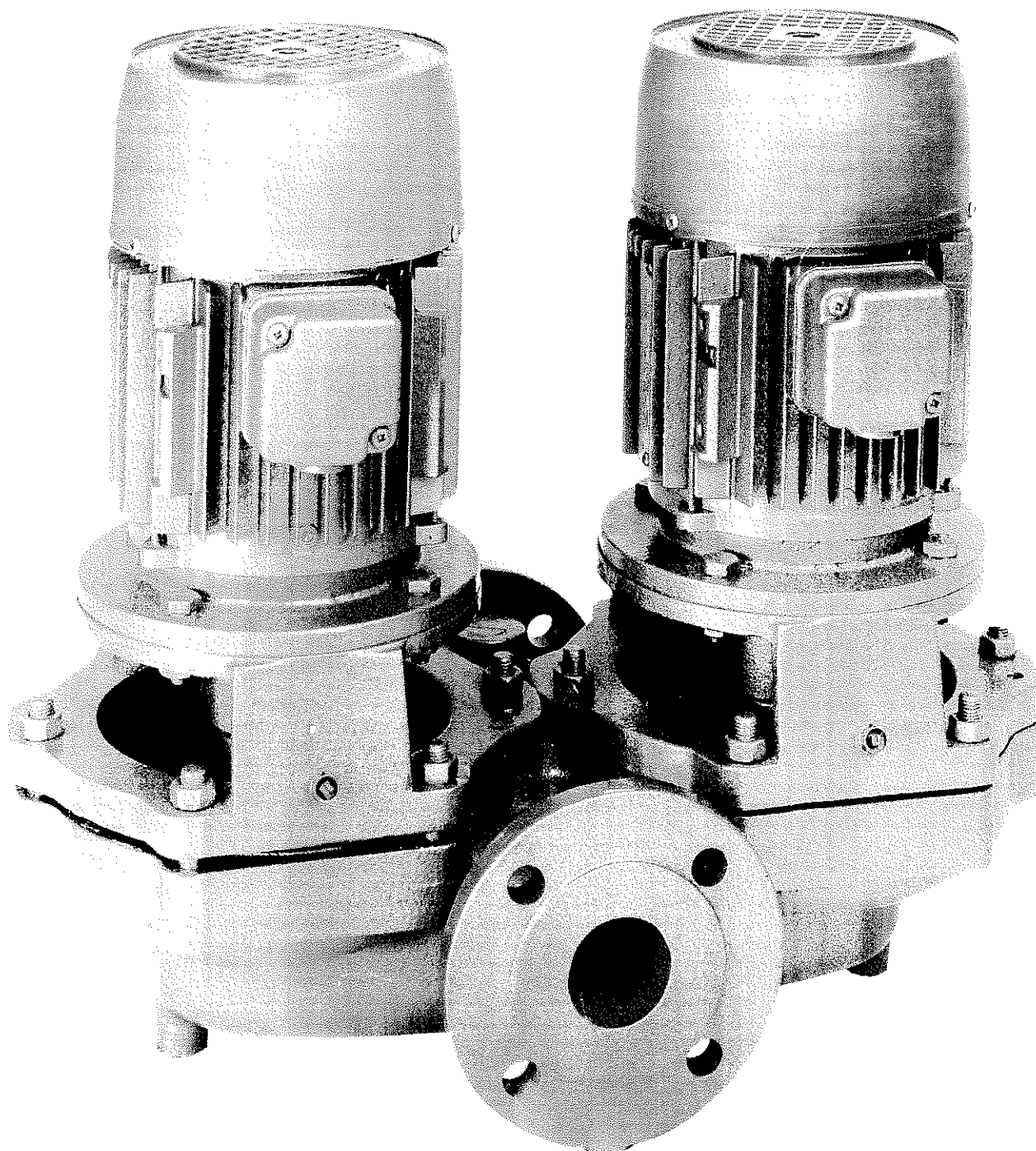
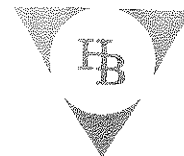


Startwin



Holden and Brooke Limited
Haverford Street, Manchester M12 5JL, England.
Tel:061-274 4242, Fax:061-274 3068.

