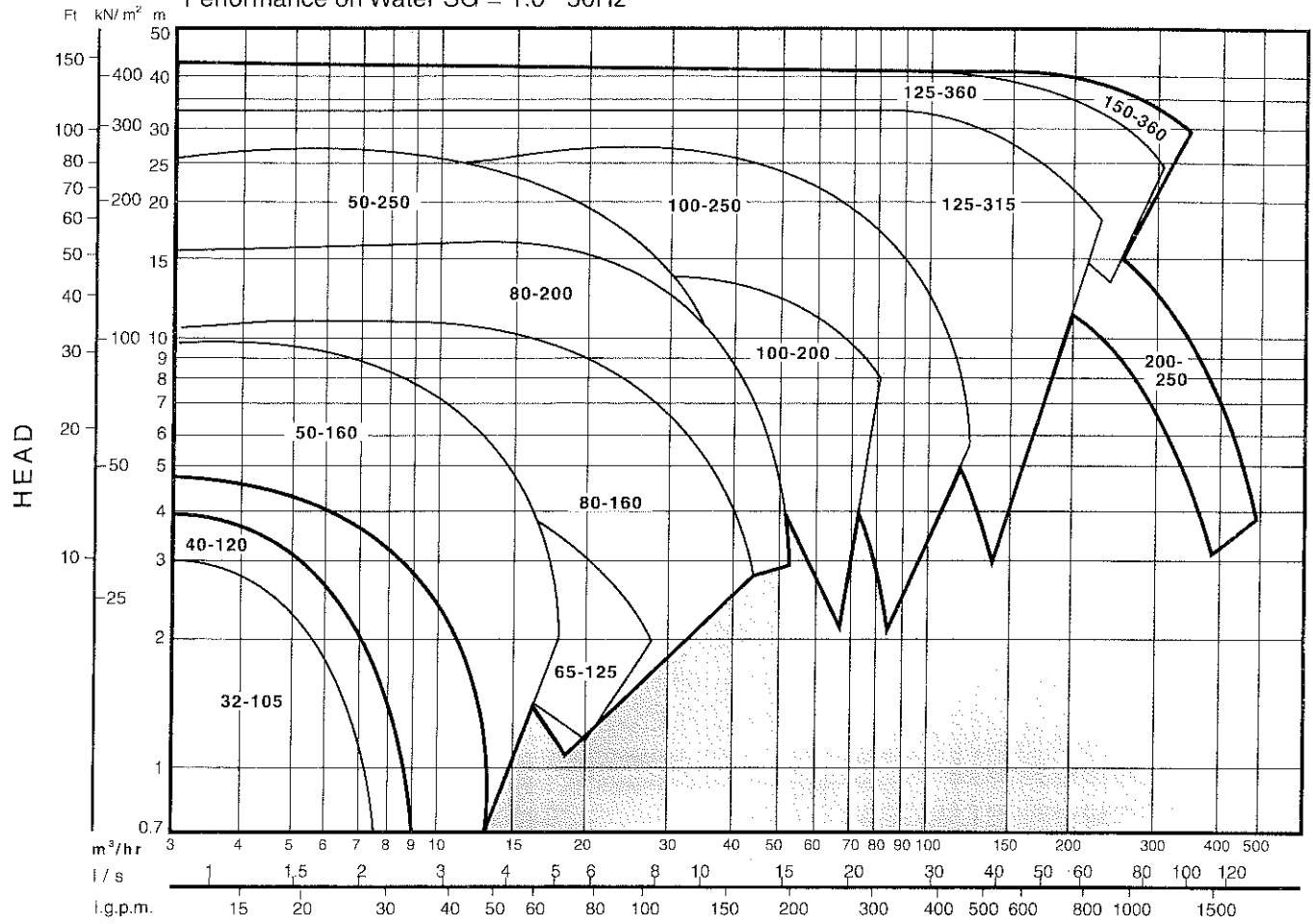
Note: Drip Proof and Super silent motors can also be supplied if required.

'D' Frame motors are Totally Enclosed Fan Ventilated.

