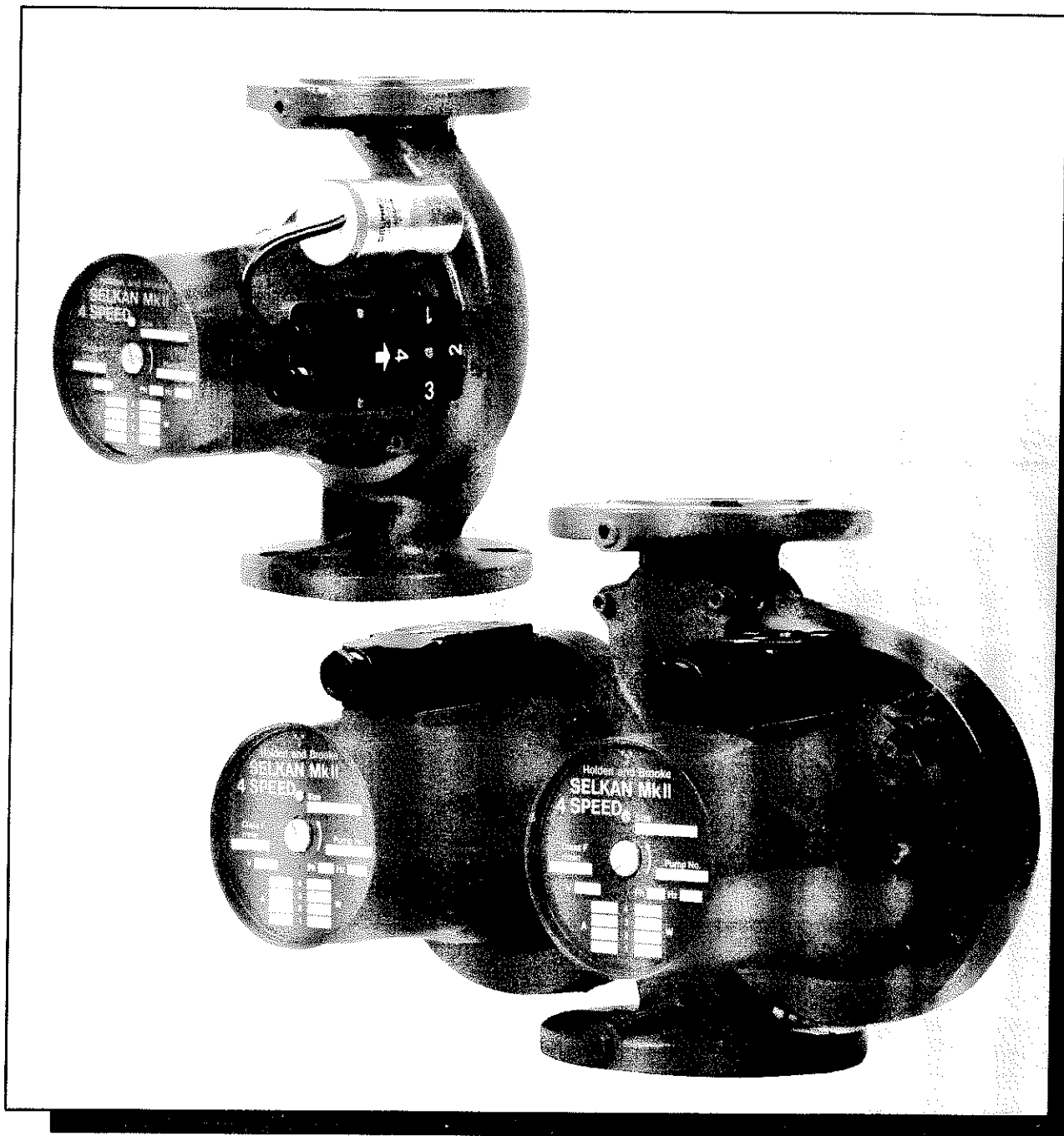


# Selkan MKII

Glandless Circulators—Single and Twin Units



**Holden and Brooke Limited**

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**DESCRIPTION**

Selkan MKII circulating pumps are a further development of our glandless range. The Selkan MKII, 4 speed pumps incorporate one of the most substantial and reliable bearing arrangements, i.e. large balanced thrust bearings and a lubrication system which ensures a continuous flow of water through the bearings. The motors are wound for 4 speed operation (except 2-75 and 3-70 series). This means that 4 positive H/Q curves are available with one impeller size from each pump, selected manually or by the optional automatic controls, which provides greater flexibility in performance. Selkan MKII 4 speed pumps ensure longer life and quieter maintenance free running.

