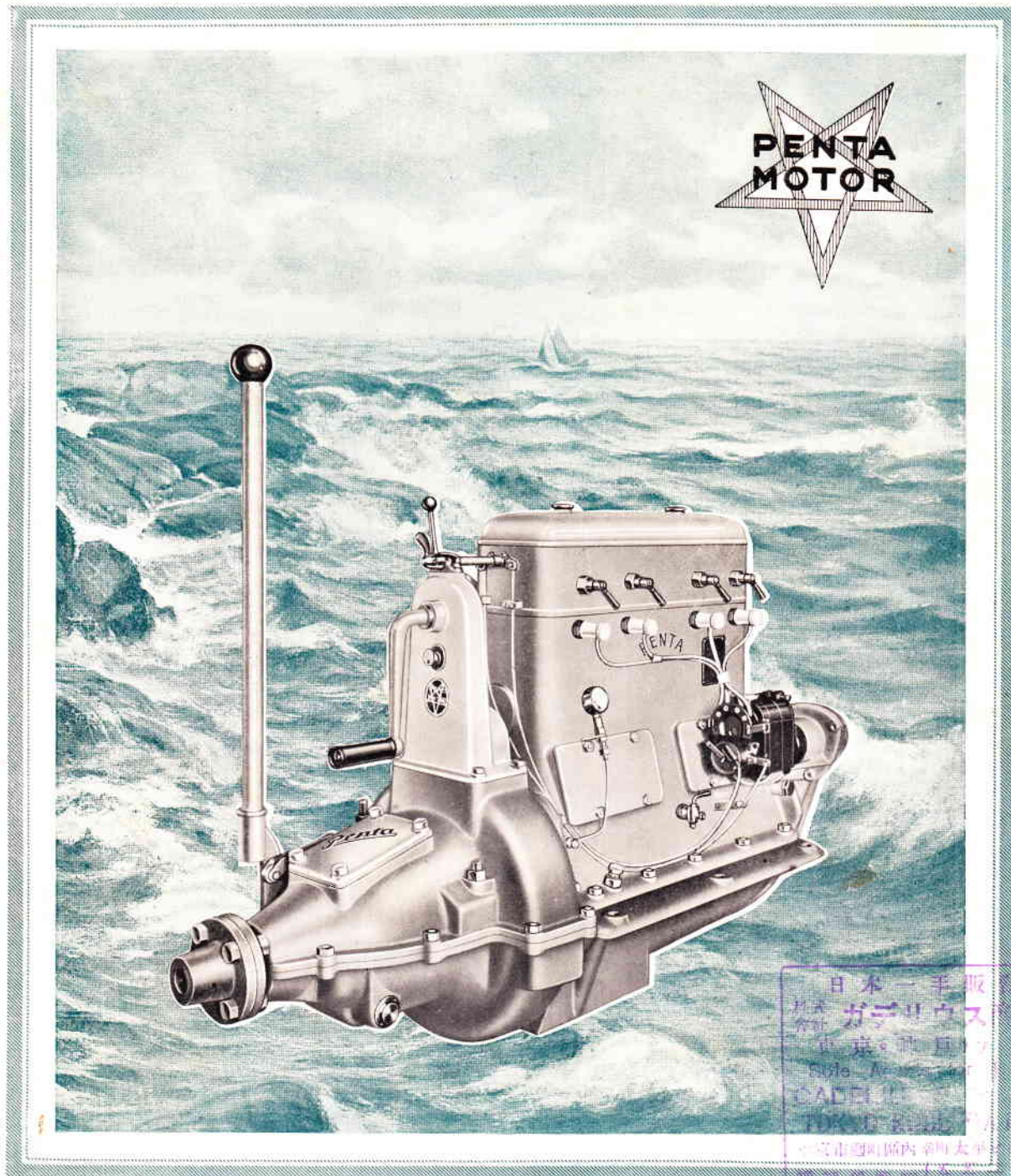


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日本一平販賣  
 大阪ガソリン株式会社  
 東京・神戶・横濱  
 各支店  
 大阪支店  
 大阪市東区西船場  
 電話 五二七番

# PENTA

MARINE ENGINES, Model A, 8/12, 16/24, 24/30 and 32/40 HP.

**AKTIEBOLAGET PENTAVERKEN**  
 SKÖVDE, SWEDEN

Telegrams: PENTA, SKOEFDE



## PENTA MARINE ENGINES, MODEL A.

# GENERAL SPECIFICATION.

**Type.** Penta Marine Engines, of Model A, are four-cycle engines.

**Size.** Model A2 is a two cylinder unit of 8/12 HP, and Model A4 is a four cylinder unit that can be delivered in the following sizes: 16/24 HP, 24/30 HP, and 32/40 HP. The following description and general specification are valid for all the units, except, of course, as regards the number of cylinders and other necessary differences. The pistons of the 32/40 HP unit are of aluminium, whereas for other models they are of cast iron.

**Bore.** 87 mm. (3,42 inches).

**Stroke.** 125 mm. (4,92 inches).

**Cubic Capacity.** Model A2 .. 1,48 litres (90,5 cubic inches).  
Model A4 .. 2,97 litres (181 cubic inches).

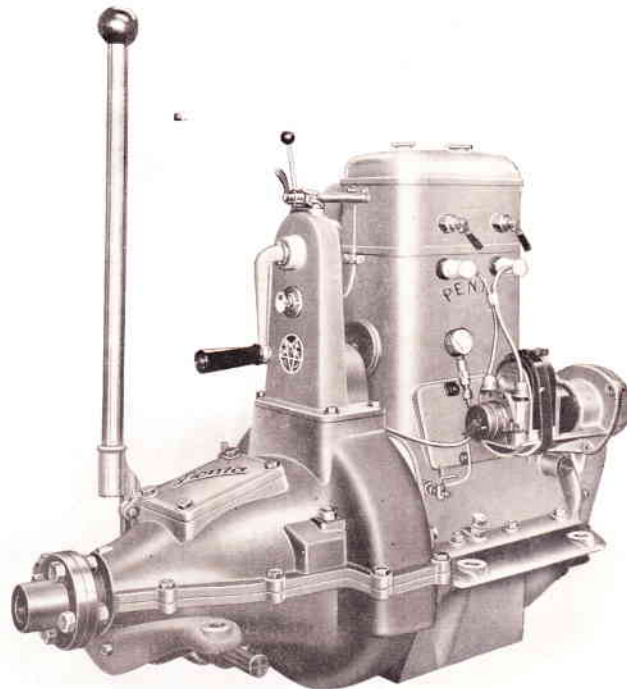


Figure 1.