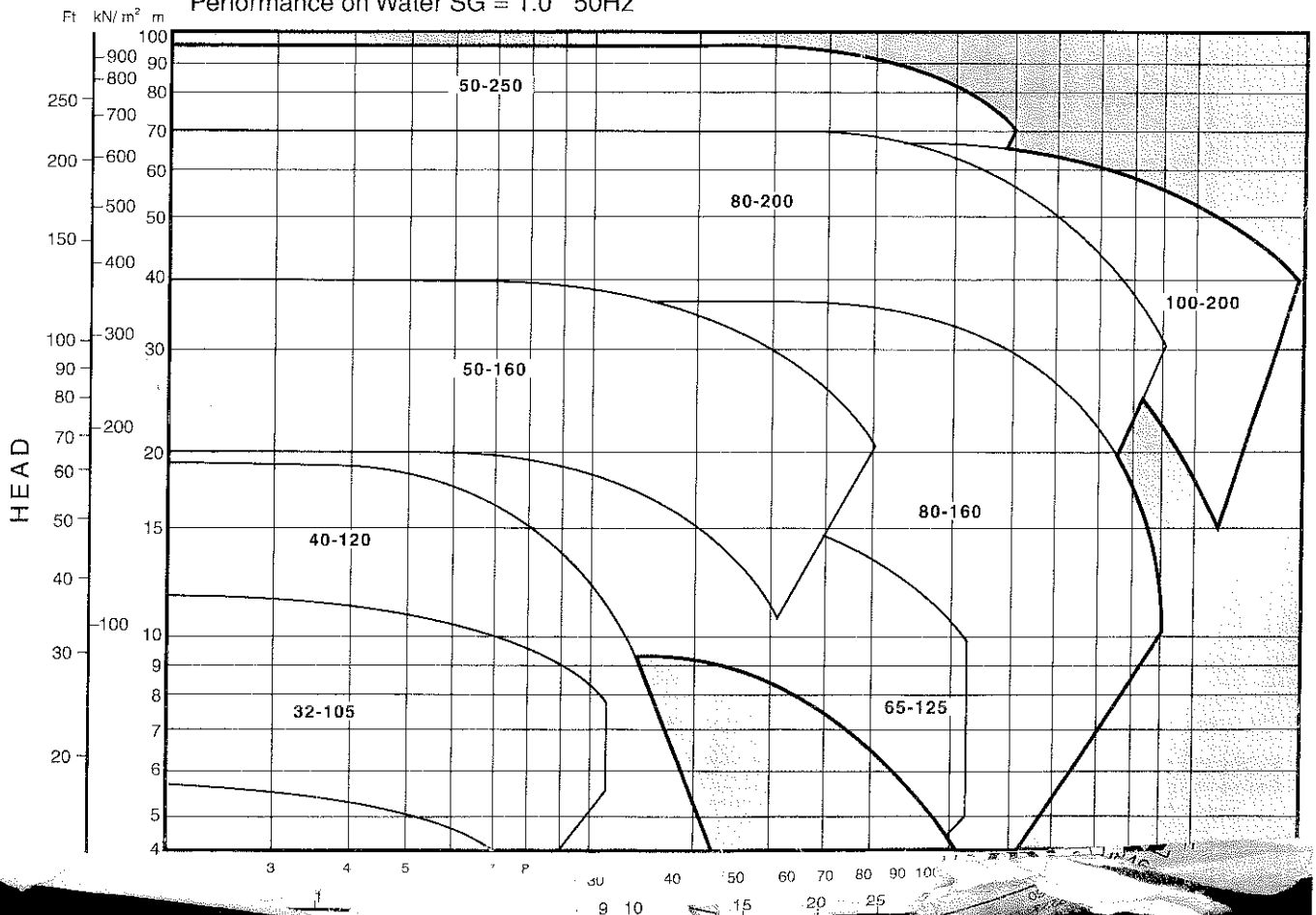
Motor shaded are 2900 RPM



Startwin Selection Chart 1450 RPM  
Performance on Water SG = 1.0 50Hz

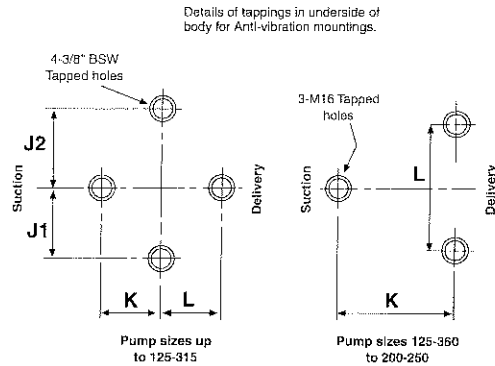
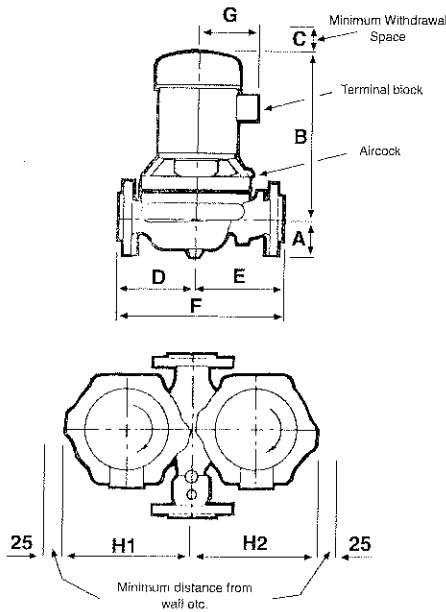


Startwin Selection Chart 2900 RPM  
Performance on Water SG = 1.0 50Hz





A wealth of experience



- NOTES:-
1. Pumps must be ventilated before starting up via radiator type aircock on the pedestal.
  2. Motor terminal boxes can be turned through 180° from position shown.
  3. Anti-vibration mountings are only supplied when ordered.

Startwin Dimensions

Pump Sizes	Inlet/Outlet Detail	Max'm Motor Frame	A	B	C	D	E	F	G	H1	H2	J1	J2	K	L	WT KG
32-105	32NB (6BAR)	D71	75	250	170	60		220	100	165	165					25
		D71		270												29
40-120 (40-100)	40NB	D71	80	294	43	112	178	290	100	194	194	143	143	97	163	38
		D80		413												44
50-160 (50-145) (50-120)	50NB	D80	85	429	110	155	175	330	120	265	265	180	180	140	160	91
		D112M		515												146
50-250	50NB	D112M	95	535	150	225	225	450	190	387	387	260	260	210	210	207
		D180M		830												450
65-125	65NB (6BAR)	D71	80	345	100			340	140	240	230					52
		D90		375												64
80-160	80NB	D90S	105	467	120	136	244	380	154	335	335	270	270	120	228	113
		D160M		755												300
80-200	80NB	D112M	105	533	130	180	220	400	190	352	352	275	275	165	205	174