**SAVING ENERGY**

The maximum and minimum power consumption are shown in the table for the highest and lowest speed settings. These clearly show the energy savings that can be made by reducing the pump speed. Usually the maximum performance of a pump is only required for a short period during a heating cycle. Therefore the performance of Selkan MKII 4 speed pumps can be regulated manually or automatically according to the requirements to make considerable energy savings. This feature is not available with ordinary fixed speed pumps.

**TWIN PUMPS**

Most 4 speed heating and chilled water pumps can be supplied as single case twin units, model reference letter(D). Although two motors and an additional non return valve are built into the same casing, the overall dimensions and connections remain the same as for the single pump. Consequently, single and twin pumps are interchangeable in branch connections.

**SPEED SELECTION**

Speed selections where applicable, resulting in 4 individual head/capacity curves are selected by means of either a four position switch or plug. The chart identifies which method of changeover applies to which individual pump. Both methods are clearly visible and accessible without the need to remove the terminal box cover. The 2-75 series have manually regulated variable flow.

**MATERIALS OF CONSTRUCTION**

- Pump Casing : Cast Iron or Bronze
- Impeller : Cast Iron or Polysulphone
- Shaft : Stainless Steel
- Can : Stainless Steel
- Bearings : Carbon
- Motor : IP44(IP54 on request)
- O Rings : EPDM Rubber

**MINIMUM/MAXIMUM WORKING TEMPERATURES: -15°C to 120°C (65°C max G.M. Secondary Hot Water)**

**MAXIMUM WORKING PRESSURE: 10 Bar**

N.B. for combined temperature and pressure limitations consult BS4504

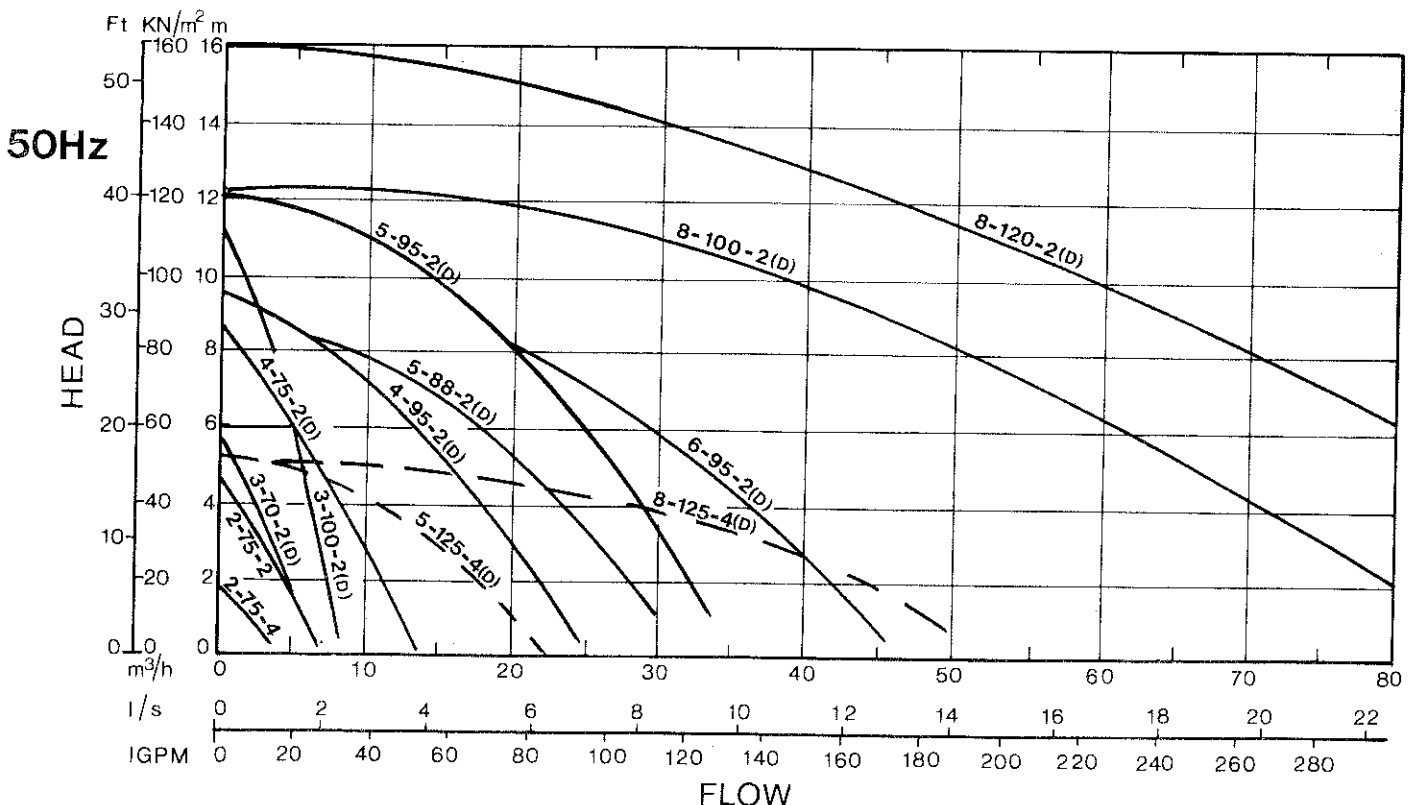
**MINIMUM INLET SUCTION HEAD REQUIRED AT 82°C = 1.5 to 3 metres(See chart).**