*Penta Marine Engine, Model A2. Guaranteed output 8/12 HP at 800/1200 RPM.  
Actual output 9/13 HP at the same number of RPM.*

### Approximate net weight, complete with reverse gear.

Standard Model A2.....	185 kg. (about 410 lbs)	} Stern Gear (complete) for both Models A2 and A4, weights 40 kg. (about 90 lbs).
Aluminium „ A2.....	155 kg. ( „ 340 lbs)	
Standard Model A4.....	280 kg. (about 620 lbs)	
Aluminium „ A4.....	240 kg. ( „ 530 lbs)	

**Detachable Cylinder Head.** This is easily detachable by unscrewing the nuts securing it to the cylinder block, when complete accessibility is had to the Valves, Combustion Chamber, and Cylinders (see Figure 2). Decarbonising and cleaning are thus simple operations.



**Cylinder Block and Upper Part of Crankcase.**

Are cast en bloc of the finest Swedish cast iron. In the upper part of the crankcase are pillowed the crankshaft and the camshaft (see Figure 3). This arrangement, in conjunction with the use of high precision machinery, ensures an absolutely accurate setting of the various working parts, resulting in vibrationless running.

**Pistons.** Are machined all over and finished to the finest limits. Each one is fitted with four rings, the lowest one acting as a "Scraper", thus preventing any excess of oil in the combustion chamber.

**Gudgeon Pins.** Are fitted with a very simple and efficient locking device, which effectively excludes any possibility of the pin moving and coming into contact with, and searing, the cylinder walls.

**Connecting Rods.** See Figure 3. These are drop forged from the finest Swedish steel, and are of "H"-section, and very deep, to give absolute rigidity. They are highly finished.

**Crankshaft.** See Figure 3. This, the most important part of any internal combustion engine, is of the latest design, and is made of the finest quality Swedish steel. Its dimensions are: Crank Neck 42×68 mm. ( $1\frac{21}{32} \times 2\frac{11}{16}$  inches); Crank Pin 45×50 mm. ( $1\frac{3}{4} \times 1\frac{31}{32}$  inches). It is most carefully balanced, and its ample proportions ensure absolutely even and vibrationless running. The bearings are easily accessible through the large inspection plates fitted at the sides of the crankcase.

**Camshaft.** The cam on the camshaft are manufactured by a special method of our own ensuring an absolutely ideal outline and shape. They have a width of 20 mm. ( $\frac{25}{32}$  inches), and are case hardened and ground to very fine limits in special machinery.

**Transmission Drive.** The transmission drive for the camshaft, magneto, water and oil pumps, is situated at the forward end of the engine (see Figure 4). All these parts are easily accessible by simply removing the forward transmission case cover. All gears have silent-running spiral cogs, planed in a special machine. There is no chain drive, and thus constant readjustment is entirely eliminated.

**Overhead Valves.** These are made of special high class Swedish steel, and work in renewable slippers, or guides, of hard bronze. The valve seats are cast integral with the cylinder head, and are directly watercooled, thereby affording protection to the valves from burning. The overhead valve design ensures a combustion chamber of the most ideal shape. It is machined all over which ensures not only absolute cleanliness but also an absolutely uniform pressure and thus a smooth running engine. The valves and canals are of such ample dimensions that even

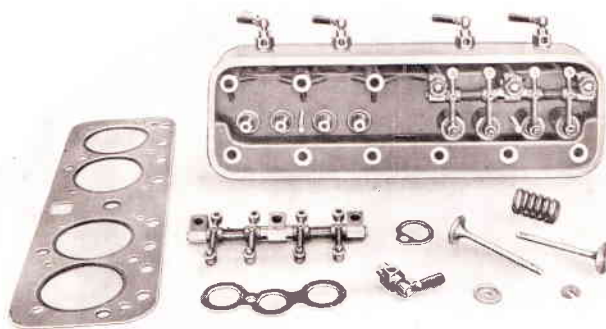


Figure 2.

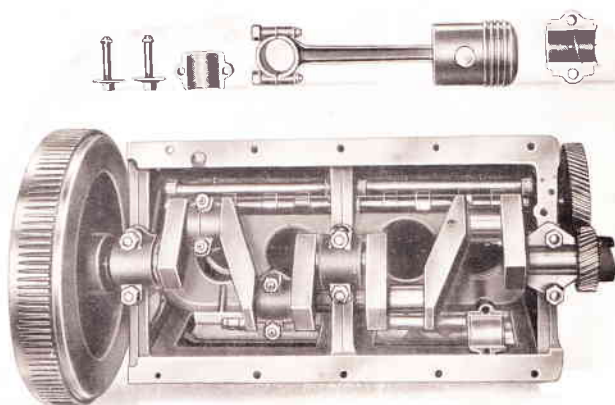


Figure 3.

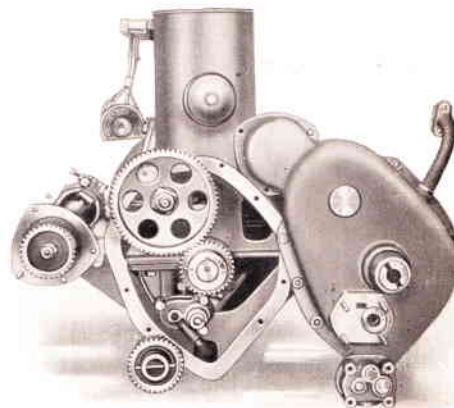


Figure 4.



at high RPM, the speed of the gas is kept relatively low which accounts for the motor's wide range of power and speed.

**Valve Action.** This is arranged in such a manner as to do away with all "valve chatter", and as a result, the action is hardly audible. This makes the PENTA one of the most silent and smooth running engines obtainable.

**Lubrication.** Is force fed to all Main and Connecting Rod Bearings, Camshaft Bearings and Reverse Gear, by a readily accessible gear pump, situated inside the transmission casing (see Figure 4). The pump draws oil from the oil well (which is in the lower portion of the crankcase), passing it through a large filter having an area of no less than 3 square decimetres (3,23 square feet). This filter is easily removable for cleaning purposes (see Figure 5). The oil pressure is kept constant by means of a spring actioned plunger valve, and is thus absolutely independent of whether the oil is hot or cold, or if the engine is running at low or high numbers of revolutions. An oil gauge is provided to indicate that the lubrication system is functioning correctly.

