

Table I-1. Supply list of Fuji Water Turbines (since 1954)

Customer	Power Station	No. of Piece	Output (kW)	No. of Speed (r.p.m.)	Head (m)	Water Quantity (m ³ /s)	Type
Kansai E. P. Co.	Tsunokawa	1	13,000	300	36.5	40.3	Kaplan
Tokyo E. P. Co.	Sudagai	2	22,400	250	83.0	30.0	Vertical Francis
Tohoku E. P. Co.	Horyo	1	7,200	333	34.8	24.6	Kaplan
Kyushu E. P. Co.	Jikumaru	1	9,100	400	62.79	16.22	Vertical Francis
Hokuriku E. P. Co.	Jintsugawa III (Right)	1	10,200	100	9.72	120	Kaplan
Hokuriku E. P. Co.	Jintsugawa III (Left)	1	7,550	180	16.00	53.0	Propeller
Tochigi Pref.	Kawaji I	2	8,300	500	113.30	8.3	Vertical Francis
Tokyo E. P. Co.	Fujiwara	1	24,000	250	92.5	30.0	,
Fukui Pref.	Nakajima	2	12,000	600	153	9.2	,
Yamanashi Pref.	Nishiyama	2	9,600	600	147	7.5	,
Electric Power Development Co.	Akiba I	2	26,300	200	48.8	61.6	,
Electric Power Development Co.	Akiba II	1	37,000	180	36.6	115.5	Kaplan
Nippon Light Metal Co.	Motosu	1	12,500	720	450.3	3.2	Vertical Pelton
Hokuriku E. P. Co.	Tochio	1	16,000	333/400	292.0	6.43	,
Kansai E. P. Co.	Tsunokawa	1	13,000	300	36.5	40.3	Kaplan
Tohoku E. P. Co.	Shin-ochiai	1	22,000	273	52.0	47.8	,
Hokuriku E. P. Co.	Nakasaki	1	10,800	333/400	253	5.0	Vertical Pelton