INTRODUCTION

The STARTWIN pump set is ideal for use on heating, air conditioning, and general building service applications. STARTWIN pumps can handle cold and chilled water and low to medium pressure hot water. It has been designed to have the same overall dimensions across the flange faces as the single STARLINE pump of the same size. The sets comprise two of our well proven STARLINE pumps in a twin body which can be arranged for run and fully automatic standby. In the event of one of the pumps having to be removed from the body, it is possible by fitting a blanking plate to run the remaining pump.

A non return valve is incorporated in the pump body to prevent back-flow through the delivery passage of the standby pump.

All sets are designed for floor mounting with the pump/motor shaft vertical and branches horizontal but it is permissible for pumps fitted with motors up to D90 frame size to be mounted with the shaft in the horizontal position.

All units comply fully with M & E3 as standard and can be fitted with anti-vibration mountings if required as an optional extra.

OPERATING CONDITIONS

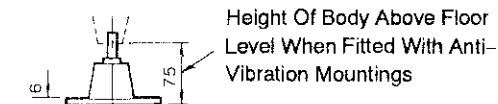
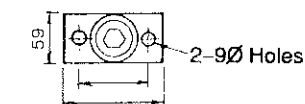
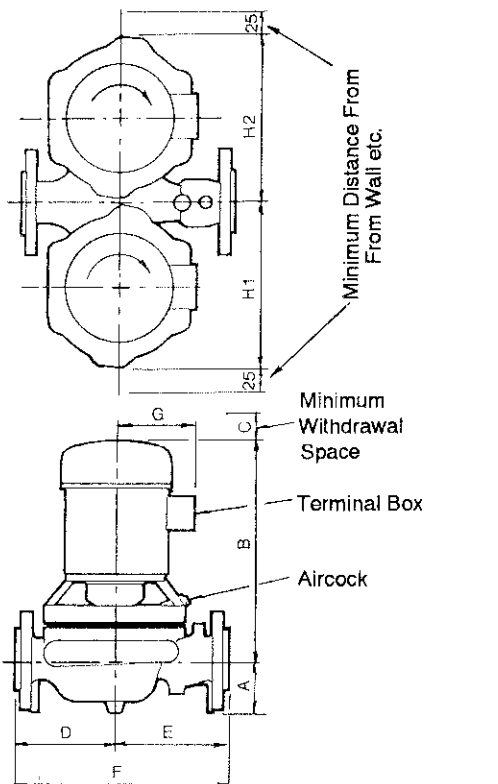
Maximum Working Temperature: Up to 130°C for standard pumps or 150°C with alternative seal.

Maximum Working Pressure: 10 Bar.

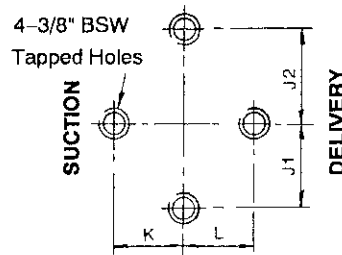
MATERIAL SPECIFICATION

Body:	Cast Iron, BS 1452 Gr260.
Pedestal:	Cast Iron, BS 1452 Gr220.
Impeller:	Gunmetal, BS1400 LG2C, Alternatively Cast Iron, BS 1452 Gr260. C.I.sizes 150 upwards.
Shaft	Stainless Steel BS 970 431S29.
Seals:	Din Standard 24960, self adjusting.
Non-Return Valve:	Stainless Steel, BS 1449 321S31.
Anti Vibration	
Mountings:	Neoprene in shear type.
Motors:	T.E.F.V. or Drip Proof complying fully to BS 4989 and BS 5000
Connections:	Branches flanged to BS 4504-16Bar.