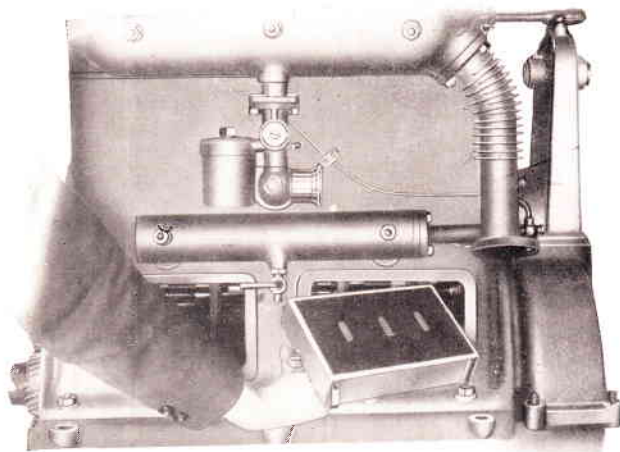


Figure 5.

**Water cooling system.** This is very effective. The pump is driven by means of a gear, fitted outside the forward transmission casing (see Figure 4). The entire pump chamber and the common inlet and outlet pipe on the Port side of the engine are easily detachable for cleaning.

**Carburettor.** As standard on these models is fitted the SOLEX Carburettor, which is of French manufacture, and which has proved to be the best. It is coupled directly to the water cooled inlet and outlet

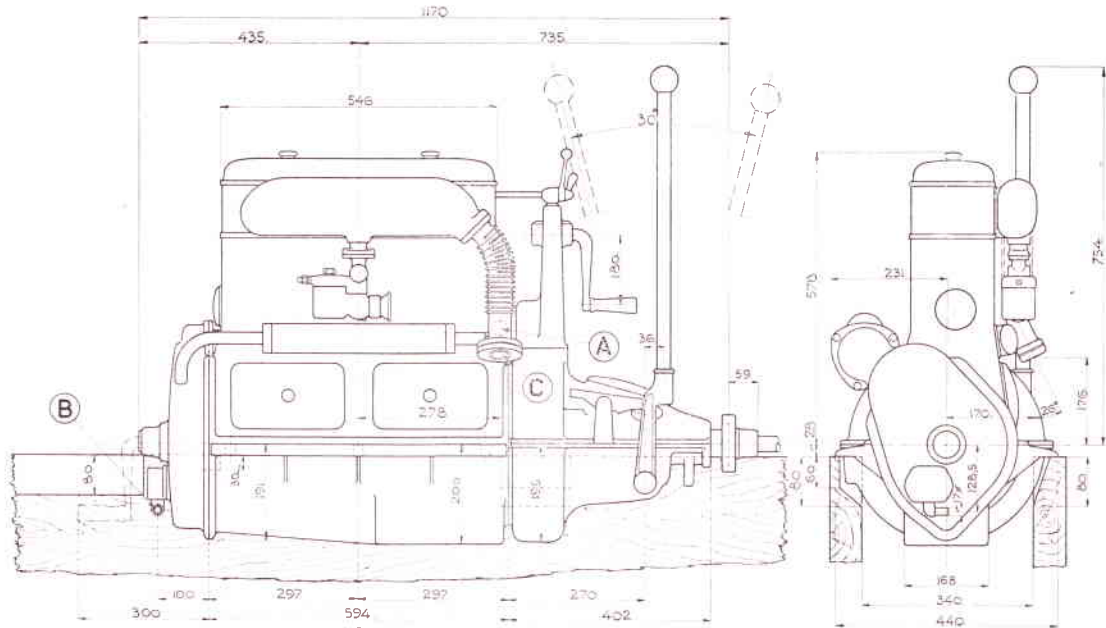
pipe, and is easily controlled by means of the throttle alone. The entire carburettor chamber can be detached by unscrewing the nut situated on the Float Chamber (see Figure 6) and without unscrewing the fuel pipe. The importance of this will be easily recognized — not only does it allow of quick dismantling for examination in case of dirt or water in the carburettor, but also for regular cleaning purposes, which are so often overlooked. In this connection may be mentioned that the SOLEX Carburettor has aroused justified attention in all countries, and it was estimated that about 75 % of the engines exhibited on the Automobile Exhibition in Paris in 1924 were fitted with SOLEX Carburettors.

**Ignition.** Is by means of a genuine Bosch High Tension Magneto. The merits of this magneto are so well known that further description is superfluous. It may be mentioned, however, that the magnetos fitted are provided with IMPULSE STARTERS, which eliminate all cranking of the engine when starting up. The latter operation is effected by pulling the starting handle upwards once or twice, over half a turn, which causes the magneto, by means of the IMPULSE STARTER, to produce a much larger spark at slow speeds, than normally. The magneto is secured in place by means of a pair of spring bands, and it is thus easily removable, which is very convenient when laying up for the winter, or when leaving the boat unattended. The magneto platform is cylindrical in shape, and concentric with the magneto driving shaft — by this arrangement, an exact centration is obtained. It will be seen from the photograph that the magneto is placed in a considerably higher position than is usual in marine practice, and is thus more protected than usual. This means that it is "high and dry" even if the boat takes in much water.

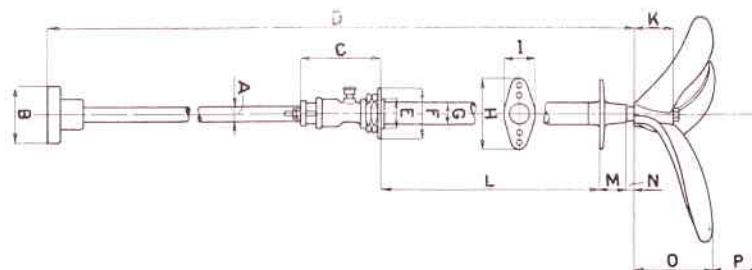
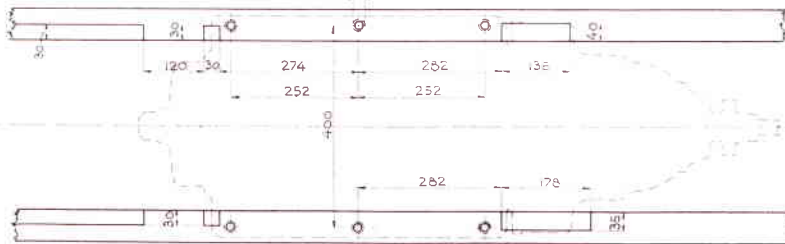
**Sparking plugs.** Those supplied as standard are also genuine Bosch. They are insulated with waterproof covers and caps, which can be unscrewed whilst the engine is running, without fear of shocks. The plugs are placed in such a position that no stray splashes of oil can reach the electrodes. The high tension cables are of the shortest possible length, and purposely not led through a cable lead-pipe. We do not recommend this practice, as moisture gathers in the pipe, and causes damage to the cables. The latter are therefore held together by suitable cable clips.