		D160L		760												352
100-200	100NB	D112M	120	558	160	204	304	508	164	363	370	289	289	189	289	202
		D200L		933												698
100-250	100NB	D160L	120	800	165	220	330	550	270	392	392	310	310	205	315	446
125-315	125NB	D225S	140	1007	200	280	400	680	362	481	464	391	362	265	385	982
125-360 (125-280)	125NB	D200L	155	766	200	350	450	800	---	502	520	---	---	387	500	440
150-360 (150-280)	150NB	D225S	180	828	200	350	450	800	---	527	550	---	---	387	530	566
200-250 (200-224)	200NB	D160L	260	740	210	400	600	1000	---	442	515	---	---	350	470	522

NOTE: Drip Proof and Super silent motors can also be supplied if required.  
'D' Frame motors are Totally Enclosed Fan Ventilated. Motor shaded are 2900 RPM

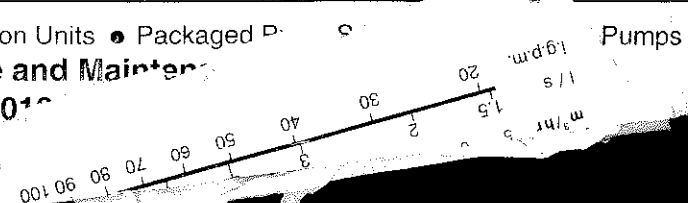
Certified drawings supplied on request  
Note: Improvements in general design and modifications in detail will be embodied for the benefit of clients as and when introduced, consequently this specification is subject to alteration, as may be necessary, without notice.

Manufacturers of: ● Centrifugal Pumps ● Pressurisation Units ● Packaged Pumps  
**For Pump Spares, Service and Maintenance**  
**Telephone: 0161 275 1111**

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Wenlock Way

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CAPACITY



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