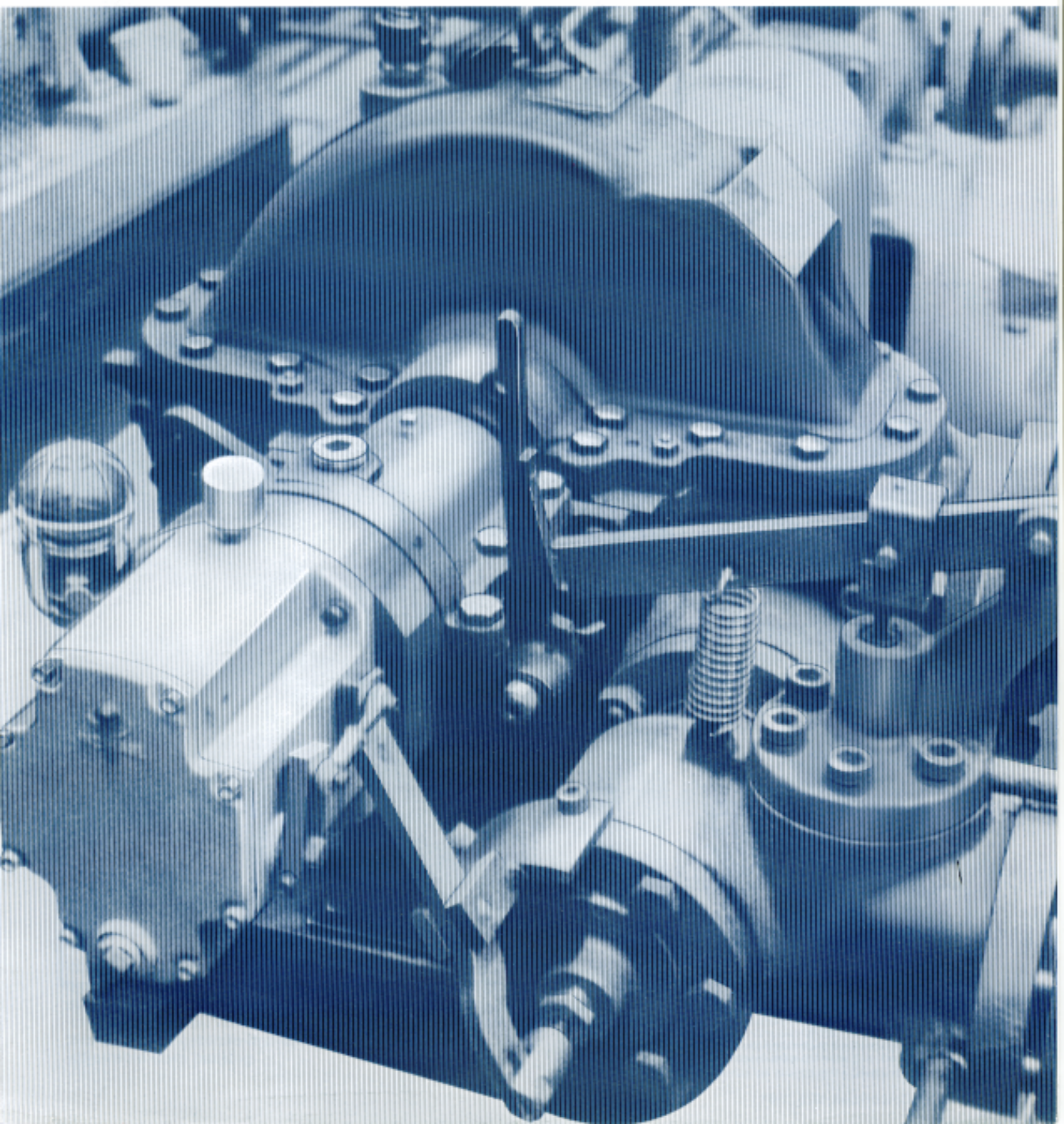
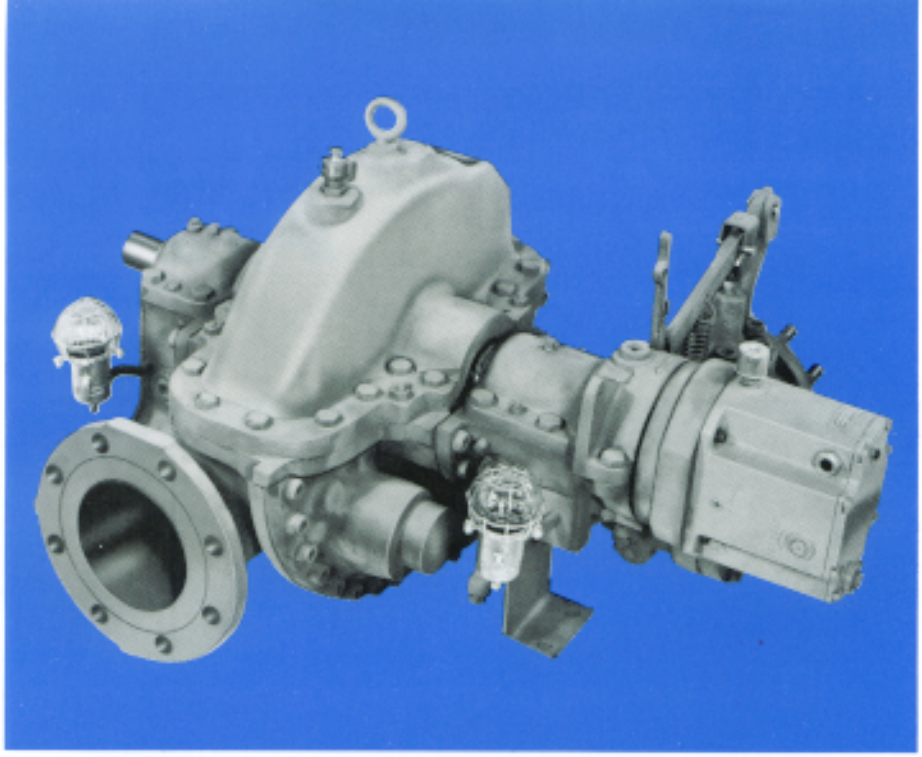
Bulletin H-32D

