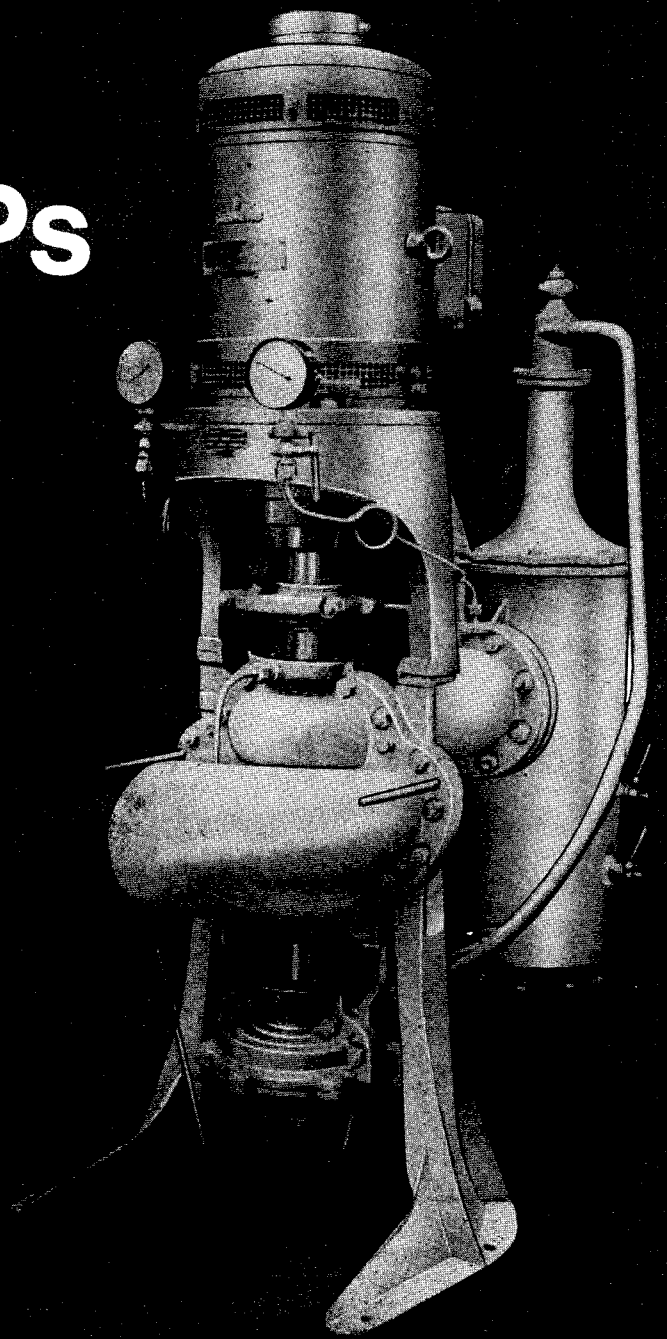


# VERTICAL PUMPS

**BV BVs BVPs**



## VERTICAL PUMPS

Shortly after their establishment, JUGOTURBINA started their own construction of marine pumps designed to suit requirements of our indigenous shipbuilding. Such development of these pumps has achieved outstanding results in their operating features and efficiency. JUGOTURBINA have constantly endeavoured to manufacture serviceable pumps notable for their endurance and long life in the most arduous working conditions.

These successful and noteworthy results in pump production are borne out by the fact that a great number of vessels with Jugoturbina pump installations have been in continuous operation for over fifteen years.