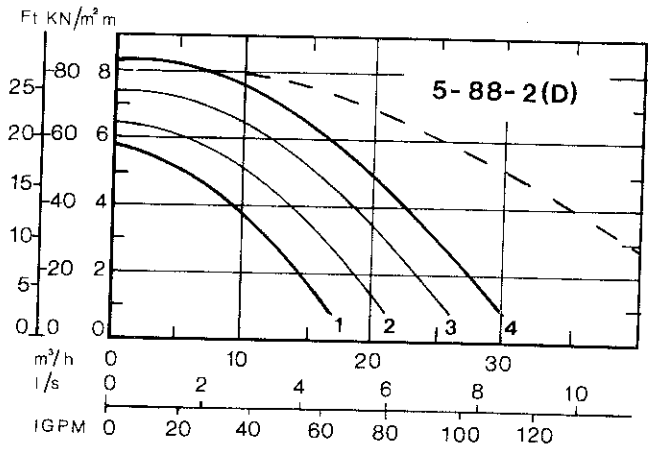
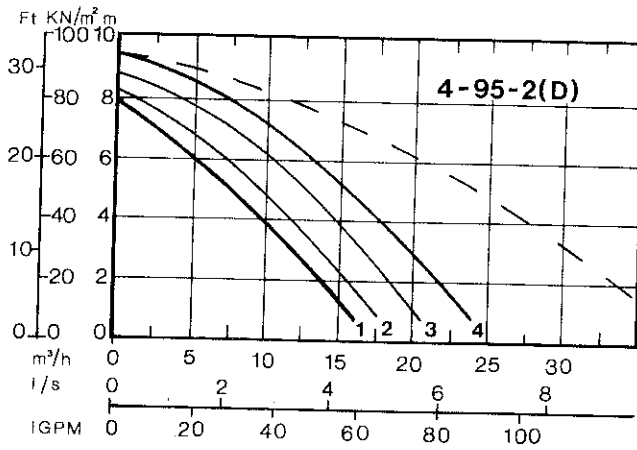
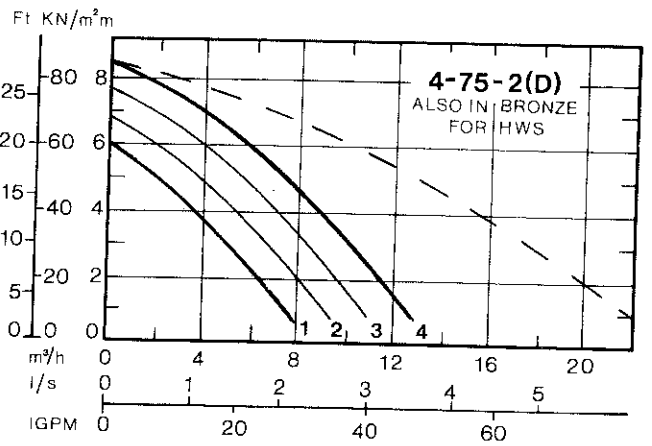
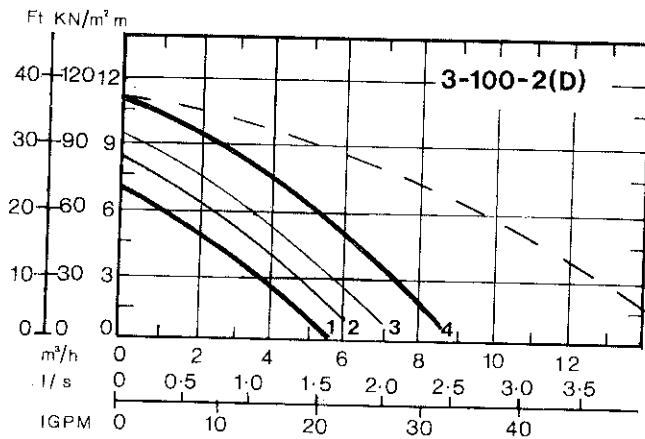
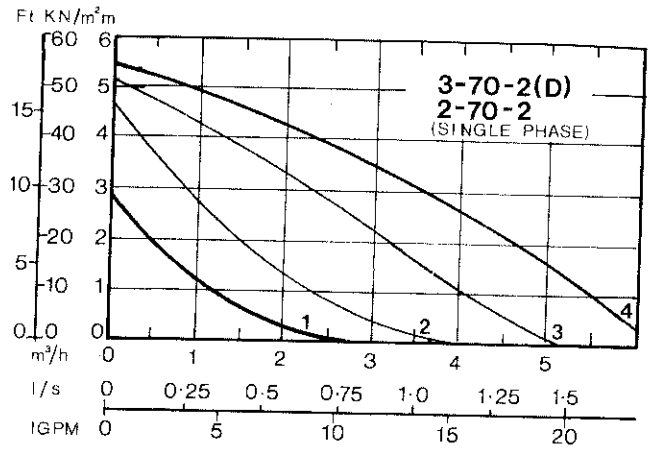
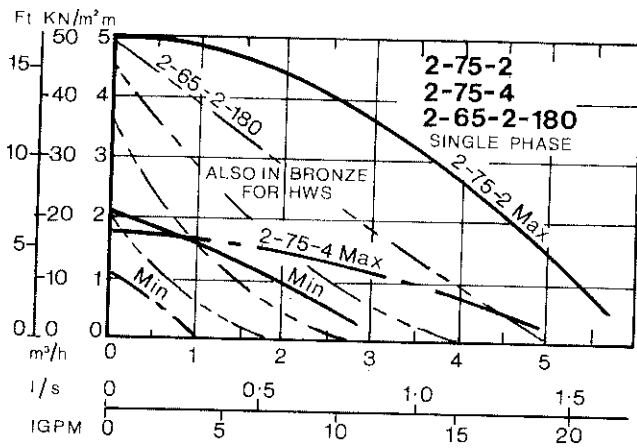
**APPLICATIONS : Blue Pumps—Heating and Chilled Water. Yellow Pumps—Secondary Hot Water.**