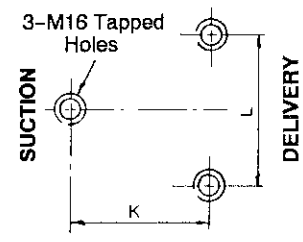
DIMENSIONS



Details Of Tappings in Underside Of Body For Anti-Vibration Mountings



Pump Sizes Up To 125-315



Pump Sizes 125-360 To 200-250

NOTES:-

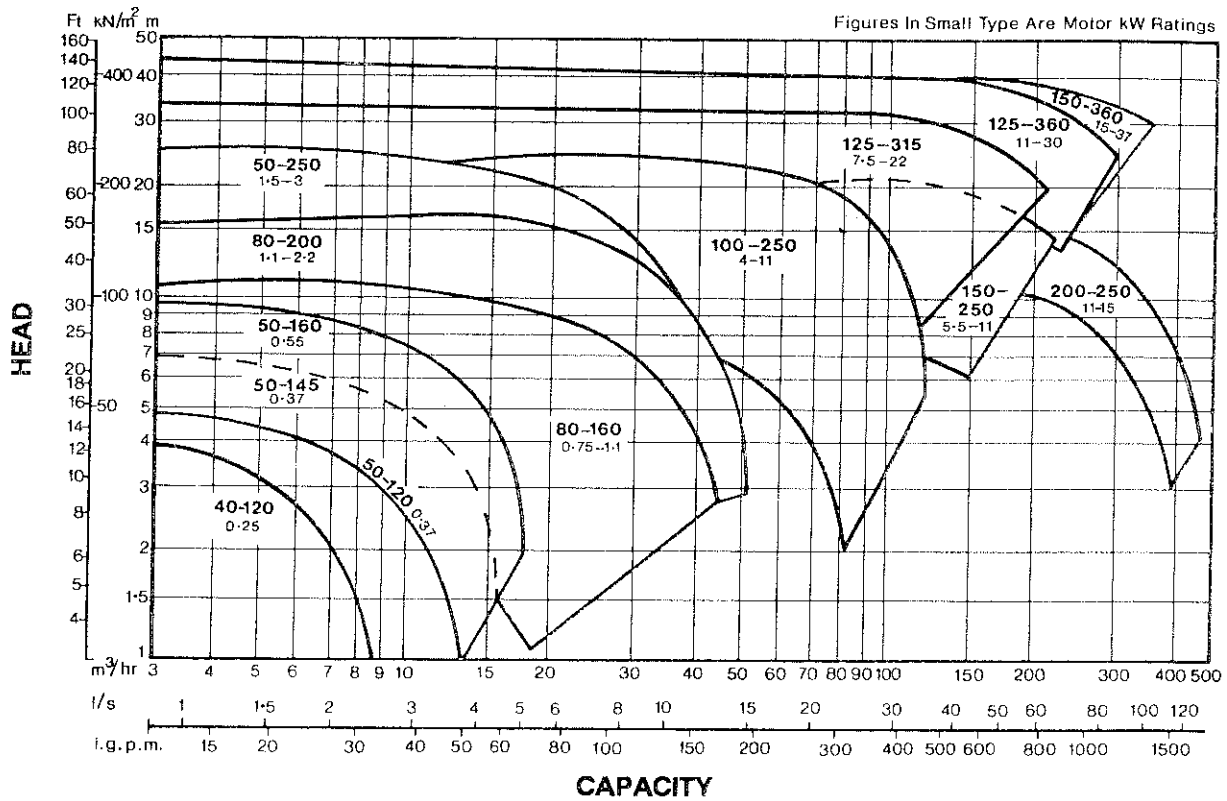
1. Pumps Must Be Vented Before Starting Up Via Radiator Type Aircock On The Pedestal.
2. Motor Terminal Boxes Can Be Turned Through 180° From Position Shown.
3. Anti-Vibration Mountings Are Only Supplied When Ordered.

DETAILS OF FLANGED CONNECTIONS BS 4504 - 16 BAR						
NOMINAL BORE	50	80	100	125	150	200
THICKNESS(INC.RF)	20	22	24	26	26	30
FLANGE DIA.	165	200	220	250	285	340
Ns. & SIZE OF BOLTS EQUI-SPACED OFF CLs.	4 M16	8 M16	8 M16	8 M16	8 M20	12 M20
P.C.DIA	125	160	180	210	240	295
RAISED FACE DIA.	102	138	158	188	212	268