**Our pumps serve to suit different purposes, suchs as:**

BALLAST PUMPS

MAIN AND AUXILIARY FRESH AND SEA WATER COOLING PUMPS

BILGE PUMPS

FIRE-FIGHTING PUMPS

FEED PUMPS

HOT WATER CIRCULATING PUMPS

CARGO PUMPS

DRAINAGE AND AUXILIARY DOCK PUMPS

MAIN AND AUXILIARY CONDENSATE PUMPS

HYDROPHOR PUMPS

GENERAL SERVICE PUMPS

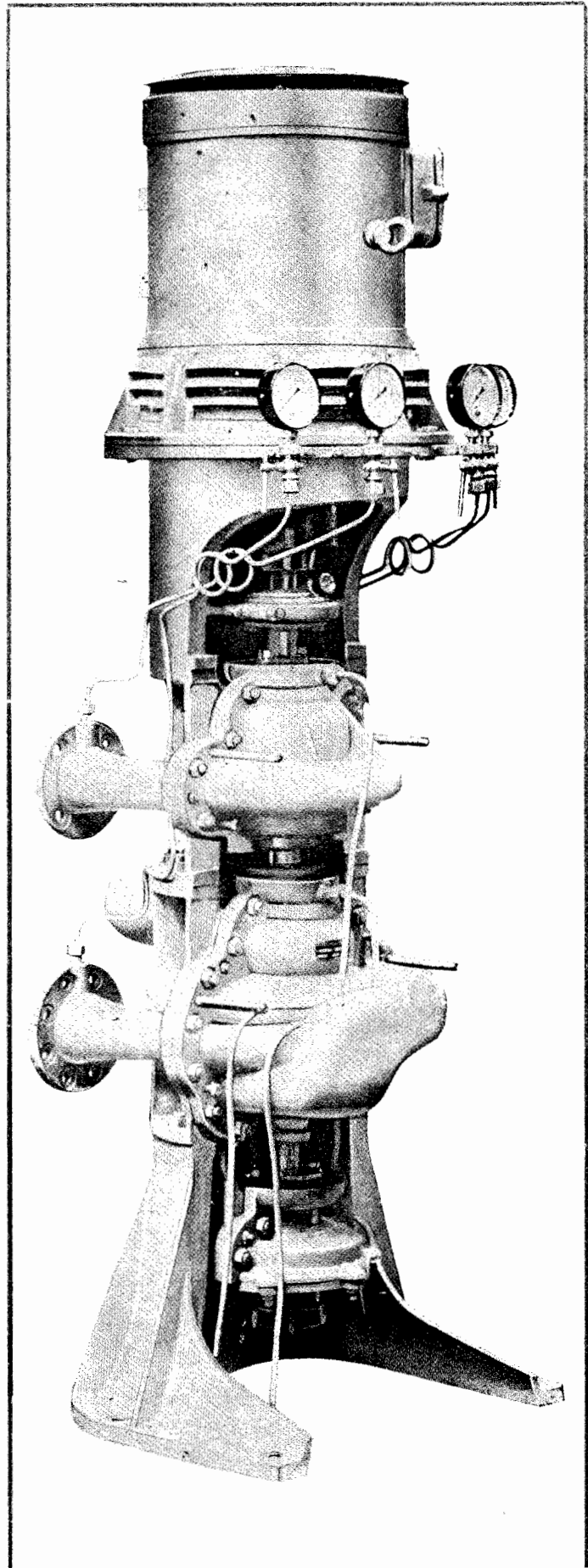
**In stationary plants such as:**

WATER WORKS

PUMP STATIONS

## DESIGN FEATURES

These pumps are distinguished by solid sturdy construction and high efficiency, though they take a minimal volume of ship space. Vertical pumps are operated as self-priming or non-self-priming, also as single or double-stage units. Special attention is paid to structural elements in order to ease erection and dismantling at a site of installation. Pump casing cover can be easily removed thus enabling a complete rotor to be taken out, whereas piping need not necessarily be at the same time separated from a pump. Following their construction and application, we offer the following types of pumps:



### **Type BV**

These pumps are non-self-priming of single and double-stage designs. A casing is axially split; whilst an electro-motor is placed on an adjusting plate and joined with a pump shaft by a flexible coupling, which enables easy separation of the rotor without lifting the electro-motor. Upper bearing is of a roller type, radially-axial; bottom bearing is of a slide type, grease lubricated.

### **Type BVs**

These pumps are self-priming of single or double-stage designs. Self-priming device acts automatically, also serving as a part of suction piping and gains economical use of space. Other design features are identical with those of the pumps, type BV.

### **Type BVPs**

These pumps are of a double-stage design and provided with a self-priming device. Basic features of these pumps are also identical with those of the types BVs and BV. Impellers can operate serially or paralelly by simple starting of a reversible valve lever, thus obtaining two ranges of supply for the same pump, in fact, a relatively high capacity at a low head in a parallel compound, and a half less capacity at as twice as high head in a serial compound. This construction is particularly suitable for various functions.

### **Materials**

Within a standard design, pumps are manufactured of two materials, which combination depends on the medium being supplied. Fresh water pump casings are made of qualitative cast iron; sea-water ones are made of bronze free of zinc alloy.

Without regard to the medium supplied, whether that is fresh or sea-water, impellers are made of bronze and shafts of stainless steel protected with bronze sleeves. Pumps and accessories can be made of other materials as per customers' requirements.

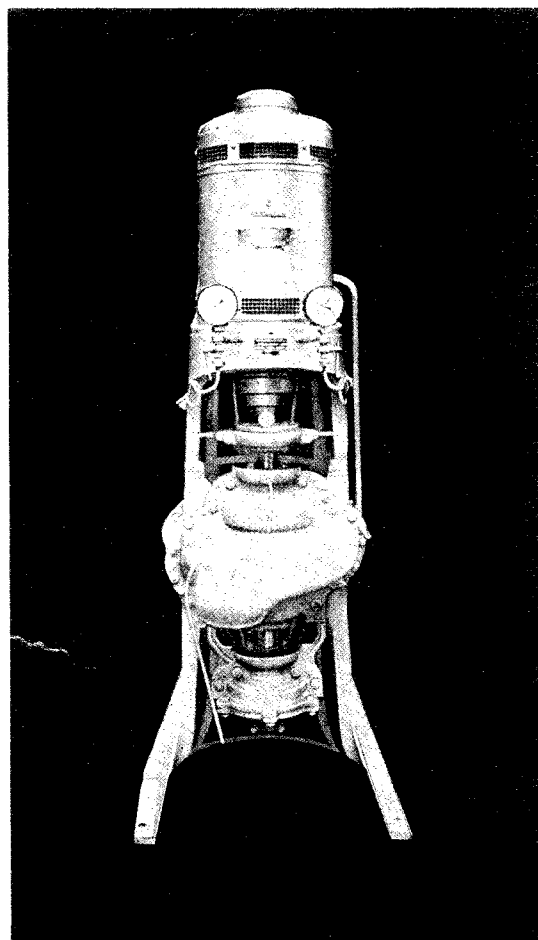
### **Packings**

Sealing of a casing at the shaft passing point is usually performed by means of graphite-asbestos gaskets. Sealing water flow regulation is enabled by tightening of glands. On request, mechanical seals with slide rings can be fitted instead of packings.

### **Range of supply**

Ranges of supply for pumps covering our standard sizes are shown in the diagrams. Every size relates to a range, within which an optional choice of supply is available.

Pumps out of the presented range are obtainable upon a customer's application, also condensate pumps, feed pumps, hydrophor pumps, cargo pumps and other varieties that are covered by separate brochures.