## Penta Marine Motor, Model A4.



- A. Cooling water outlet at the starboard side,  $\frac{3}{8}$ " copper pipe.
- B. Cooling water inlet,  $\frac{5}{8}$ " rubber hose.
- C. Exhaust pipe  $1\frac{1}{4}$ ".

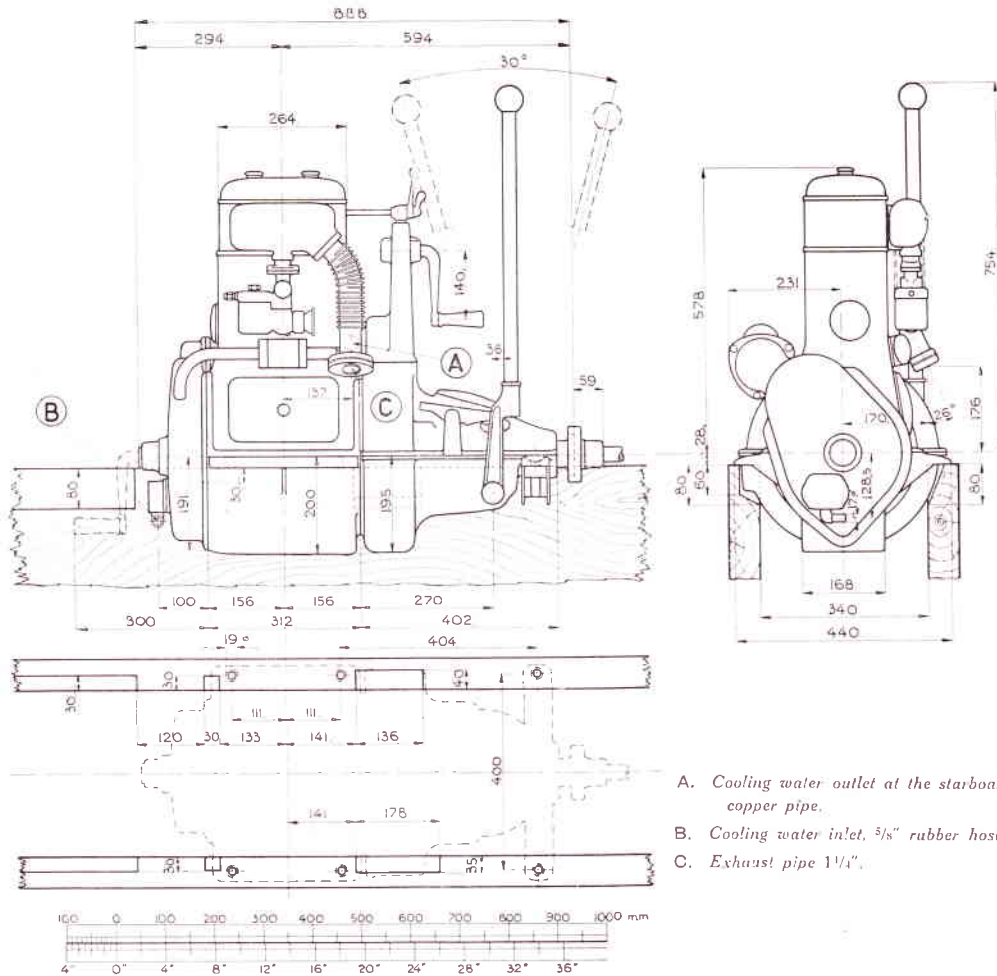


Forward edge of rudder.

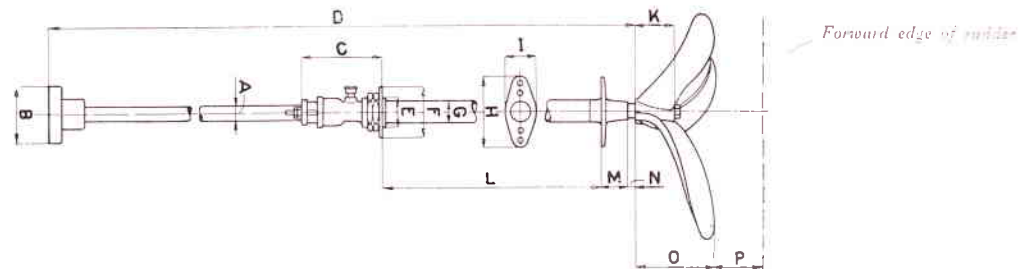
Material used in shaft	A		B		C		D		E		F		G		H		I		K		L		M		N		O		P	
	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch
Steel	30	1 $\frac{1}{16}$	114	4 $\frac{1}{2}$	155	6 $\frac{3}{32}$	3500	137 $\frac{13}{16}$	60	2 $\frac{3}{8}$	100	3 $\frac{15}{16}$	48	1 $\frac{7}{8}$	140	5 $\frac{1}{2}$	60	2 $\frac{3}{8}$	78	3 $\frac{1}{16}$	2000	78 $\frac{3}{4}$	52	2 $\frac{1}{16}$	c:a 15	c:a $\frac{5}{8}$	110	4 $\frac{11}{32}$	min. 100	min. 3 $\frac{15}{16}$
Bronze	35	1 $\frac{3}{8}$	114	4 $\frac{1}{2}$	170	6 $\frac{11}{16}$	3500	137 $\frac{13}{16}$	64	2 $\frac{1}{2}$	100	3 $\frac{15}{16}$	51	2	145	5 $\frac{11}{16}$	60	2 $\frac{3}{8}$	78	3 $\frac{1}{16}$	2000	78 $\frac{3}{4}$	52	2 $\frac{1}{16}$	15	$\frac{5}{8}$	155	6 $\frac{3}{32}$	100	3 $\frac{15}{16}$



## Penta Marine Motor, Model A2.



- A. Cooling water outlet at the starboard side, 1/2" copper pipe.
- B. Cooling water inlet, 5/8" rubber hose.
- C. Exhaust pipe 1 1/4".