All models supplied with mating flanges or unions as appropriate.

NOTE: Twin pumps are not available in bronze construction.

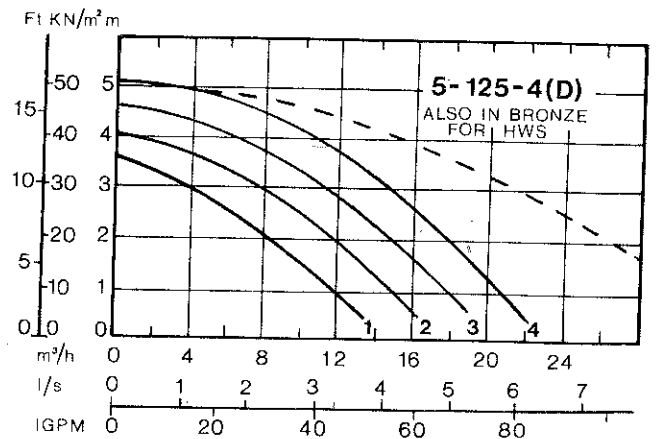
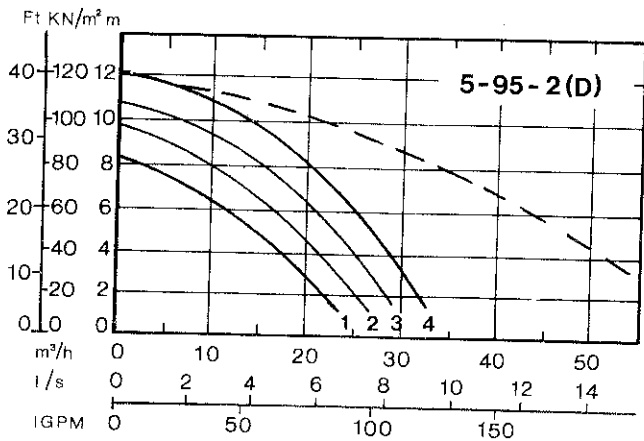
SELECTION CHART-SINGLE AND DUAL UNITS  
PERFORMANCE ON WATER SG = 1.0