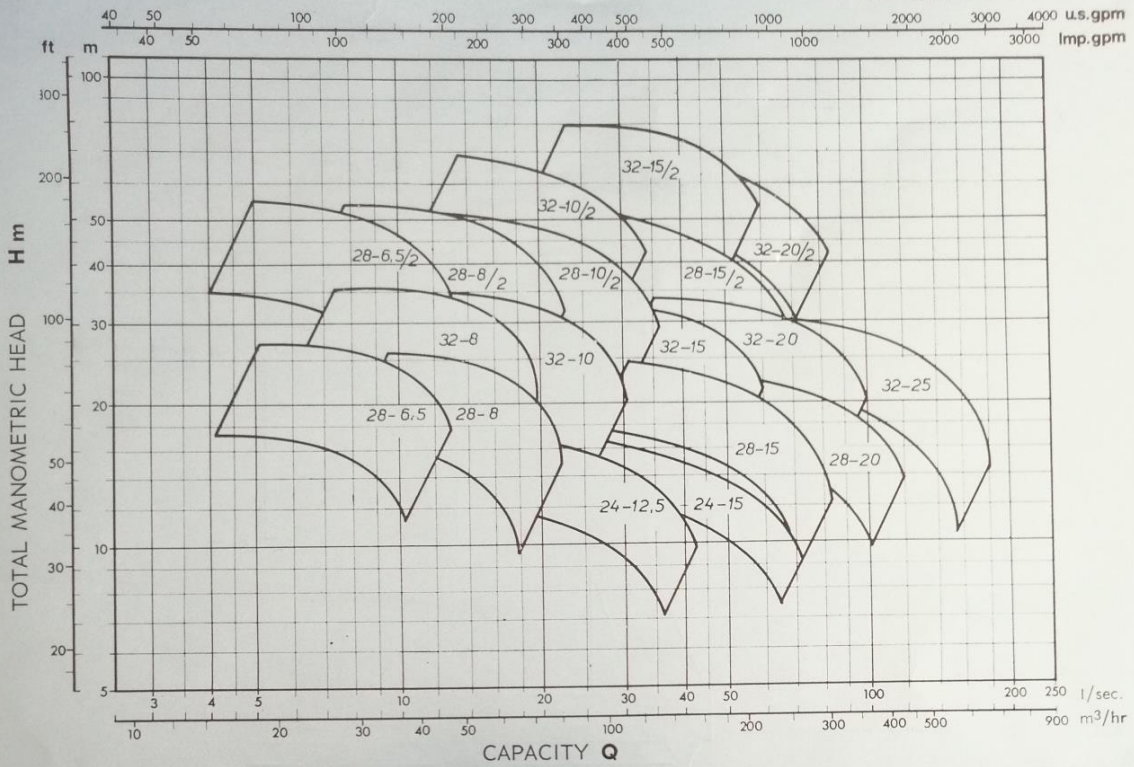


### **Measuring sketches**

Standard sizes of pumps type BV, BVs and BVPs are tabulated with respective main dimensions necessary for a proper fitting. Due to eventual improvements regarding design features, we reserve ourselves the right of subsequent modifications of dimensions shown in this brochure.

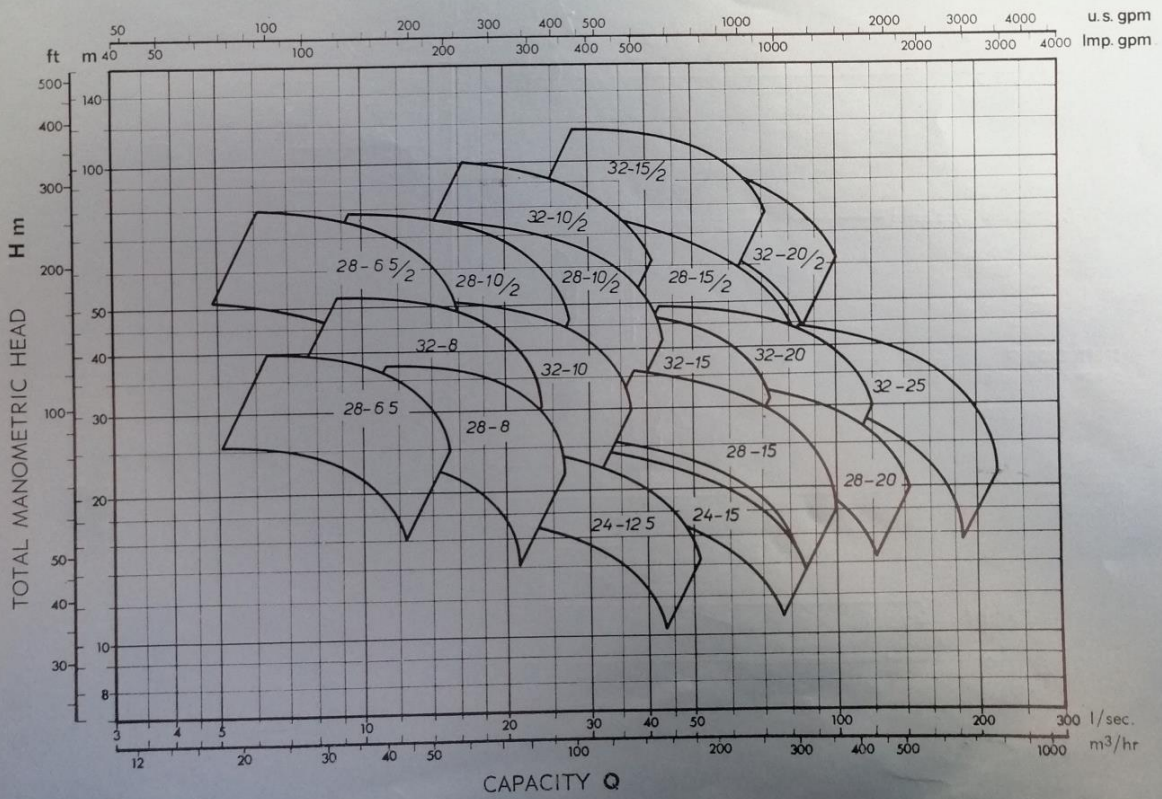
RANGES OF SUPPLY — PUMPS TYPE BV AND BVs

n = 1450 r.p.m. 50 (Hz)