Material used in shaft	A		B		C		D		E		F		G		H		I		K		L		M		N		O		P	
	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch	mm.	inch
Steel	30	1 1/16	114	4 1/2	155	6 1/32	3500	137 13/16	60	2 3/8	100	3 15/16	48	1 7/8	140	5 1/2	60	2 3/8	78	3 1/16	2000	78 3/4	52	2 1/16	ca 15	ca 5/8	110	4 3/8	min. 100	min. 3 1/2
Bronze	30	1 1/16	114	4 1/2	155	6 1/32	3500	137 13/16	60	2 3/8	100	3 15/16	48	1 7/8	140	5 1/2	60	2 3/8	78	3 1/16	2000	78 3/4	52	2 1/16	ca 15	ca 5/8	110	4 3/8	min. 100	min. 3 1/2



**Compression cocks.** The usual type of cock has been done away with, and replaced by those of our own design and manufacture. These are not only self-closing and tight, but very simple and strong.

**Reverse Gear with Multiple Disc Clutch.** The reverse gear and the flywheel are entirely enclosed, the reverse gear casings being bolted directly to the cylinder block and crankcase. The reverse gear is particularly short, on account of its being partly encased in the flywheel. The multiple disc clutch, requiring a small space, allows a specially sturdy arrangement with a particularly even and vibrationless action, furthermore enhanced by the position of the flywheel, between the engine and the reverse gear. The projecting driving shaft runs in SKF Roller and Ball Bearings, which take up all radial and axial pressure from the propeller shaft. Easily accessible adjustment screws are provided for the coupling drum and for the clutch, also for the friction strap, those for the latter being outside the reverse gear casing. The reverse gear can be inspected through the large inspection cover on top of the gear casing. It may be noted that by removing the upper reverse gear casing and the thrust bearing, *the entire reverse gear may be lifted from the lower casing* without further dismantling. (See Figure 7.)

**Rear Hand Starter.** The enclosed starting gear is fitted at the after end of the engine, on top of the flywheel casing. It consists mainly of the chain and the gear, which, when starting up, is brought forward into mesh with the toothed flywheel. A protection plate prevents the chain from slipping down into the flywheel casing. The starting crank can be removed, if desired, and placed at the forward end of the engine: in both cases, however, the swinging direction of the handle is the same, namely, clockwise. As all working parts of the engine are totally enclosed, it is quite impossible to start up without the starting handle. If this is taken away, when the boat is being left unattended, it makes an efficient safety device.

**Electric Starting and Lighting.** Can be supplied at extra cost, the necessary fittings being easily fitted to the engine. The starter can be placed on the reverse gear cover, which has been specially designed as a bedplate for it. The dynamo is fitted beside and forward of the magneto, where it is held in place on a special bracket. (See Figure 8.)

**Finish, Exterior and Mounting.** Our standard finish is olive green. The castings being of close grained material, highly finished, and then carefully painted, allow of an attractive, and at the same time, practical and durable finish.

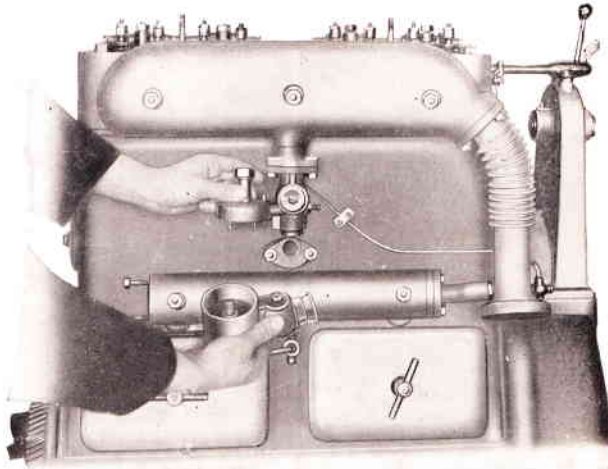


Figure 6.

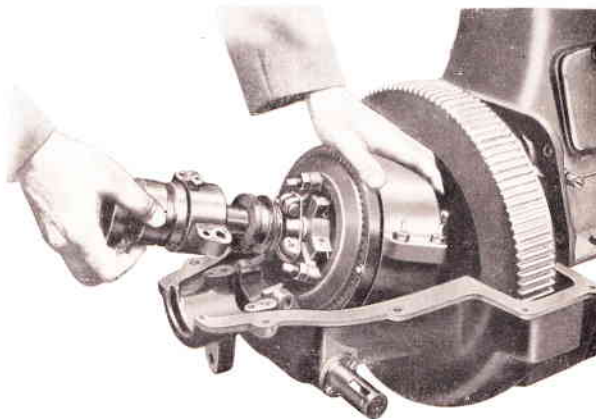


Figure 7.

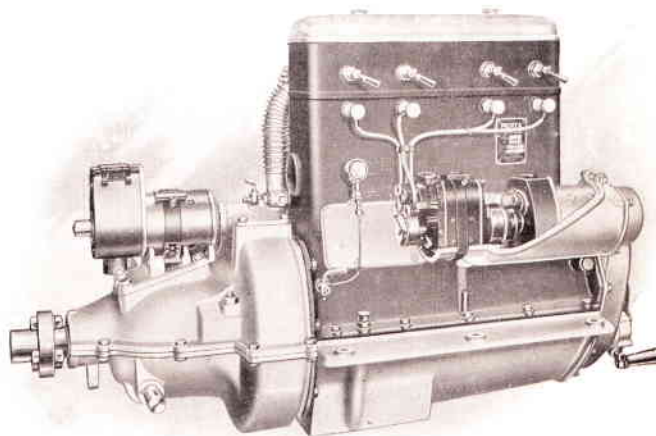


Figure 8.

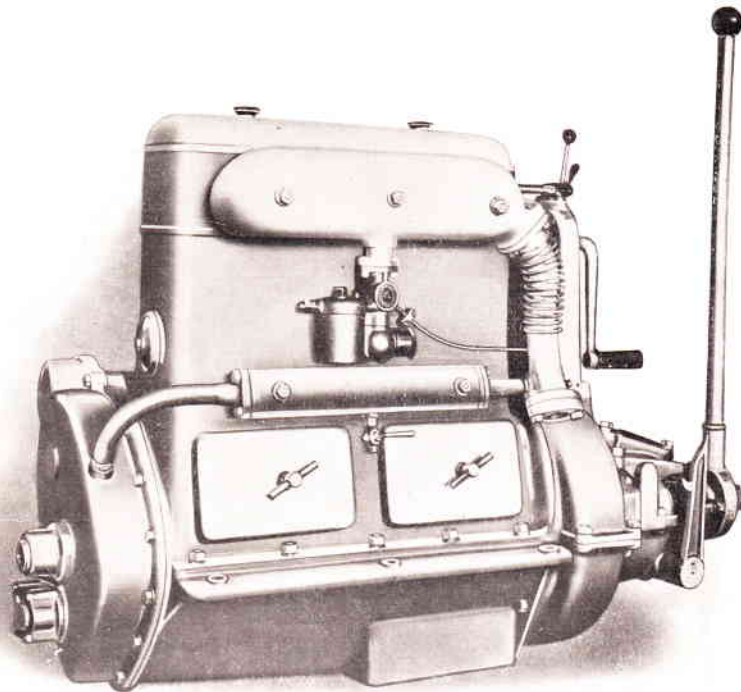


Figure 9.  
Penta Marine Engine, Model A4, port side view.

