



**A**  
LINE

**P**  
**PRIME**  
*SINGLE STAGE STEAM*  
**TURBINES**



# PRIME SINGLE STAGE TURBINES

*...high performance – easy maintenance*

**PRIME** Single Stage Steam Turbines are fully equipped with:

- Woodward TG-13 oil relay governor
- Independent overspeed trip
- Sentinel warning valve
- Carbon ring packing
- One piece ductile iron rotor
- Stainless steel blades
- 50,000 hour L-10 life ball bearings
- Oil or grease lubrication

## SPECIFICATIONS

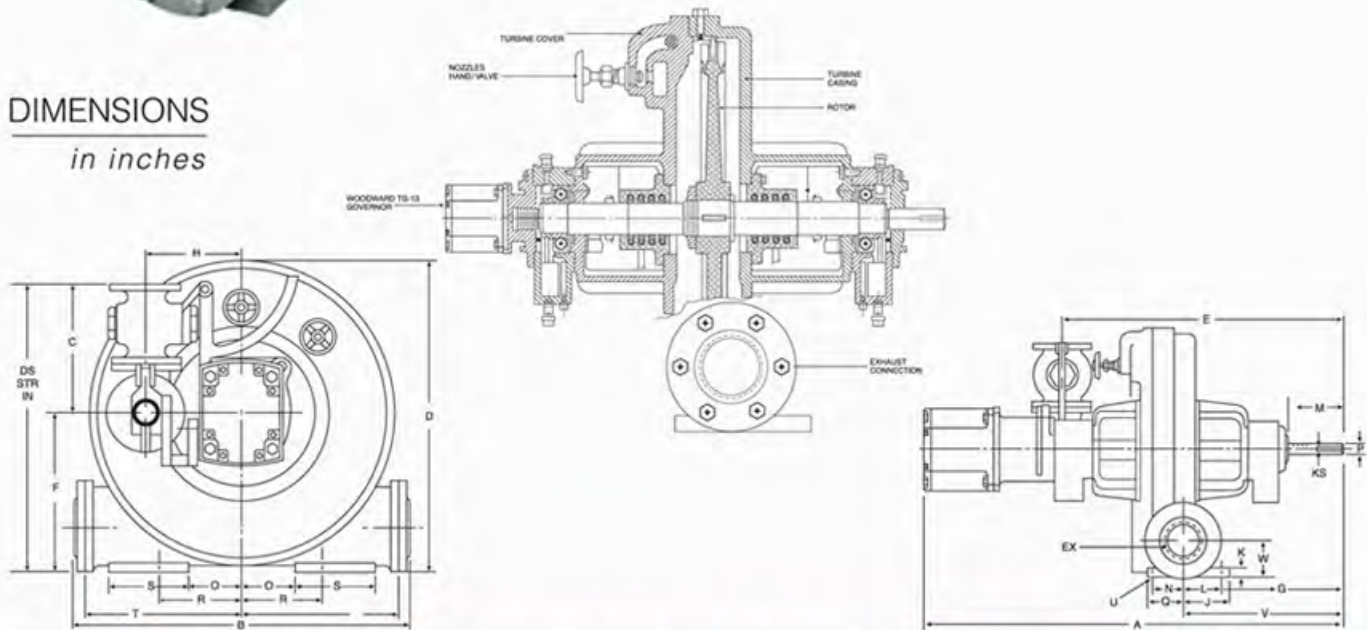
ITEM	TYPE	12A	16A	20A	20AX	22A	23A	23AX
1	Maximum Inlet Press (psi)	600	600	600	600	600	600	600
2	Maximum Inlet Temperature (°F)	750	750	750	750	750	750	750
3	Maximum Exhaust Press (psi)	Vac-75	Vac-75	Vac-75	Vac-75	Vac-75	Vac-75	Vac-75
4	Speed Range, R.P.M.	1000-5000	1000-4000	1000-4000	1000-4000	1000-4000	1000-4000	1000-4000
5	Maximum HP	120	300	300	350	980	980	980
6	Maximum Inlet Diameter (inches)	2	2	2½	3	3	3	4
7	Exhaust Diameter (inches)	4	4	6	6	8	8	8
8	Hand Control Valves	0-1	0-2	0-3	0-3	0-4	0-4	0-4
	Approximate Shipping Weight (lbs)	550	700	850	970	1430	1710	1790