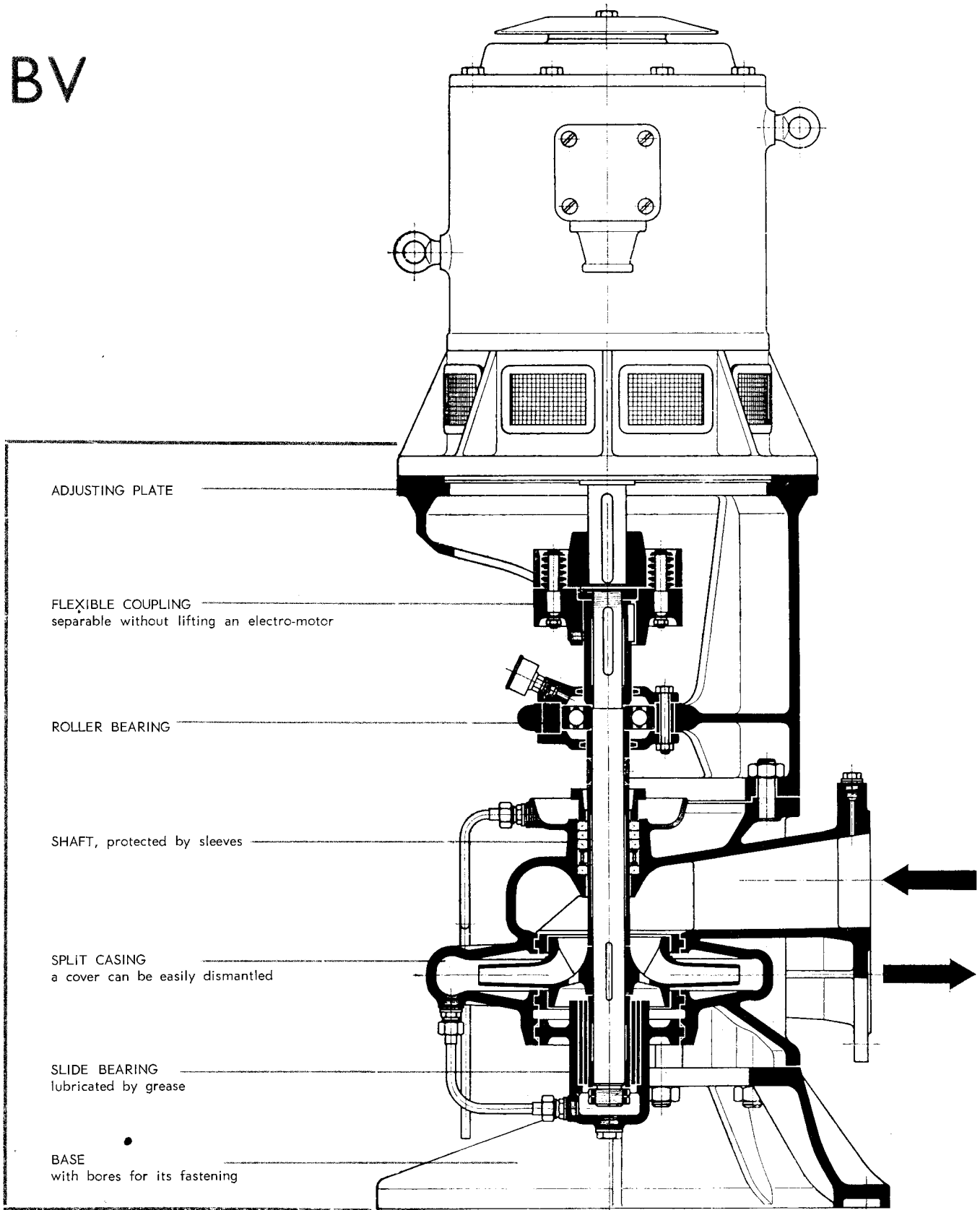
Numbers within above range indicate adequate pump sizes. First number indicates the outside diameter of an impeller; whilst the second one indicates the diameter of a delivery flange (in cm.)  
 DOUBLE-STAGE NON-SELF-PRIMING PUMP IS INDICATED AS: type BV 28-8/2, a self-priming one is marked as type BVs 28-8/2.  
 At the self-priming pump drive, it is essential to gain the output of 2—3 HP higher than at the non-self-priming pump of the same size.

n = 1750 r.p.m. (60 Hz)