The motor is thoroughly tight and free from smoke: this is attained by an interior evacuation by the carburettor, which absorbs all smoke coming from the crank case, and neutralizes the over-pressure in the latter, so that the oil cannot be forced out. As the exhaust manifold is watercooled, there is no danger of burning the hands, and no likelihood of unpleasant odours of burning oil etc.

The engine is totally enclosed, and no moving parts are visible. Except for the even, silent running of the motor, the only indication that it is running is the distributor disc, visible through the celluloid covered opening in the magneto on engines fitted with magnetos of this type.

**Propeller Outfit.** The propeller outfit is delivered as per enclosed measurement table and consists of: 3 bladed bronze propeller, brass propeller shaft, brass stern tube with stuffing box, and bronze outer bearing lined with white metal. For the A2 Model as well as for the A4 Model several different propellers, suitable for different types of boats are kept in stock. The diameter

of the propellers range from 360 to 400 mm. ( $14\frac{3}{4}$  to  $15\frac{3}{4}$  inches) for the A2 Model, and from 360 to 530 mm. ( $14\frac{3}{4}$  to  $20\frac{7}{8}$  inches) for the A4 Model. Special propellers can be delivered on request, and our Marine Technical Department will be pleased to advise or assist as regards the choice of suitable propellers or boats.

Penta Marine Engines, Type A, are suitable for boats of all kinds, ranging from fishing and commercial craft, launches etc., to light racing boats. Hereunder are specified some typical craft and the speeds that may be relied upon with

#### Engine Model A2:

- 1) Pilot, Customs and fishing boats of 7–8,5 metres length and 1,5–2,5 tons displacement. Speed: resp. 8–7 knots. Number of revolutions of the engine about 800 per minute.
- 2) Boats of 7,5–9,5 metres length and 1–3,5 tons displacement. Speed: resp. 10–7 knots. Number of revolutions of the engine 900–1000 per minute.
- 3) Boats of 5,5–8,5 metres length and 0,5–1 tons displacement. Speed: resp. 12–10 knots. The number of revolutions of the engine about 1200 per minute.

#### Engine Model A4:

- 1) Pilot, Custom and fishing boats of 8–10 metres length and resp. 2,25–2,75 tons displacement. Speed: resp. 8–7 knots. Number of revolutions of the engine 700–800 per minute.
- 2) Boats of 9–10 metres length and resp. 1,5–4 tons displacement. Speed: resp. 9,2–8 knots. Number of revolutions of the engine about 900 per minute.
- 3) Boats of 9–10 metres length and resp. 1,2–1,7 tons displacement. Speed: resp. 12–10,5 knots. The number of revolutions of the engine about 1200 per minute.

At a higher number of revolutions and e. g. a 5,5 metres V-bottom boat a speed of 17–18 knots may be relied upon and with the engine specially designed and a 5,1 metres hydroplane a speed of about 25 knots.





*"Viking X" on her three months cruise round the coasts of Scandinavia.  
 Data: Length: 9 metres. Beam: 2,15 metres. Depth: 0,8 metres. Weight: 3200 Kg. including a crew of 4 men.  
 Speed: 7,2 knots. (See "The Motor Boat" of October 16th 1925.)*

## GUARANTEED OUTPUT.

Standard PENTA MARINE ENGINES Model A, develop a minimum output, guaranteed by us, varying, at different RPM, as per the Table below:

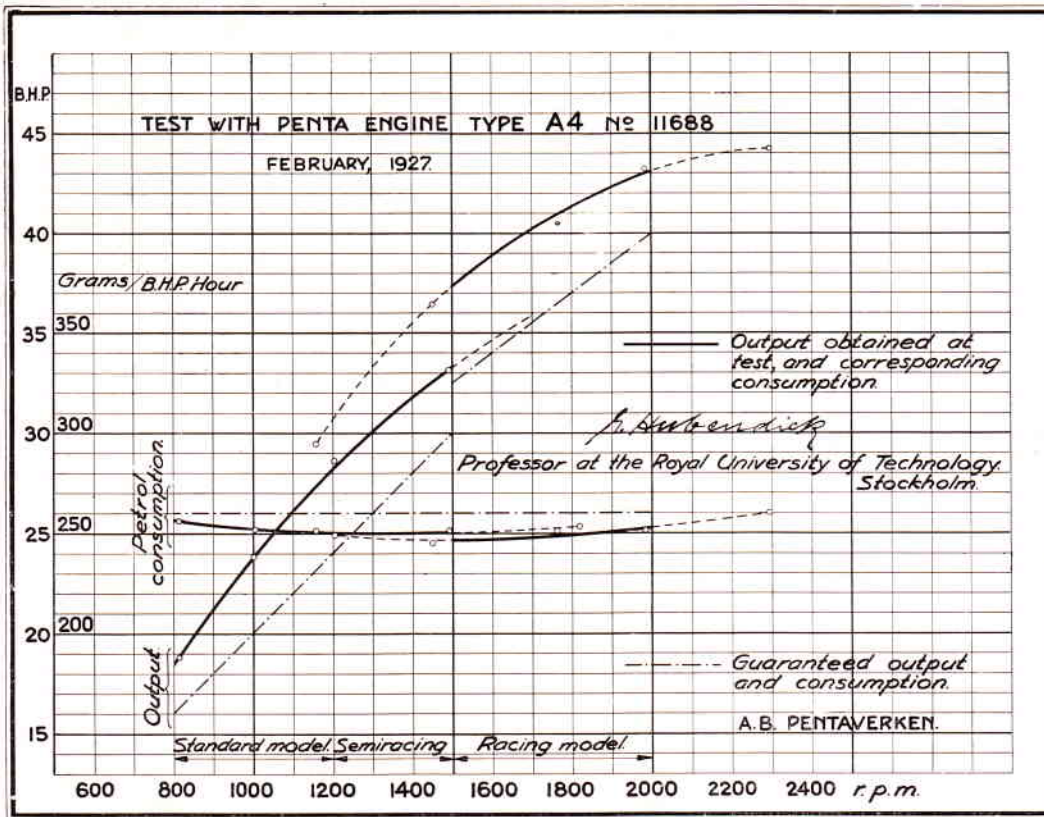
Revolutions per minute .....	800	900	1000	1100	1200	1300	1400	1500
Type A2. Guaranteed minimum output HP .....	8	9	10	11	12	—	—	—
Type A4. Guaranteed minimum output HP .....	16	18	20	22	24	26	28	30

The guaranteed output of the specially designed A4 Racing Model is 40 HP at 2000 RPM. This model is developing an output, varying at different RPM as follows:

Revolutions per minute .....	1500	1600	1700	1800	1900	2000
Type A4, Racing Model. Guaranteed output HP .....	32,5	34	35,5	37	38,5	40

As regards output when running on paraffin see page 8.