*Direction of rotation and exhaust location on either side*



## DIMENSIONS

*in inches*



TURBINE SIZE	A	B	C	D	DS	E	F	G	H	J	K	L	M	N	O	P	Q	S	T	U	V	W	KS	EX	WT. LBS
12A	41 <sup>17</sup> / <sub>20</sub>	21	11 <sup>37</sup> / <sub>57</sub>	20	20 <sup>19</sup> / <sub>41</sub>	28 <sup>29</sup> / <sub>50</sub>	8 <sup>7</sup> / <sub>20</sub>	12 <sup>7</sup> / <sub>25</sub>	5 <sup>27</sup> / <sub>31</sub>	4 <sup>17</sup> / <sub>53</sub>	1 <sup>17</sup> / <sub>50</sub>	2 <sup>7</sup> / <sub>10</sub>	3 <sup>7</sup> / <sub>10</sub>	3 <sup>27</sup> / <sub>50</sub>	4 <sup>29</sup> / <sub>50</sub>	1 <sup>17</sup> / <sub>50</sub>	4 <sup>7</sup> / <sub>5</sub>	3 <sup>7</sup> / <sub>20</sub>	9 <sup>7</sup> / <sub>10</sub>	4 <sup>17</sup> / <sub>50</sub>	7 <sup>7</sup> / <sub>25</sub>	5 <sup>7</sup> / <sub>5</sub>	1/4 x 1/8	4	550
16A	41	23 <sup>3</sup> / <sub>4</sub>	12	20	22	28	11	11	6 <sup>3</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	3	3	3	4 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	11	3 <sup>3</sup> / <sub>4</sub>	14	5 <sup>3</sup> / <sub>8</sub>	3/8 x 3/16	4	700
20A	40 <sup>7</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>4</sub>	13 <sup>7</sup> / <sub>25</sub>	24 <sup>7</sup> / <sub>8</sub>	25 <sup>3</sup> / <sub>8</sub>	27 <sup>3</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	11 <sup>7</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	3	5 <sup>3</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	5	4 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	1	14 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>4</sub>	2 x 9/16	6	900
20AX	40 <sup>7</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	24 <sup>7</sup> / <sub>8</sub>	27 <sup>7</sup> / <sub>4</sub>	28 <sup>3</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	11 <sup>7</sup> / <sub>16</sub>	7 <sup>7</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	3	5 <sup>7</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>8</sub>	5	4 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	1	14 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>4</sub>	2 x 9/16	6	970
23A	52	31 <sup>1</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>4</sub>	30	30 <sup>1</sup> / <sub>2</sub>	35 <sup>1</sup> / <sub>4</sub>	15	15 <sup>1</sup> / <sub>2</sub>	15	5 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	4 <sup>7</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	20 <sup>1</sup> / <sub>4</sub>	7	1/2 x 1/4	8	1450
23AX	52 <sup>1</sup> / <sub>4</sub>	30	19 <sup>1</sup> / <sub>4</sub>	28 <sup>3</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>2</sub>	38 <sup>3</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>2</sub>	9 <sup>7</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>4</sub>	4 <sup>7</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	4 <sup>7</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	20 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>4</sub>	1/2 x 1/4	8	1790