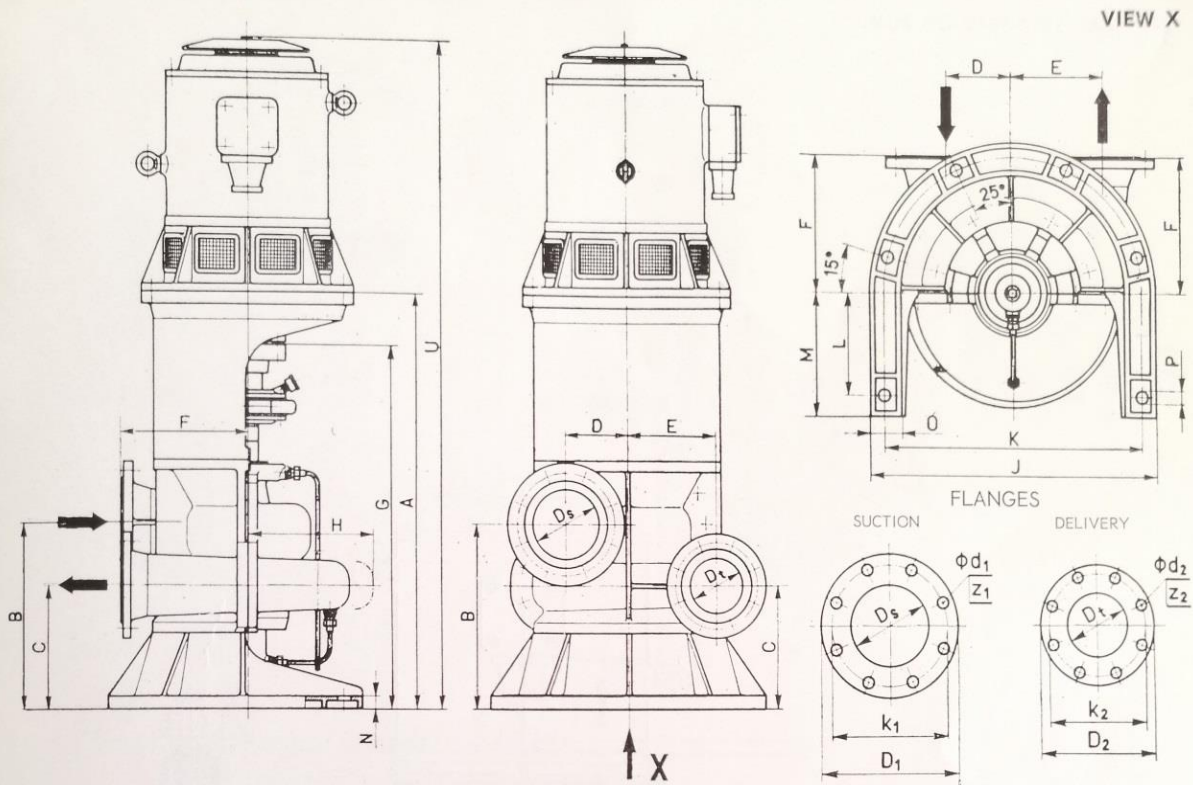


VERTICAL NON-SELF-PRIMING PUMP

BV







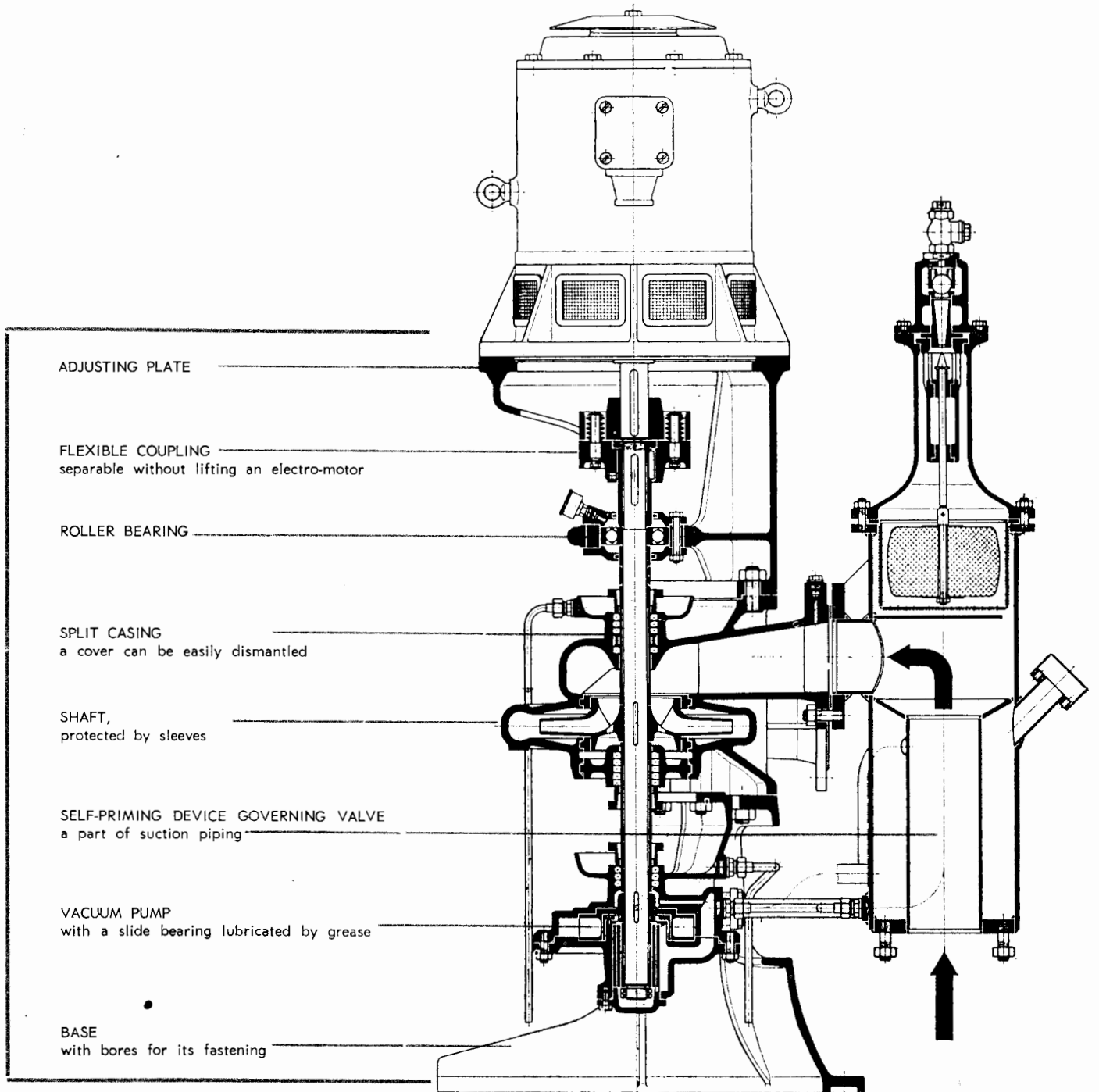
Dimensions in mm (subject to modifications)

BV	SINGLE-STAGE PUMPS											DOUBLE-STAGE PUMPS							
	BV 24-12.5	BV 24-15	BV 28-6.5	BV 28-8	BV 28-15	BV 28-20	BV 32-8	BV 32-10	BV 32-15	BV 32-20	BV 32-25	BV 28-6.5/2	BV 28-8/2	BV 28-10/2	BV 28-15/2	BV 32-10/2	BV 32-15/2	BV 32-20/2	
PUMP DIMENSIONS	A	815	924	733	783	924	996	775	844	912	996	1083	820	890	969	1137	1013	1049	1272
	B	380	430	318	350	430	444	350	370	417	444	455	405	457	490	605	470	554	696
	C	255	270	240	250	270	284	260	255	265	284	275	285	305	320	370	300	350	420
	D	130	145	105	120	145	170	110	130	145	170	195	105	120	130	145	130	145	170
	E	180	195	160	175	215	325	190	200	215	245	265	160	180	190	215	200	215	245
	F	280	360	260	280	360	380	280	300	360	380	400	260	280	280	360	300	360	380
	G	695	774	613	663	774	843	657	694	762	843	930	700	770	819	984	863	899	1121
	H	420	450	380	395	451	485	405	420	450	488	525	440	465	500	591	482	555	620
	J	600	700	600	600	700	800	600	700	800	810	810	600	600	700	800	700	700	800
	K	550	650	550	550	650	750	550	650	650	750	750	550	550	650	750	650	650	750
	L	190	240	190	190	240	290	190	240	240	290	290	190	190	240	290	240	240	290
	M	250	300	250	250	300	350	250	300	300	350	350	250	250	300	350	300	300	350
	N	25	30	25	25	30	30	25	30	30	30	30	25	25	30	30	30	30	30
	O	60	60	60	60	60	60	60	60	60	60	70	60	60	60	60	60	60	60
P	23	23	23	23	23	23	23	23	23	23	25	23	23	23	23	23	23	23	
SUCTION FLANGE	D <sub>s</sub>	150	200	80	100	200	250	100	125	200	250	300	80	100	125	200	125	200	250
	D <sub>r</sub>	265	320	190	210	320	375	210	240	320	375	440	200	220	250	340	250	340	405
	k <sub>r</sub>	225	280	150	170	280	335	170	200	280	335	395	160	180	210	295	210	295	355
	d <sub>r</sub>	18	18	18	18	18	18	18	18	18	18	23	18	18	18	23	18	23	27
	z <sub>r</sub>	8	8	4	4	8	8	4	8	8	8	12	8	8	8	12	8	12	12
DELIVERY FLANGE	D <sub>t</sub>	125	150	65	80	150	200	80	100	150	200	250	65	80	100	150	100	150	200
	D <sub>2</sub>	240	265	160	190	265	320	190	210	265	320	375	185	200	220	285	220	285	340
	k <sub>2</sub>	200	225	130	150	225	290	150	170	225	280	335	145	160	180	240	180	240	295
	d <sub>2</sub>	18	18	14	18	18	18	18	18	18	18	18	18	18	18	16	23	18	23
	z <sub>2</sub>	8	8	4	4	8	8	4	8	8	8	12	8	8	8	12	8	12	12