The makers guarantee that every Engine of this Type, specified, when ordered, for a certain number of RPM, has developed, at actual Brake Tests, at least the minimum output corresponding to the number of RPM in accordance with the above Table, without exceeding the guaranteed petrol consumption stated below. If, when an engine is ordered, we do not receive any indication regarding the number of RPM at which it is desired to normally run, it will be delivered adjusted for 800/1200 RPM. With a slightly higher fuel consumption and after the engine has been run in, the *ACTUAL OUTPUT* is obtained, which is considerably higher than the guaranteed output, the latter, in every case, being calculated relatively low for formal reasons. The actual output that may be absolutely relied upon at different RPM will be seen from the following output Chart, which has been specially compiled from tests on a Model A4 Engine. For Model A2, half the value of the output is valid between 800 and 1200 RPM.



At official tests of the standard Penta Engine, Type A4, carried out by Professor E. Hubendick, an effective mean pressure of 7,54 kg per square centimetre (107 lbs per square inch), and a fuel consumption of 235 grams (.57 pint) per HP/hour, and of the A4 Racing Model an effective mean pressure of 7,89 kg. per square centimetre (112 lbs per square inch) and a fuel consumption of 233 grams per HP/hour were obtained.

The actual output and consumption that may be relied upon will be seen in the above diagram.

**Fuel consumption.** In practical working and at guaranteed normal output, the fuel consumption is for

Type A2 ..... 275 grams (.67 pint) per BHP hour.

Type A4 ..... 260 grams (.63 pint) per BHP hour.

subject to correct carburettor adjustment, the engine being run in, and when using ordinary commercial petrol of good quality and a specific gravity of from 0,720—0,730.

Though the engines cannot show the same high output and low fuel consumption after the relatively short but careful test as after some hundred hours of running, the makers guarantee the petrol consumption not to exceed the above figures by more than, at the utmost, 10 %. Records of the test will be submitted on application, and the purchaser may be present at the tests of a purchased engine.

**Paraffin equipment.** On application the PENTA Engines, Model A2 and A4, can be delivered for running on paraffin. In this equipment the output is decreased by about 20 % and the fuel consumption increased by about 15 %. Furthermore the number of revolutions is limited to 800—1200 per minute for the A2 as well as the A4 engine.

**Guarantee.** If the owner of a PENTA Engine can show, within twelve months from date of delivery, that any part of the engine has become defective, caused by faulty material, workmanship, or design, we will replace the part free of charge in accordance with our General Terms and Conditions.

**Equipment.** The engines are sent out from the Works complete and ready, with adjustment details for carburettor and magneto and short circuiting contact with key mounted.

Provision for the correct installation in the boat is made by convenient and properly arranged connections for the different pipings. Furthermore the usual trouble with the connection of the cooling water pipe to the exhaust piping is avoided. This matter is arranged on the engine itself, being fitted by a three-way cock so that the cooling water supply to the exhaust pipe and eventually to a silencer may be conveniently regulated. If desired we can deliver complete fittings for the installation such as silencer, fuel tank and strainer, seacock and strainer, all necessary pipings and fittings — in other words

**EVERYTHING NECESSARY FOR THE INSTALLATION — NO EXTRAS.**

3539-

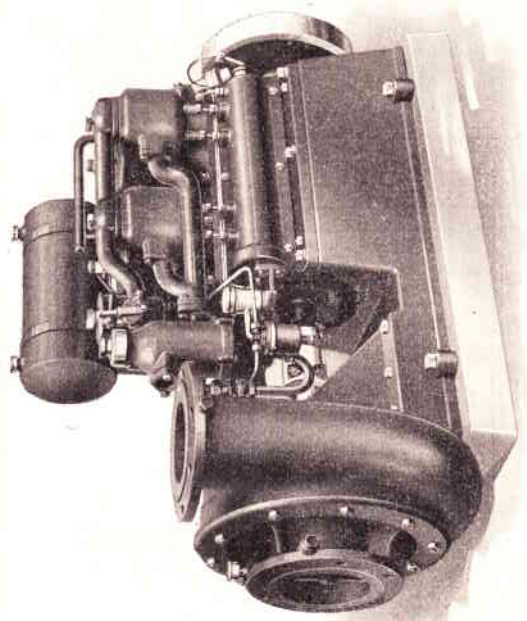
日本一手販賣  
 株式 会社  
 ガデリウス商會  
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 CALELINE  
 TOKYO KOSÉ EXHIBITION  
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TECHNICAL DATA

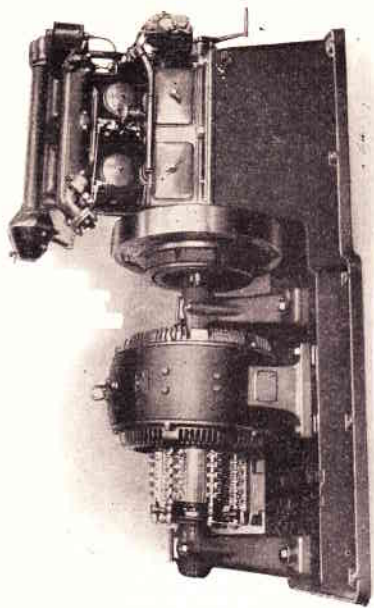
PENTA

STATIONARY ENGINES,  
 MOTOR-DYNAMOS  
 AND  
 ENGINE DRIVEN PUMPS

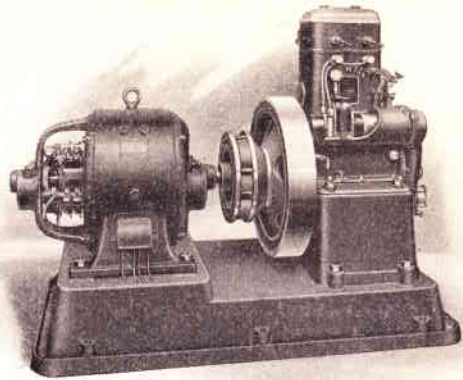


Penta Engine Driven Pump. Model AP 6.