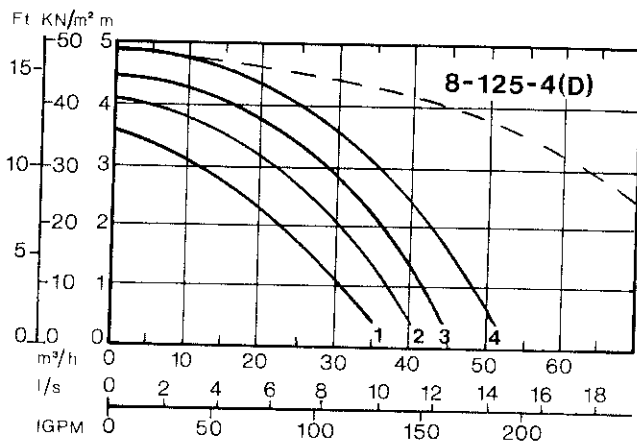
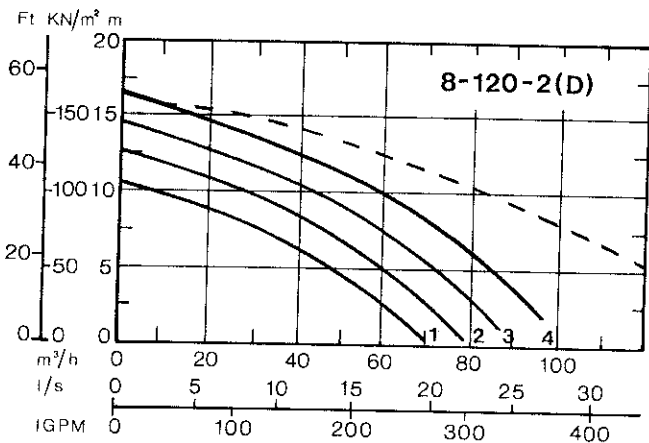
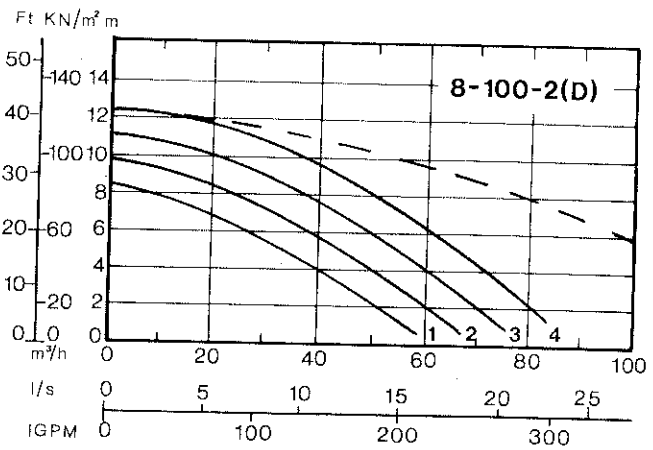
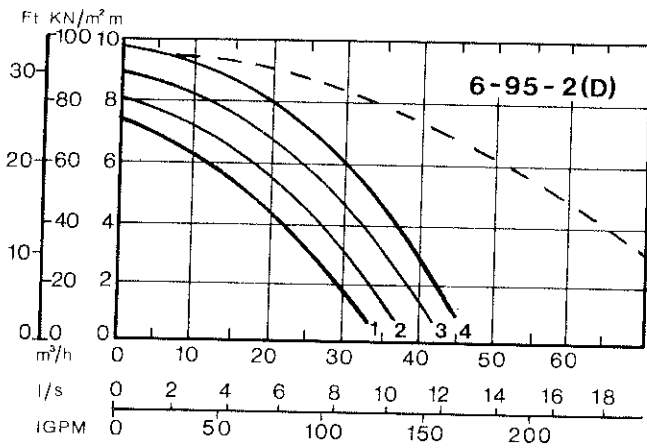