II. STEAM TURBINES

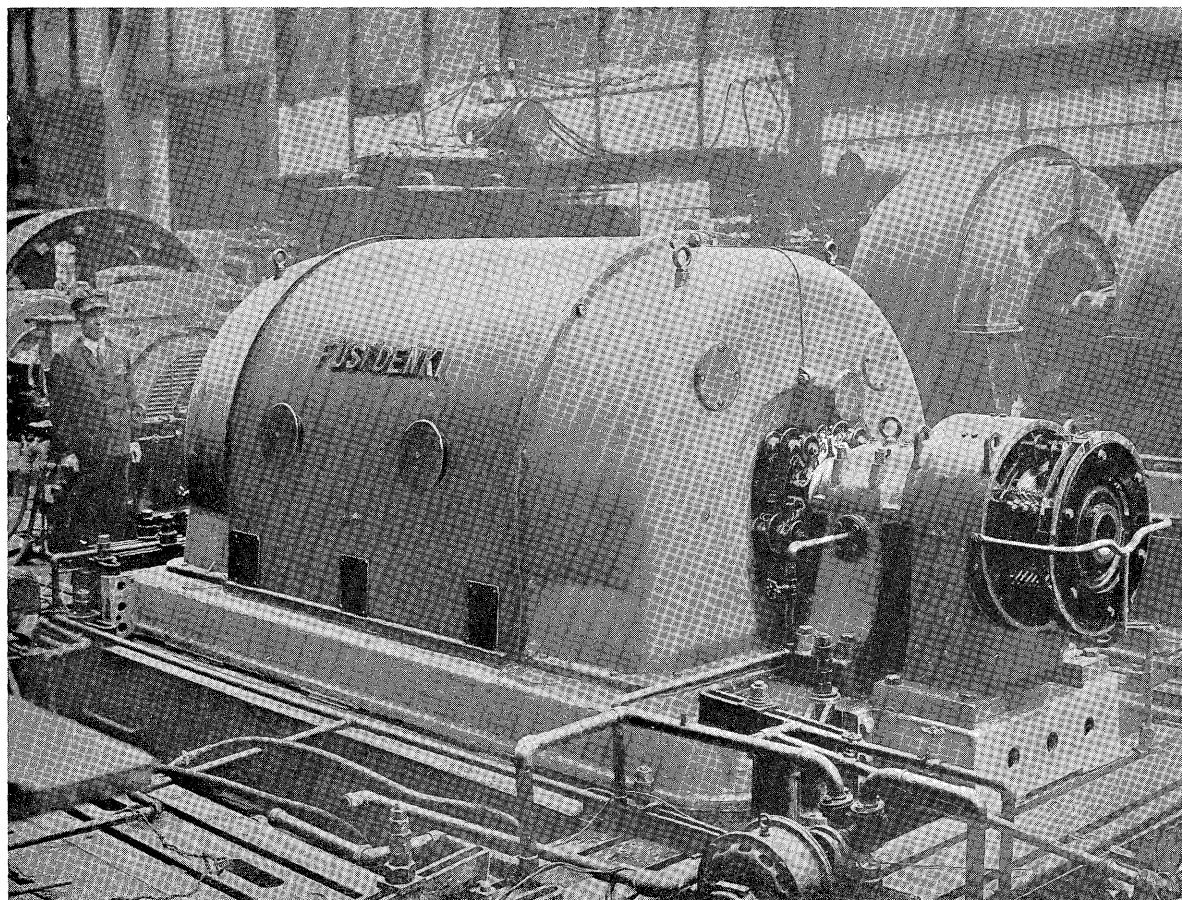


Fig. II-1. 10,000 kVA 3,000 r.p.m. Turbo-Alternator

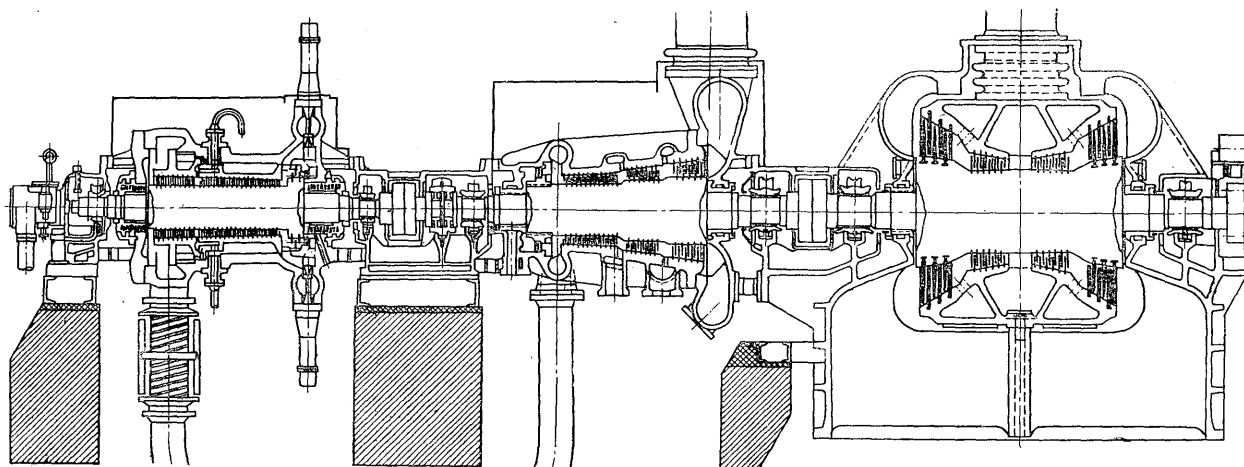


Fig. II-2. 100 MW-Condensing-Turbine 109/139 atm. 525/530°C, Standard Design

Steam turbines, which Fuji-Denki, has started to manufacture recently has the following features.

II-1. HIGH EFFICIENCY

Every Condition to satisfy the highest efficiency is incorporated in the design. That means, besides such conditions as a reaction system, round-head blades, rigid shaft, etc., a so-called *pot-casing* of one integral casting without a horizontal flange as shown in the high pressure casing of Fig. II-4² is employed to minimize deformation at high temperature and high pressure. Fig. II-3 shows external view of the pot-casing. With this no thermal strain occurs and a small clearance is good enough therefore can prevent leakage and assure high efficiency, which is one extraordinary feature worthy of mentioning.

II-2. QUICK STARTING

The starting time, as shown in Fig. II-4, is re-

markably reduced as compared with the conventional design.

II-3. DURABILITY

For durability the best materials are employed. Especially the parts subjected to high temperature are designed by taking into account of 100,000 hours rupture strength to make assurance doubly sure.

II-4. EASY HANDLING

In spite of very special design, the pot-casing is assembled or disassembled with ease by means of unique jigs.

II-5. SAFETY

A sensitive oil pressure speed regulating device, tachometers, extensometers, thermometers, etc. are perfectly provided to facilitate the operation.

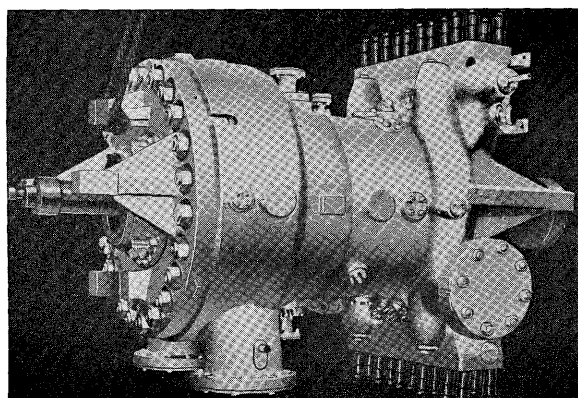


Fig. II-3. Pot-Casing as the High Pressure Casing

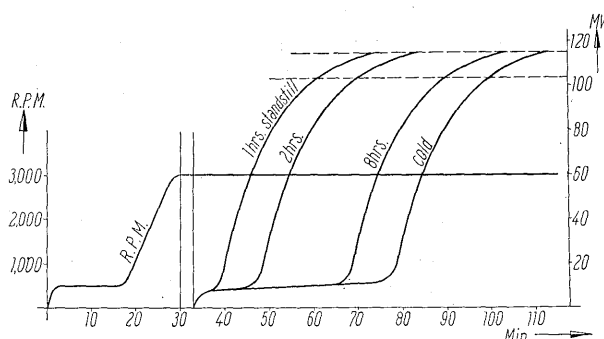


Fig. II-4. Starting and Loading Curves