Elliott

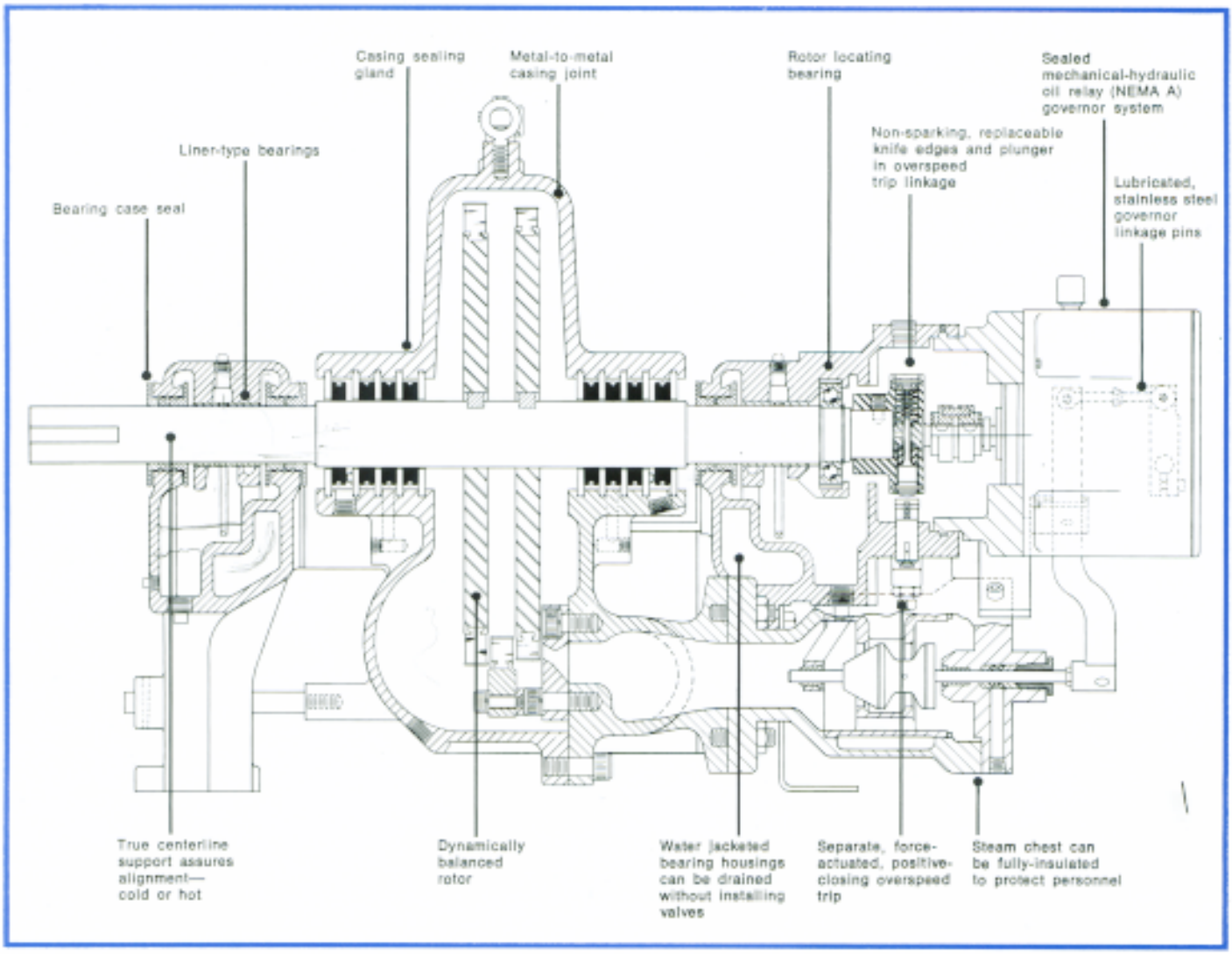
AYR

Single-stage
Turbines



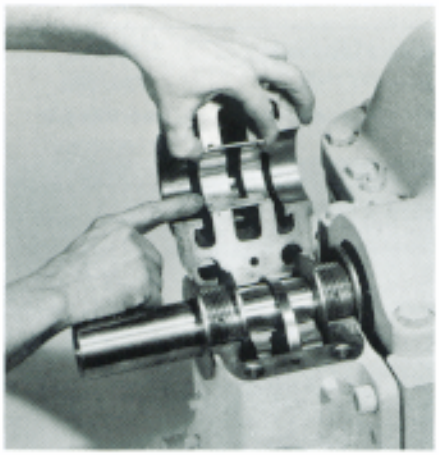


Some reasons why the Elliott AYR is your best small turbine buy

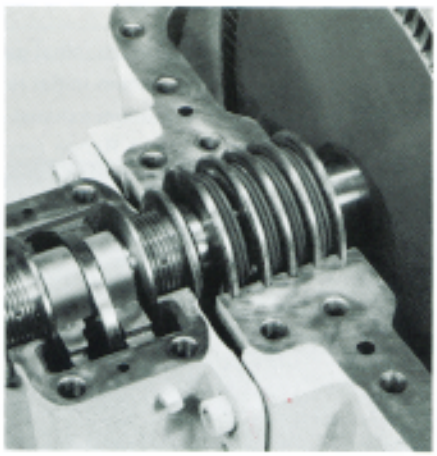


NOTES:

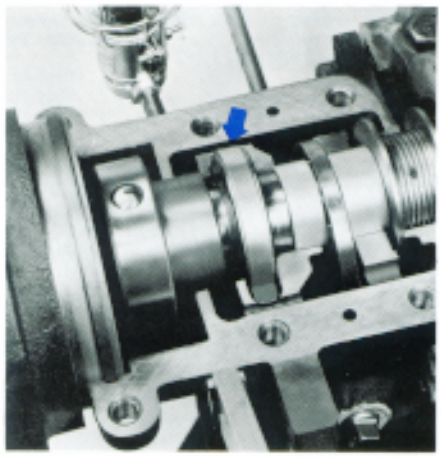
1. AYR turbines share basic YR design and construction, permitting greatest interchangeability of parts.
2. To facilitate maintenance, locating dowels position the bearing caps, casing halves, and governor valve cover.
3. The specifications in this bulletin are subject to change without notice.