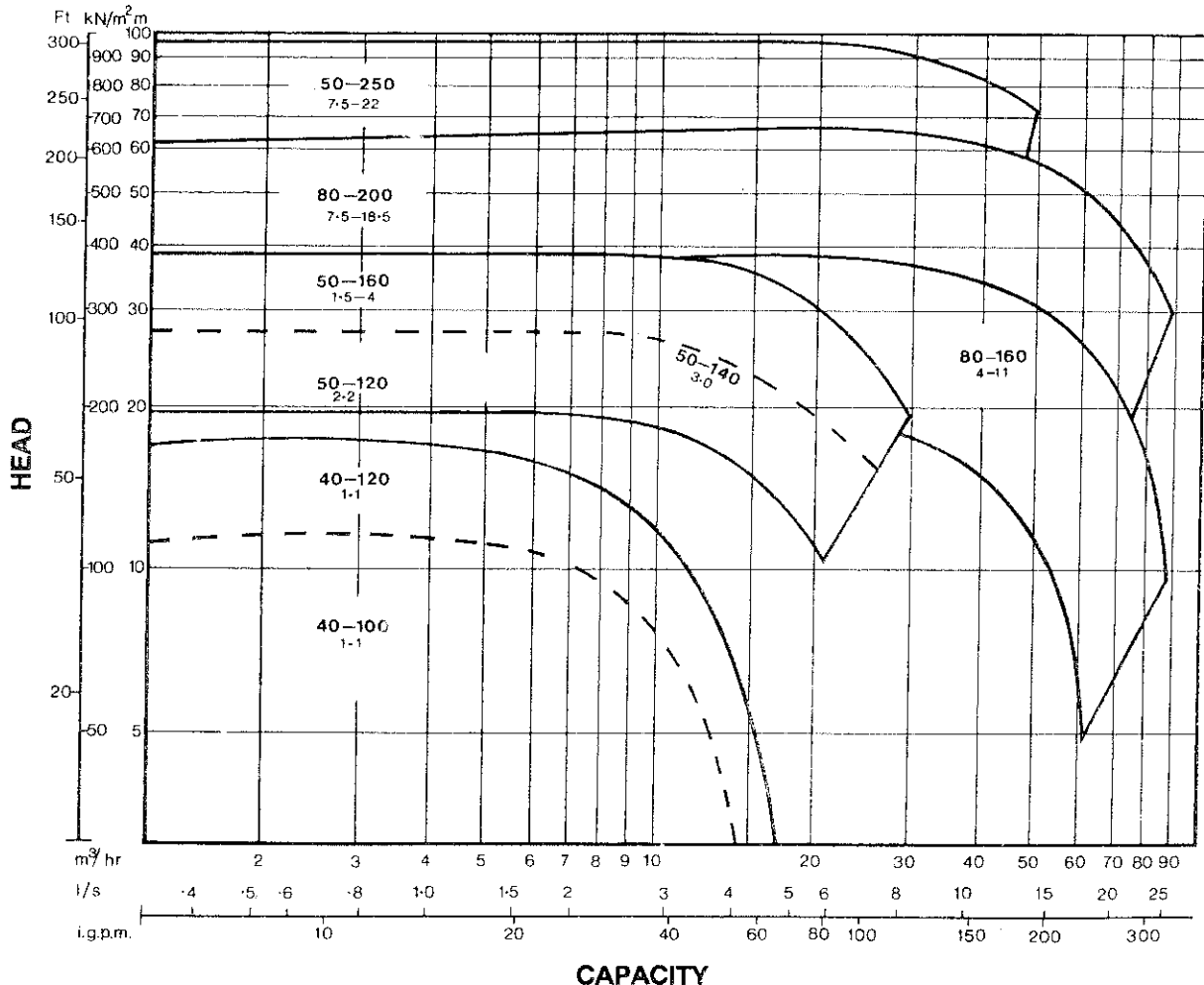
DIMENSIONS

PUMP SIZES	INLET/OUTLET DETAIL	MOTOR F/SIZE	A	B	C	D	E	F	G	H1	H2	J1	J2	K	L	WT Kg
40-120 (40-100)	FLANGED 40NB	B42	80	294	46	112	178	290	100	194	194	143	143	97	163	38
		B56	80	413	46	112	178	290	117	194	194	143	143	97	163	44
50-160 (50-145) (50-120)	FLANGED 50NB	B56	85	429	110	155	175	330	120	265	265	180	180	140	160	91
		D90S		154					96							
		D90L		154					101							
		D100L		180					128							
		D112M		190					146							
		D90S		154					166							
D90L	154	170														
D100L	180	189														
CYD100L	180	189														
D112M	190	189														
CYD112M	190	207														
D132S	212	207														
CYD132S	212	249														
D160M	270	249														
D160L	270	355														
C160M	255	393														
C160L	255	338														
D180M	292	370														
		450														
50-250	FLANGED 50NB	D90S	95	470	150	225	225	450	154	387	387	260	260	210	210	166
		D90L		154					170							
		D100L		180					189							
		CYD100L		180					189							
		D112M		190					207							
		CYD112M		190					207							
		D132S		212					249							
		CYD132S		212					249							
		D160M		270					355							
		D160L		270					393							
		C160M		255					338							
		C160L		255					370							
		D180M		292					450							
									450							
80-160	FLANGED 80NB	B56	105	444	120	136	244	380	120	335	335	270	270	120	228	107
		D90S		154					113							
		D90L		154					117							
		D100L		180					144							
		CYD100L		180					144							
		D112M		190					162							
		D132S		212					196							
		D160M		270					300							
		C160M		255					317							
		D90S		154					131							
		D90L		154					135							
		D100L		180					156							
		CYD100L		180					156							
		D112M		190					174							
CYD112M	190	174														
D132S	212	212														
D160M	270	314														
D160L	270	352														
C160M	255	331														
C160L	255	363														
80-200	FLANGED 80NB	D90S	105	267	130	180	220	400	154	352	352	275	275	165	205	131
		D90L		154					135							
		D100L		180					156							
		CYD100L		180					156							
		D112M		190					174							
		CYD112M		190					174							
		D132S		212					212							