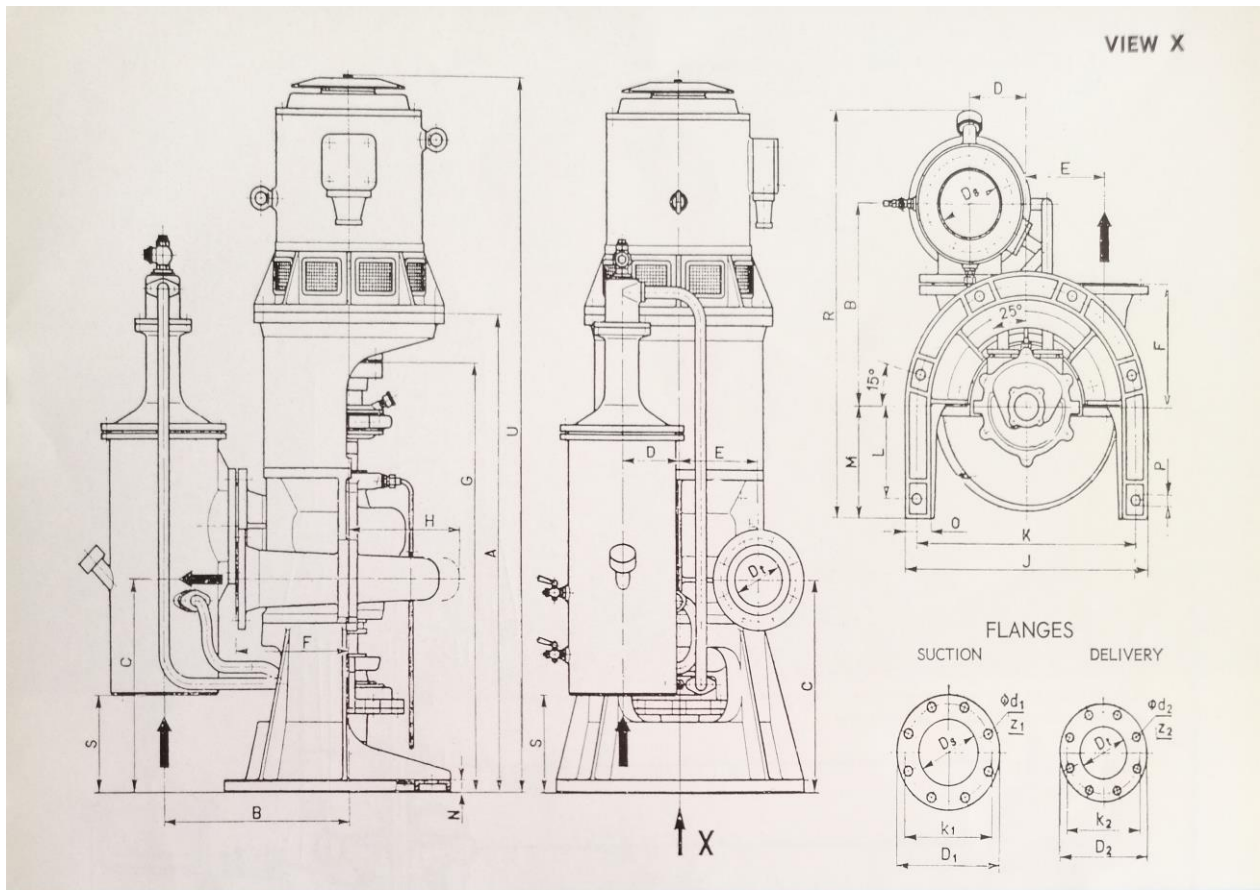
Dimension »U« varies due to application of different electro-motors

# VERTICAL SELF-PRIMING PUMP

## BVs







Dimensions in mm (subject to modifications)