NOTE: Speed 3 is max. duty of single phase pump

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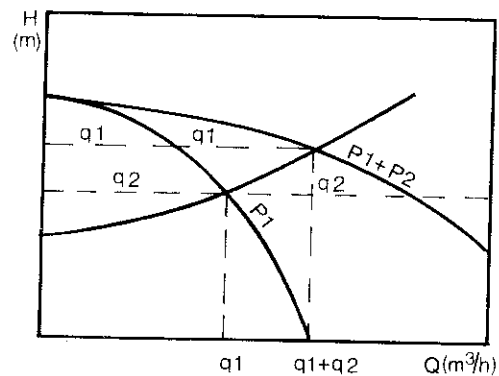
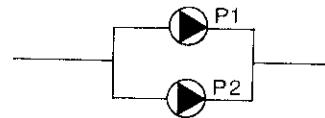


NOTE ALL CURVES: Dotted lines represent parallel operation of single case twin pumps. Single case twin pump duties are approximately 15% lower than single curves shown.



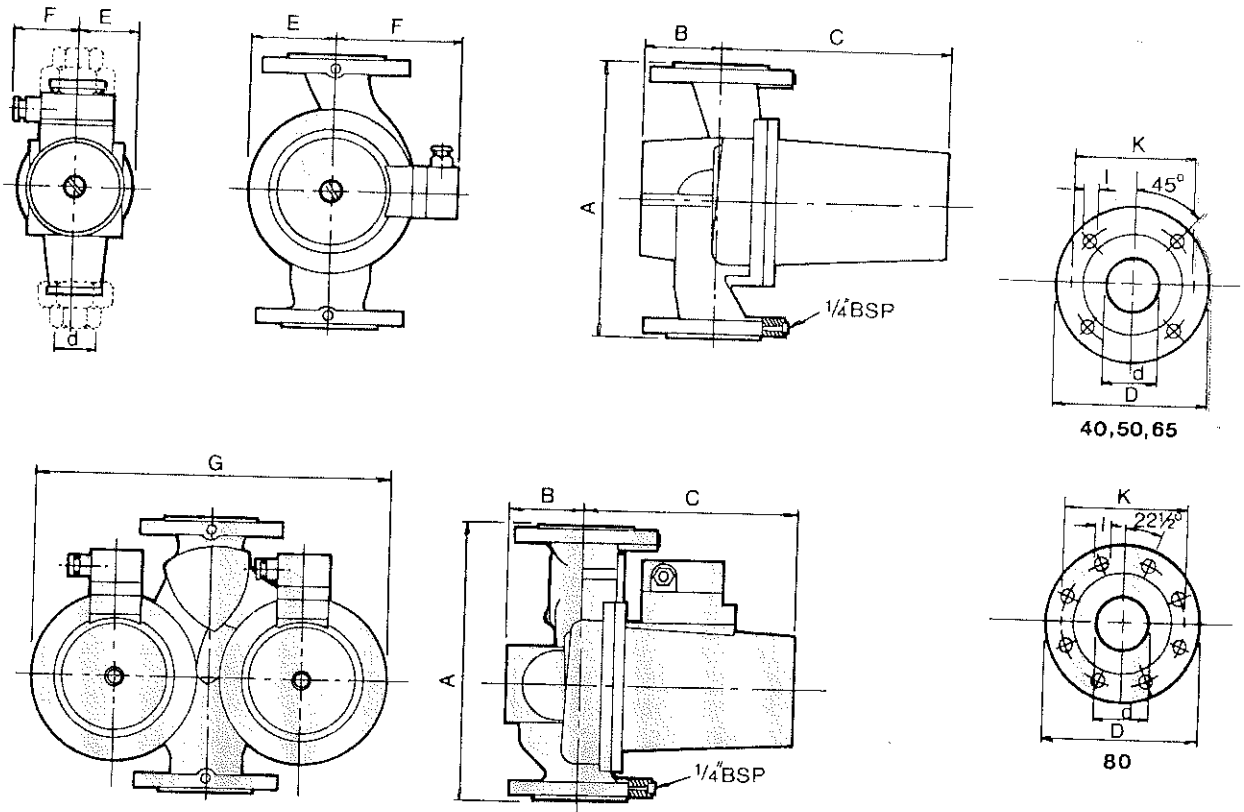
### PARALLEL OPERATION

Parallel operation is possible with a single case twin pump. This is useful when the duty is high flow with a low head, or, when high flow is required for a short period of time. Parallel operation means smaller motor size and greater flexibility for energy savings. Our individual pump curves show parallel performance when applicable. The performance of two pumps in parallel operation is calculated by adding  $Q(m^3/h)$  for each individual pump at same  $H(m)$ . The performance of a twin pump in parallel operation will not be doubled. Due to flow of a larger quantity of water and the subsequent higher pressure drop in the pump casing the performance will be slightly reduced.