		D160M		270					314							
		D160L		270					352							
		C160M		255					331							
		C160L		255					363							
		D90S		154					131							
		D90L		154					135							
		D100L		180					156							
CYD100L	180	156														
D112M	190	174														
CYD112M	190	174														
D132S	212	212														
D160M	270	314														
D160L	270	352														
C160M	255	331														
C160L	255	363														
100-250	FLANGED 100NB	D112M	120	573	165	220	330	550	190	392	392	310	310	205	315	251
		D132S		212					290							
		D132M		212					306							
		CYD132M		212					306							
		D160M		270					408							
		CYD160M		270					408							
		D160L		270					446							
		CYD160L		270					446							
		C160M		255					391							
		C160L		255					503							
		CYD180L		292					503							
		D160M		270					608							
		C160M		255					528							
		D160L		270					648							
C160L	255	560														
D180M	292	734														
C180M	270	618														
D180L	292	774														
CYD180L	292	774														
C180L	270	674														
D200L	300	886														
CYD200L	300	886														
C200M	345	744														
D225S	362	982														
125-360 (125-280)	FLANGED 125NB	D160M	155	618	200	350	450	800	---	502	520	---	---	387	500	320
		D160L		662					346							
		D180M		678					376							
		D180L		716					393							
		D200L		766					440							
150-250 (150-280)	FLANGED 150NB	D132S	180	549	175	290	410	700	---	396	418	---	---	332	400	264
		D132M		573					293							
		D160M		654					373							
150-360 (150-280)	FLANGED 150NB	D160L	180	662	200	350	450	800	---	527	550	---	---	387	530	386
		D180M		678					416							
		D180L		716					433							
		D200L		765					479							
		D225S		828					566							
200-250 (200-224)	FLANGED 200NB	D160M	260	679	210	400	600	1000	---	442	515	---	---	350	470	430
		D160L	260	740	210	400	600	1000	---	442	515	---	---	350	470	522

**SELECTION CHART STARTWIN
IN-LINE PUMPS 1450 RPM
PERFORMANCE ON WATER SG=1.0**



**SELECTION CHART STARTWIN
IN-LINE PUMPS 2900 RPM
PERFORMANCE ON WATER SG=1.0**



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

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