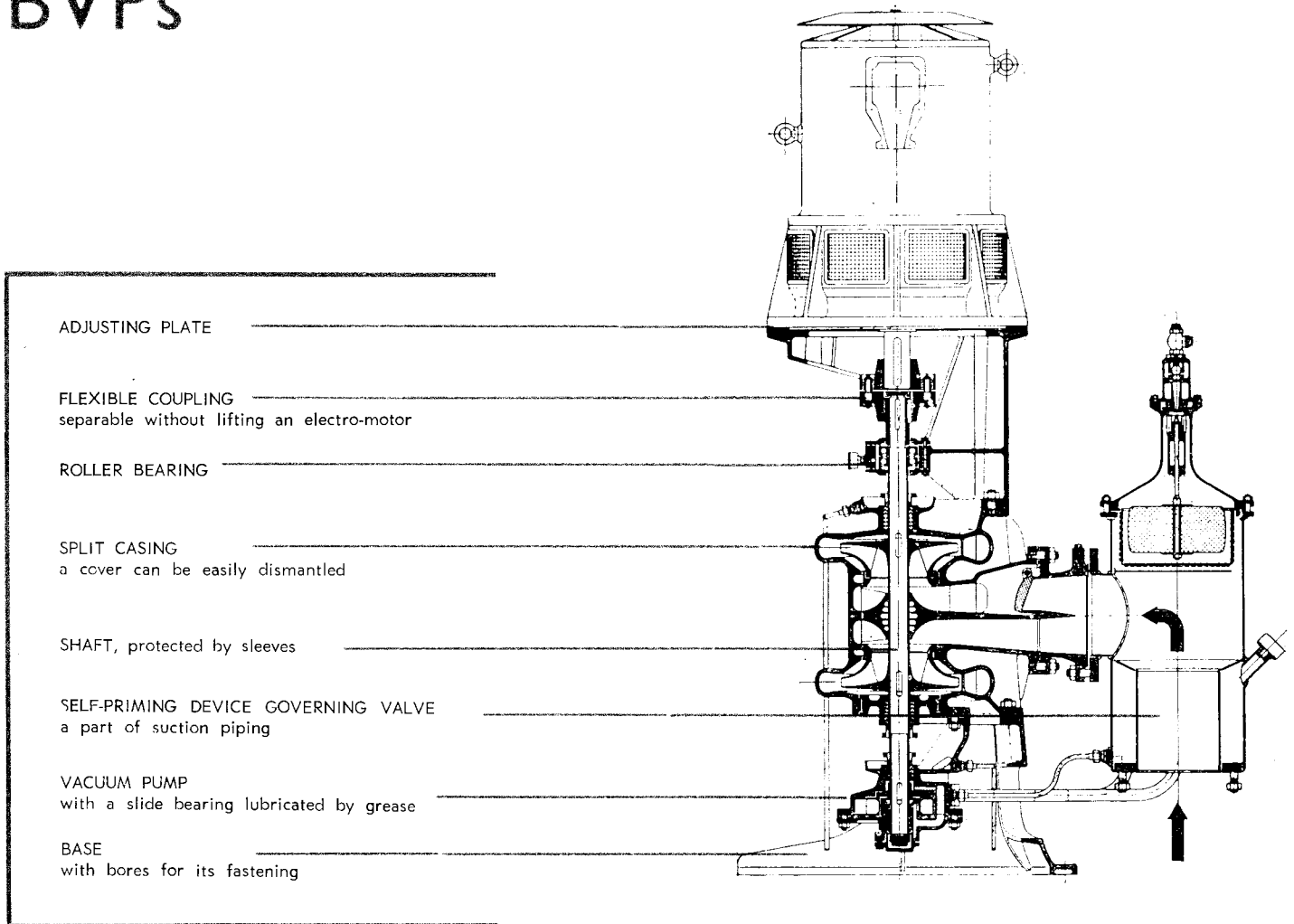
BV <sub>s</sub>	SINGLE-STAGE PUMPS											DOUBLE-STAGE PUMPS							
	BV <sub>s</sub> 24-12,5	BV <sub>s</sub> 24-15	BV <sub>s</sub> 28-6,5	BV <sub>s</sub> 28-8	BV <sub>s</sub> 28-15	BV <sub>s</sub> 28-20	BV <sub>s</sub> 32-8	BV <sub>s</sub> 32-10	BV <sub>s</sub> 32-15	BV <sub>s</sub> 32-20	BV <sub>s</sub> 32-25	BV <sub>s</sub> 28-6,5/2	BV <sub>s</sub> 28-8/2	BV <sub>s</sub> 28-10/2	BV <sub>s</sub> 28-15/2	BV <sub>s</sub> 32-10/2	BV <sub>s</sub> 32-15/2	BV <sub>s</sub> 32-20/2	
PUMP DIMENSIONS	A	1095	1214	1013	1063	1214	1286	1055	1134	1202	1286	1393	1100	1170	1259	1427	1403	1339	1562
	B	480	585	420	440	585	635	440	490	585	635	680	420	440	470	585	490	585	630
	C	535	560	520	530	560	574	540	545	555	574	585	565	585	610	660	590	640	710
	D	130	145	105	120	145	170	110	130	145	170	195	105	120	130	145	130	145	170
	E	180	195	160	175	215	235	190	200	215	245	265	160	180	190	215	200	215	245
	F	280	360	260	280	360	380	280	300	360	380	400	260	280	280	360	300	360	380
	G	975	1064	893	943	1064	1133	937	984	1052	1133	1240	980	1050	1109	1274	1153	1189	1411
	H	420	450	380	395	451	485	405	420	450	488	525	440	465	500	591	482	555	620
	J	660	700	660	660	700	800	660	700	700	800	810	660	660	700	800	700	700	800
	K	600	650	600	600	650	750	600	650	650	750	750	600	600	650	750	650	650	750
	L	230	240	230	230	240	290	230	240	240	290	290	230	230	240	290	240	240	290
	M	290	300	290	290	300	350	290	300	300	350	350	290	290	300	350	300	300	350
	N	25	30	25	25	30	30	25	30	30	30	30	25	25	30	30	30	30	30
	O	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	P	23	23	23	23	23	23	23	23	23	23	23	25	23	23	23	23	23	23
	R	1065	1180	965	970	1180	1330	970	1070	1180	1330	1405	965	970	1050	1255	1075	1205	1325
S	280	325	263	230	325	314	230	290	307	316	305	350	337	405	495	385	444	290	
SUCTION FLANGE	D <sub>s</sub>	150	200	80	100	200	250	100	125	200	250	300	80	100	125	200	125	200	250
	D <sub>1</sub>	265	320	190	210	320	375	210	240	320	375	440	200	220	250	340	250	340	405
	k <sub>1</sub>	225	280	150	170	280	335	170	200	280	335	395	160	180	210	295	210	295	355
	d <sub>1</sub>	18	18	18	18	18	18	18	18	18	18	23	18	18	18	23	18	23	27
DELIVERY FLANGE	z <sub>1</sub>	8	8	4	4	8	8	4	8	8	8	12	8	8	8	12	8	12	12
	D <sub>t</sub>	125	150	65	80	150	200	80	100	150	200	250	65	80	100	150	100	150	200
	D <sub>2</sub>	240	265	160	190	265	320	190	210	265	320	375	185	200	220	285	220	285	340
	k <sub>2</sub>	200	225	130	150	225	280	150	170	225	280	335	145	160	180	240	180	240	295
DELIVERY FLANGE	d <sub>2</sub>	18	18	14	18	18	18	18	18	18	18	18	18	18	18	23	18	23	23
	z <sub>2</sub>	8	8	4	4	8	8	4	4	8	8	8	4	8	8	8	8	8	12