**MATERIAL SPECIFICATIONS**

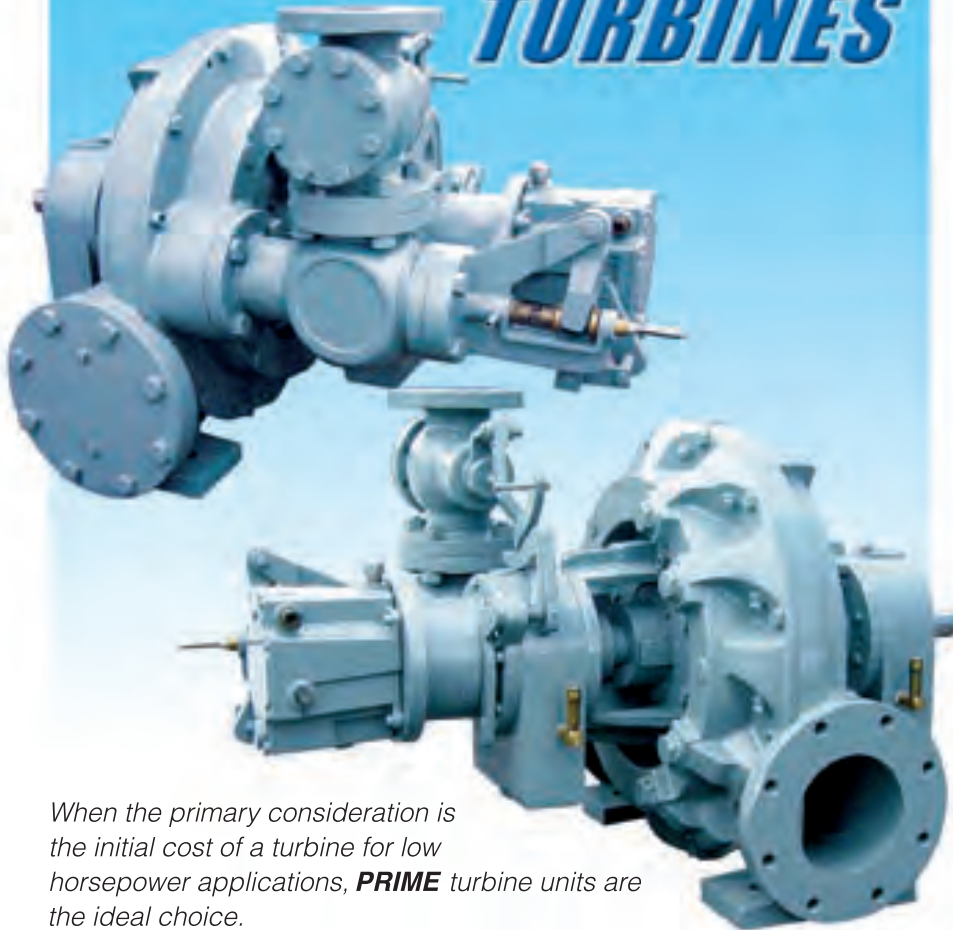
	<b>Class 1</b>	<b>Class 2</b>	<b>Class 3</b>
<b>Maximum Steam Pressure</b>	275 psig	450 psig	600 psig
<b>Maximum Temperature (Total)</b>	500°F	550°F	750°F
<b>Nozzle Cover</b>	Cast-Iron	Cast Steel	Cast Steel
<b>Exhaust Casing</b>	Cast-Iron	Cast-Iron	Cast Steel
<b>Shaft</b>	4140 Steel	4140 Steel	4140 Steel
<b>Rotor</b>	Ductile	Ductile	Ductile
<b>Blading</b>	Stainless Steel	Stainless Steel	Stainless Steel
<b>Governor Valve Body</b>	Cast-Iron	Cast Steel	Cast Steel
<b>Governor Valve Parts</b>	SS or Monel	SS or Monel	SS or Monel
<b>Trip Governor Valve Body</b>	Cast-Iron	Cast Steel	Cast Steel
<b>Trip Governor Valve Parts</b>	Stainless Steel	Stainless Steel	Stainless Steel
<b>Hand Valves</b>	Steel	Steel	Steel
<b>Nozzles</b>	Stainless Steel	Stainless Steel	Stainless Steel
<b>Bearings</b>	Ball Brgs.	Ball Brgs.	Ball Brgs.
<b>Packing</b>	Carbon	Carbon	Carbon
<b>Constant Speed Governor</b>	Oil Relay or Mechanical	Oil Relay or Mechanical	Oil Relay or Mechanical
<b>Water cooling</b>	Optional	Optional	Optional

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

## PRIME SINGLE STAGE STEAM TURBINES

*...innovation – reliability – service*

# PRIME SINGLE STAGE STEAM TURBINES



*When the primary consideration is the initial cost of a turbine for low horsepower applications, **PRIME** turbine units are the ideal choice.*

*They have proven their performance as reliable, low maintenance mechanical drive applications.*

*These horizontal shaft turbines feature heavily ribbed, vertically split casings designed for easy access to turbine internal components.*

YOUR LOCAL REPRESENTATIVE IS



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