MODEL	MINIMUM INLET SUCTION HEAD (METRES)	STARTING CURRENT AT MAX'M SPEED	
		240-1-50	415-3-50
2-65-2-180	1.5	1.26	—
2-70-2	2.5	1.53	—
2-75-2	2.5	—	0.72
2-75-4	2.0	—	0.52
3-70-2	2.5	1.53	0.90
3-100-2	2.5	4.00	1.30
4-75-2	2.5	3.90	1.53
4-95-2	2.5	5.20	2.50
5-88-2	2.5	5.20	2.50
5-95-2	3.0	10.40	4.40
5-125-4	2.0	3.40	1.84
6-95-2	3.0	10.40	4.40
8-100-2	3.0	22.00	7.32
8-120-2	3.0	—	10.06
8-125-4	2.0	8.26	3.84

## DIMENSIONS



TYPE	A	B	C	D	d	E	F	G	FLC AMPS				FLC AMPS				WATTS		WT KG		
									240-1-50				415-3-50				MIN	MAX	ONE PUMP	TWIN PUMP	
									SPEED		SETTING		SPEED		SETTING						
2-65-2-180	130	32	110		1"	95	52		0.21	0.28	0.36	0.42					45	95	2.9		
2-70-2	180	32			1 1/4"				0.32	0.36	0.47	0.51					40	120	2.9		
2-75-2		53	147		1"	85	58														
2-75-4																	0.36	90	120	5.4	
3-70-2(D)	180	39	110		1 1/4"	95	52	230	0.32	0.36	0.47	0.51					0.26	45	85	4.8	
3-100-2(D)			148			100	56	242	1.00	1.06	1.12	1.21	0.28	0.34	0.45	0.62	0.30	40	120		7.5
4-75-2(D)	250	75	158	150	40	100	75	362	1.00	1.06	1.12	1.21	0.28	0.34	0.45	0.62	0.70	215	16	21	
4-95-2(D)			198				81	378	2.16	2.39	2.60		0.95	1.03	1.14	1.25	188	588	20	25	
5-88-2(D)			198				83	401	2.16	2.39	2.60		0.95	1.03	1.14	1.25	228	699	20	30	
5-95-2(D)	280	83	202	165	50	100	92	401	3.95	4.31	4.79	5.20	1.67	1.82	2.02	2.20	400	1000	30	50	
5-125-4(D)			198				83	401	1.29	1.41	1.56	1.70	0.70	0.76	0.85	0.92	123	355	20	30	
6-95-2(D)	340	93	235	185	65	120	105	452	3.95	4.31	4.79	5.20	1.67	1.82	2.02	2.20	425	1080	35	58	
8-100-2(D)			289						8.36	9.13	10.12	11.00	2.78	3.04	3.37	3.66	1100	2050			
8-120-2(D)	360	102		200	80	120	105	505					3.63	4.01	4.42	5.03	1380	2830	65	92	
8-125-4(D)			239						3.13	3.43	3.80	4.13	1.04	1.26	1.53	1.92	250	550	55	99	

## FLANGES

d	PN6		PN10		
	K	I	K	I	
40	100		110		18
50	110	15	125		
65	130		145		
80			160		

40, 50, 65 mm flanges are dual drilled for PN6 and PN10.

## VENTING

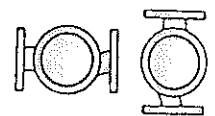
Before start up pumps must be vented by removing the plug positioned in the centre of the nameplate. Pumps for secondary hot water should be vented periodically.

## CHECKING DIRECTION OF ROTATION

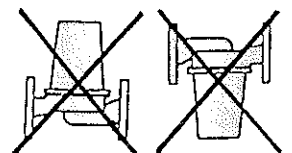
Shaft rotation should be anti-clockwise as indicated by the arrow on the nameplate. Direction of rotation can be checked with plug removed, which is positioned in centre of nameplate.

## MOUNTING

Selkan MKII pumps are renowned for their low noise levels in operation and maintenance free long life. They can be installed in horizontal or vertical pipework. Motor shaft should be in horizontal position.