Dimensions may vary due to application of different electro-motors



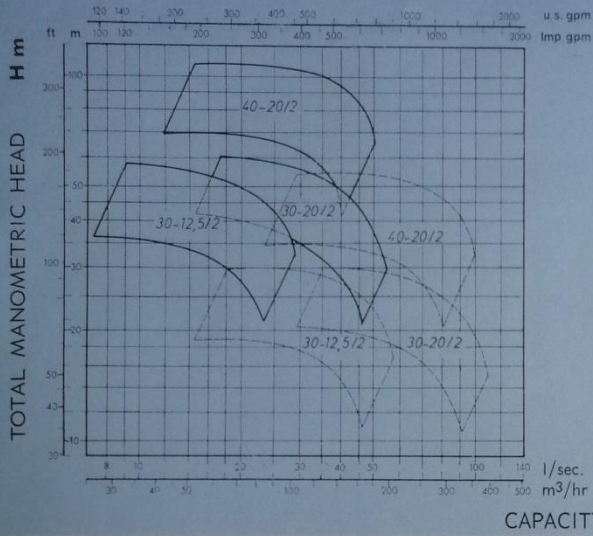
VERTICAL SELF-PRIMING PUMP with a reversible valve

# BVPs



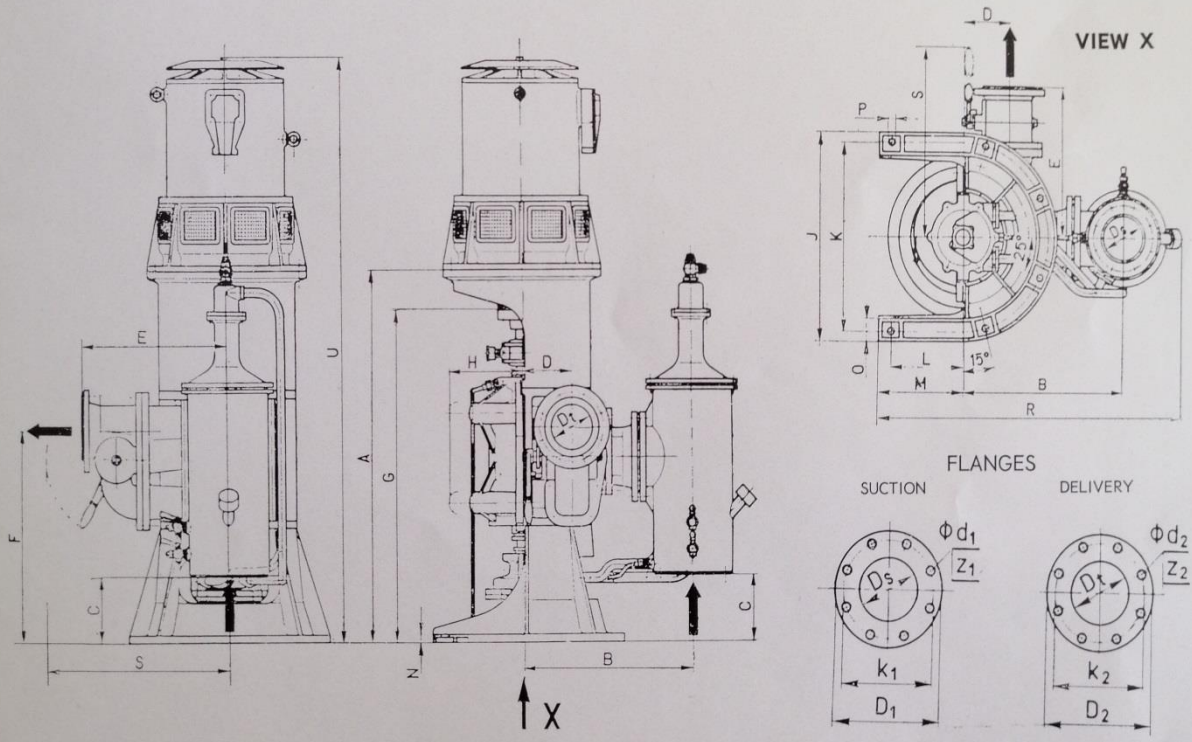
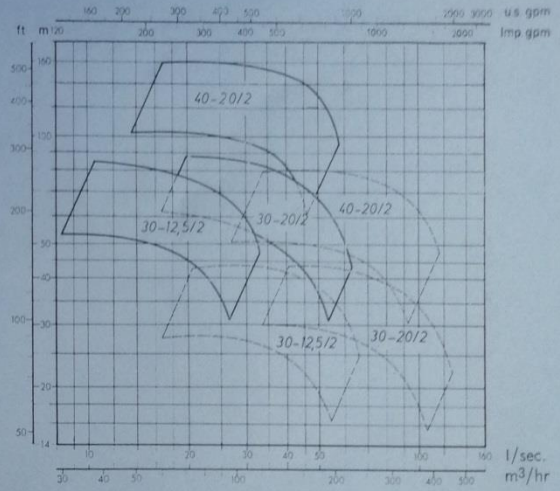
RANGES OF SUPPLY — PUMP TYPE BVPs

n = 1450/r.p.m. (50 Hz)



SERIAL OPERATION  
PARALLEL OPERATION

n = 1730 r.p.m. (60 Hz)



Dimensions in mm (subject to modifications)

PUMP TYPE	PUMP DIMENSIONS																
	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S
BVPs 30-12,5/2	1309	620	393,5	185	500	730	1197	370	700	650	240	300	30	60	23	1190	650
BVPs 30-20/2	1446	695	325	195	600	763	1309	380	700	650	240	300	30	60	23	1267	760
BVPs 40-20/2	1620	790	350	250	700	920	1467	480	810	750	290	350	30	70	25	1430	816

PUMP TYPE	SUCTION FLANGE					DELIVERY FLANGE				
	Ds	D1	k1	d1	z1	Dt	D2	k2	d2	z2
BVPs 30-12,5/2	150	285	240	23	8	125	250	210	18	8
BVPs 30-20/2	200	340	295	23	12	200	340	295	23	12
BVPs 40-20/2	250	405	355	27	12	200	340	295	23	12

**BVPs**

Dimension »U« varies due to application of different electro-motors