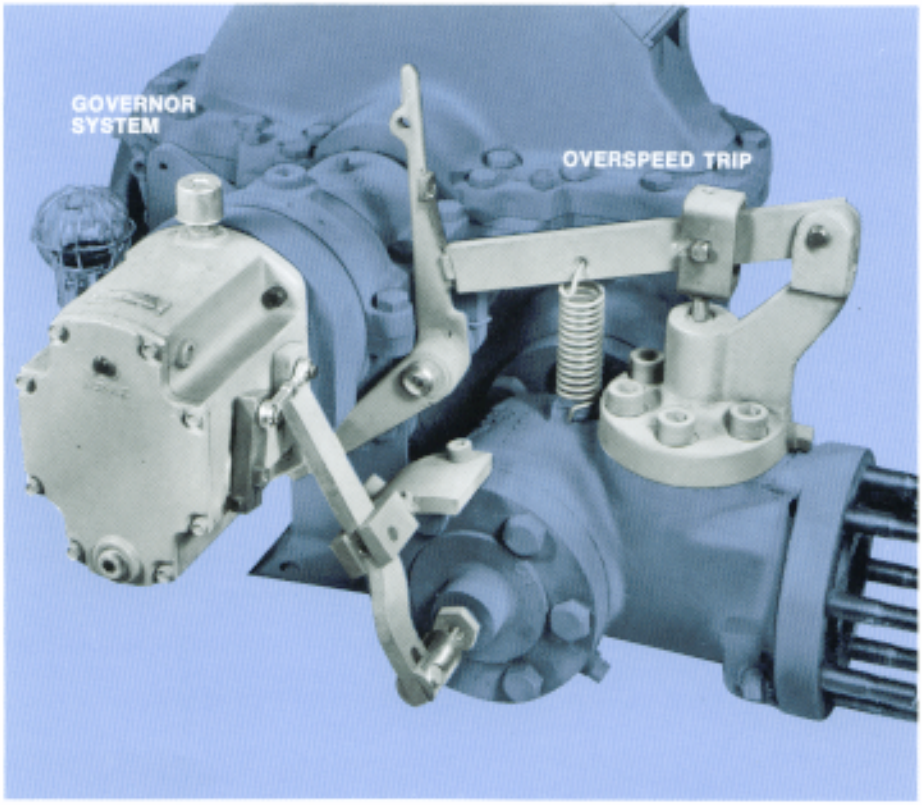
Liner-type bearings snap into place; no scraping or fitting. Oil ring lubrication. Rotating "air turbulence" labyrinth-type bearing seals have inner and outer slingers. Water jacketing removes heat and insulates lubricating oil from casing heat.



Casing sealing glands have segmented carbon rings separated by stainless steel partitions. Shaft under rings is spray-coated with stainless steel. Rings sized by computer to assure proper clearance at shaft operating temperature.

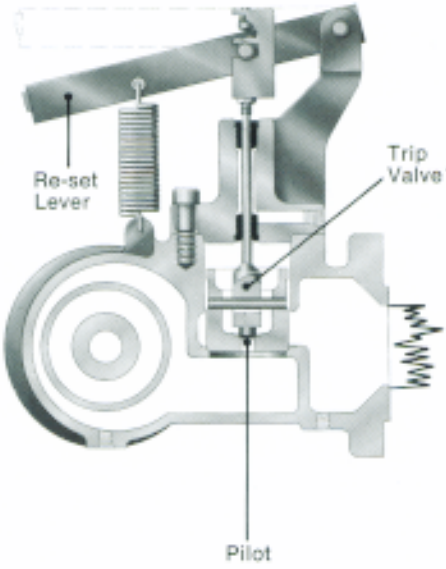


Rotor locating bearing eliminates shimming and adjusting. Outer bearing race has an anti-rotation band, with a stop, held in place by bearing case cover.



Mechanical-hydraulic governor system has self-lubricating, stainless steel linkage pins, manual speed changer, hardened valve stem and bushings, and graphite-impregnated, adjustable stem packing.

Separate piloted trip valve has closing spring, easily opened against full line pressure. Patented temperature-compensated valve stem seal.



Piloted trip valve—Raising the re-setting lever opens the small pilot valve. This balances the pressure on the trip valve, allowing it to be opened easily.