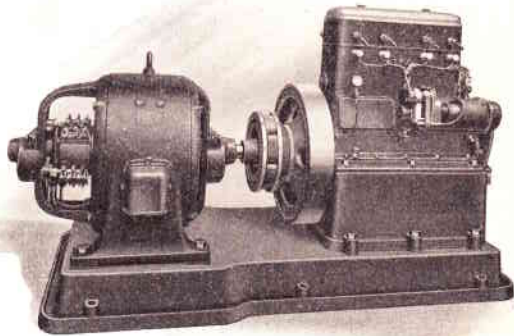
AKTIEBOLAGET PENTAVERKEN  
 SKÖFDE, Sweden.      Telegrams: PENTA, Skoefde



**A 24 HP. Penta Engine, directcoupled to an ASEA generator 20—28 volts, 400 amp. delivered for a telephone installation in Mexico.**



**Penta Motor-Dynamo type A 2 K 6.**



**Penta Motor-Dynamo type A 4 K 8.**

Engine Model	Type	Number of cylinders	B. H. P. 1)	Fuel consumption per H. P. and hour at full load and running on: 2)				Bore 3)		Stroke 3)		
				Petrol		Paraffin		mm.	inch	mm.	inch	
				Gr.	Pint	Gr.	Pint					
				Gr.	Pint	Gr.	Pint	mm.	inch	mm.	inch	
U1	Two-stroke	2	2 1/2-3 1/2	—	—	—	—	54	2 1/8	60	2 3/8	
U2		1		—	—	—	54	2 1/8	60	2 3/8		
F1	Four-stroke	1	1 1/2	—	—	350	—	92	3,52	120	4,72	
K1		1	3	—	—	350	—	110	4,33	160	6,30	
M1		1	2 1/2-3	325	0,79	375	0,91	85	3,35	100	3,93	
M2		2	5-6	325	0,79	375	0,91	85	3,35	100	3,93	
M4		4	10-12	325	0,79	375	0,91	85	3,35	100	3,93	
A2		2	7 1/2-10	275	0,67	340	0,83	85	3,35	120	4,72	
"		"	"	"	"	"	"	"	"	"	"	"
A4		4	15-25	260	0,63	325	0,79	85	3,35	120	4,72	
"	"	"	"	"	"	"	"	"	"	"	"	
C4	4	24-30	270	0,66	280	0,68	110	4,33	130	5,11		
C6	6	36-45	265	0,64	275	0,67	110	4,33	130	5,11		
D4	4	48-60	260	0,63	275	0,67	140	5,51	250	9,84		

1) Number of H. P. refers to engine running on petrol at the numbers of revolutions mentioned, except the F1 and K1 models where the outputs are valid for paraffin. When using paraffin the output is decreased by about 20 %. The U-models (the two-stroke engines) can only be run on petrol.

Stationary Engines with Pulley

Model	R. P. M.	Normal sizes of pulley 4)				Net weight (approx)		Gross weight (approx)	
		Diameter		Width		kg.	lbs.	kg.	lbs.
		mm.	inch	mm.	inch				
		mm.	inch	mm.	inch	kg.	lbs.	kg.	lbs.
U2/S	800/1000	140	5,52	75	2,95	46	102	100	225
F1	500	255	10,04	65	2,56	150	335	300	665
K1	500	270	10,63	65	2,56	—	—	—	—
M1/S	800/1000	160	6,30	100	3,93	165	363	300	665
M2/S	800/1000	160	6,30	100	3,93	200	440	325	720
M4/S	800/1000	250	9,84	125	4,92	300	660	450	1000
A2/S	900/1200	200	7,87	125	4,92	240	530	430	950
"	"	"	"	"	"	"	"	"	"
A4/S	900/1500	350	13,78	125	4,92	360	800	550	1220
"	"	"	"	"	"	"	"	"	"
C4/S	800/1000	425	16,73	260	10,24	750	1660	1050	2320
C6/S	800/1000	475	18,70	350	13,78	1075	2400	1550	3420
D4/S	500/625	800	31,50	225	8,85	2400	5300	3000	7000

2) The indications of the fuel consumption are valid with a margin a 10 %. The figures in the right columns for the fuel consumption refer to the English Imperial pint. If the indication of the fuel consumption is wanted in English lbs per H. P. and hour the gram-column is to be divided by 453 (approx).

# A L D A T A

## Motor-Dynamos

Cubic measurement packed for export (approx)		Model	R. P. M.	Output Kw. <sup>5)</sup>	Net weight		Gross weight (approx)	
Cub. metres	Cub. feet				in kg.	in lbs.	in kg.	in lbs.
0,35	13	U1/K <sup>1/2</sup>	1600/1800	0,3	45	100	120	270
0,80	29	M1/K3	900	1,4	345	760	500	1110
0,85	30	M2/K5	900	2,8	400	885	600	1330
1,00	36	A2/K6	900	4,2	590	1300	900	2000
1,00	36	"	1050	5,8	590	1300	900	2000
		"	1250	7,0	590	1300	900	2000
1,25	45	A4/K8	900	9,5	890	1970	1350	3000
		"	1050	12,5	890	1970	1350	3000
		"	1400	17,0	890	1970	1350	3000
3,10	110							
4,00	142							
7,00	250							

3) *The exact indications* are those ones made millimetres, whereas the corresponding indications in English measurements are only approximate figures.

4) Pulleys of other dimensions can be supplied on request at an extra price.

5) Model U1/K<sup>1/2</sup> can only be run on petrol. When using paraffin the output is decreased by about 20 %.

Cubic measurement	
Cub. metres	Cub. feet
0,5	18
1,5	53
1,7	60
2,3	82
2,3	82
2,3	82
3,0	106
3,0	106
3,0	106

## M o t o r P u m p s

Model	Quantity of water raised per minute against a gauge pressure head of:		Cubic measurement exp. packing (approx)	Cub. metres	Cub. feet									
	Meters					Gross weight (approx)	Net weight (approx)							
	Feet	gallons						in kg.	in lbs.					
	4	6	8	10	13	20	26	33						
AP4	930	820	700	510	205	180	154	112	220	485	350	780	1,00	36
AP5	1930	1710	1450	1060	425	376	319	233	310	700	500	1110	1,25	45
AP6	3300	3100	2700	2050	726	682	594	451	420	925	650	1440	1,75	62

All indications for net and gross weights and cubic measurements are approximate figures.

Without engagement.