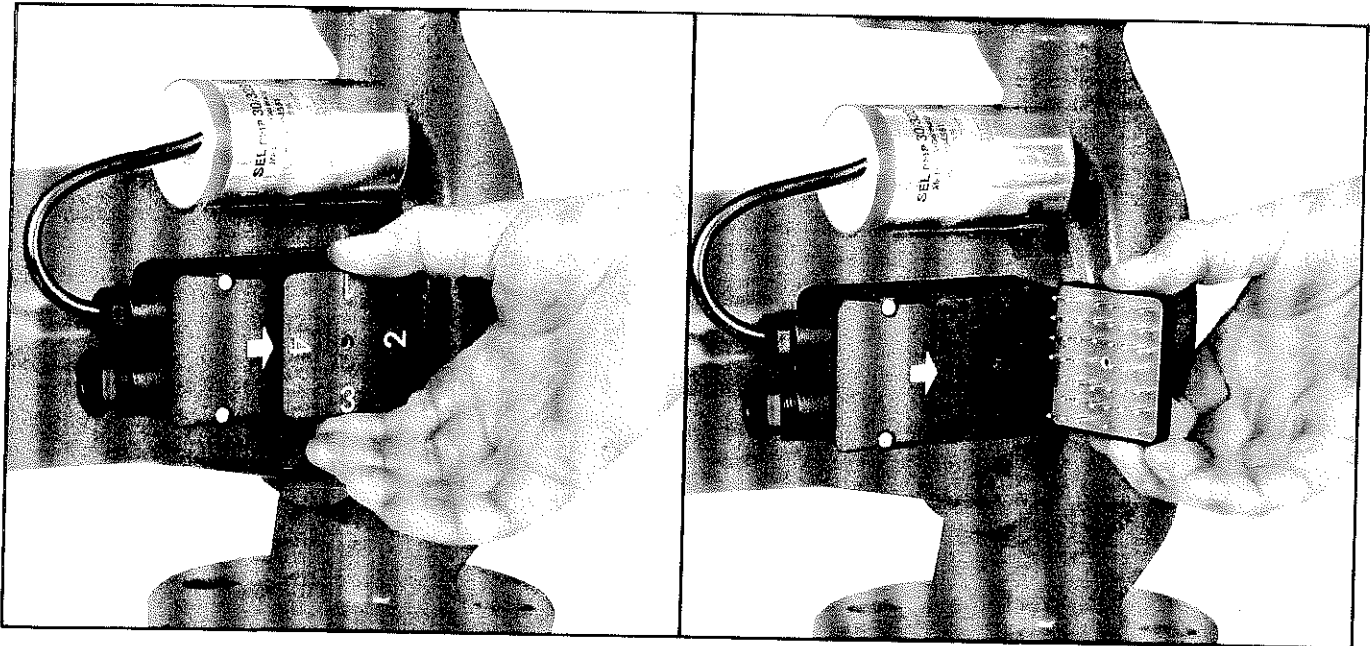
ALLOWED



NOT ALLOWED

**SPEED CHANGES.**

Speed changes are made by either a 4 speed selector plug or switch. The photograph shows the 4 speed plug version. To change speed it is only necessary to remove the plug, rotate it until the required speed number selection is opposite the white arrow and then push the plug back in. (No.1 is the minimum speed, No.4 is the maximum speed). The 4 speed switch version operates by pulling out the switch, rotating it to the desired speed selection and pushing it back in.



MODEL	C	CD	VZ	240-1-50			415-3-50			
				L N	L N a b	L N a b	U V W	U V W a b	U V W	
2-65-2-180	✓		✓	■						
2-70-2	✓		✓	■						
2-75-2	✓		✓							
2-75-4	✓		✓							Man Regulator
3-70-2		✓		■						Man Regulator
3-100-2	✓	✓			■		■			
4-75-2	✓	✓	✓		■			■		
4-95-2	✓	✓	✓			■		■		
5-88-2	✓	✓	✓			■		■		
5-95-2	✓	✓	✓			■		■		
5-125-4	✓	✓	✓			■		■		
6-95-2	✓	✓				■		■		
8-100-2	✓	✓				■		■		
8-120-2	✓	✓				■		■		
8-125-4	✓	✓				■		■		

C = Heating/Chilled Water Pump

CD = Twin Heating/Chilled Water Pump

VZ = Single Bronze HWS Pump

■ = 4 Speed Switch

■ = 4 Speed Plug

a & b = Thermal Overload Facility

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.

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