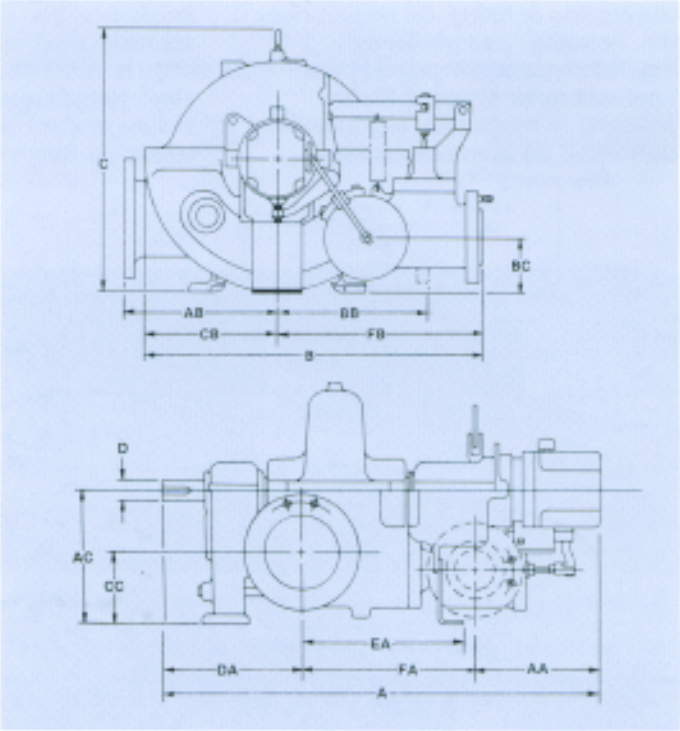
Material Specifications

part	material
Casing and steam chest	
Class I	High-strength cast iron
Class II-steam chest	Cast steel
Class II- casing	
Upper half	High-strength cast iron
Lower half steam end	Cast steel
Lower half exhaust end	High-strength cast iron
Class III	Cast steel
Nozzle ring	Steel
Reversing blades	
Holder	Steel
Blades and shroud band	12% chromium stainless steel
Rotor	
Shaft	Hot-rolled annealed carbon steel
Disks	Hot-rolled—high strength alloy steel
Blades and shroud bands	12% chromium stainless steel
Locating bearing	Single row ball bearing
Bearing seals	Steel
Bearings	
Bearing case and pedestal	Cast iron
Bearing liners	
Shell	Cold-rolled steel
Lining	Bonded babbitt, 89% tin
Oil rings	Brass
Casing sealing glands	
Sealing rings	Carbon
Sealing ring springs	Inconel metal
Sealing ring spacers	12% chromium stainless steel
Governor valve assembly	
Valve and valve seat	D-2 Ni-Resist
Valve stem and guides	12% chromium stainless steel, nitrided
Trip valve assembly	
Valve, valve stem and pilot	12% chromium stainless steel, stem chromium plated
Valve seats	
Class I	High-strength cast iron
Class II and III	Cast steel
Valve stem guides	12% chromium stainless steel, nitrided
Trip re-setting lever knife edge	Beryllium copper
Trip plunger top	Aluminum silicon bronze
Casing bolts, Class I, II and III	Heat-treated alloy steel
Steam strainer	
Screen and reinforcement	18-8 chromium stainless steel
Sentinel warning valve	Bronze
External springs	17-7 PH & 18% chromium stainless steels
Pins—External governor and trip	12% chromium stainless steel
Nameplate & pins	18-8 chromium stainless steel

General Specifications

English/Metric

Frame	AYR
Maximum initial gage pressure (psi/bar)	700/48
Maximum initial temperature (°F/°C)	750/399
Maximum exhaust pressure (gage, psi/bar)	vac-100/6.9
Speed Range (rev/min)	1000-7064
Wheel pitch diameter (in./mm)	14/360
Number of stages (impulse type)	1
Number of rows of rotating blades	2
Inlet sizes (ANSI, in.)	3″
Inlet location (facing governor)	right
Exhaust size (ANSI, in.)	6″
Exhaust location (L.H. Standard)	R.H. optional
Approximate range of capacities (hp/kW)	750/560
Approximate shipping weight (lb/kg)	870/400



Approximate Dimensions—Inches, Millimetres

A	AA	FA	DA	EA	B	AB	BB	CB	FB	C	AC	BC	CC	D
40.56	12.00	15.74	12.82	15.18	31.12	13.74	13.74	12.62	18.50	24.00	12.00	5.00	6.50	1.9325
1030	305	400	325	386	791	349	349	321	470	610	305	127	165	49.09

Note: AB and BB for Class III; left hand exhaust (AB dimension) is standard.

UNITED TECHNOLOGIES ELLIOTT

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