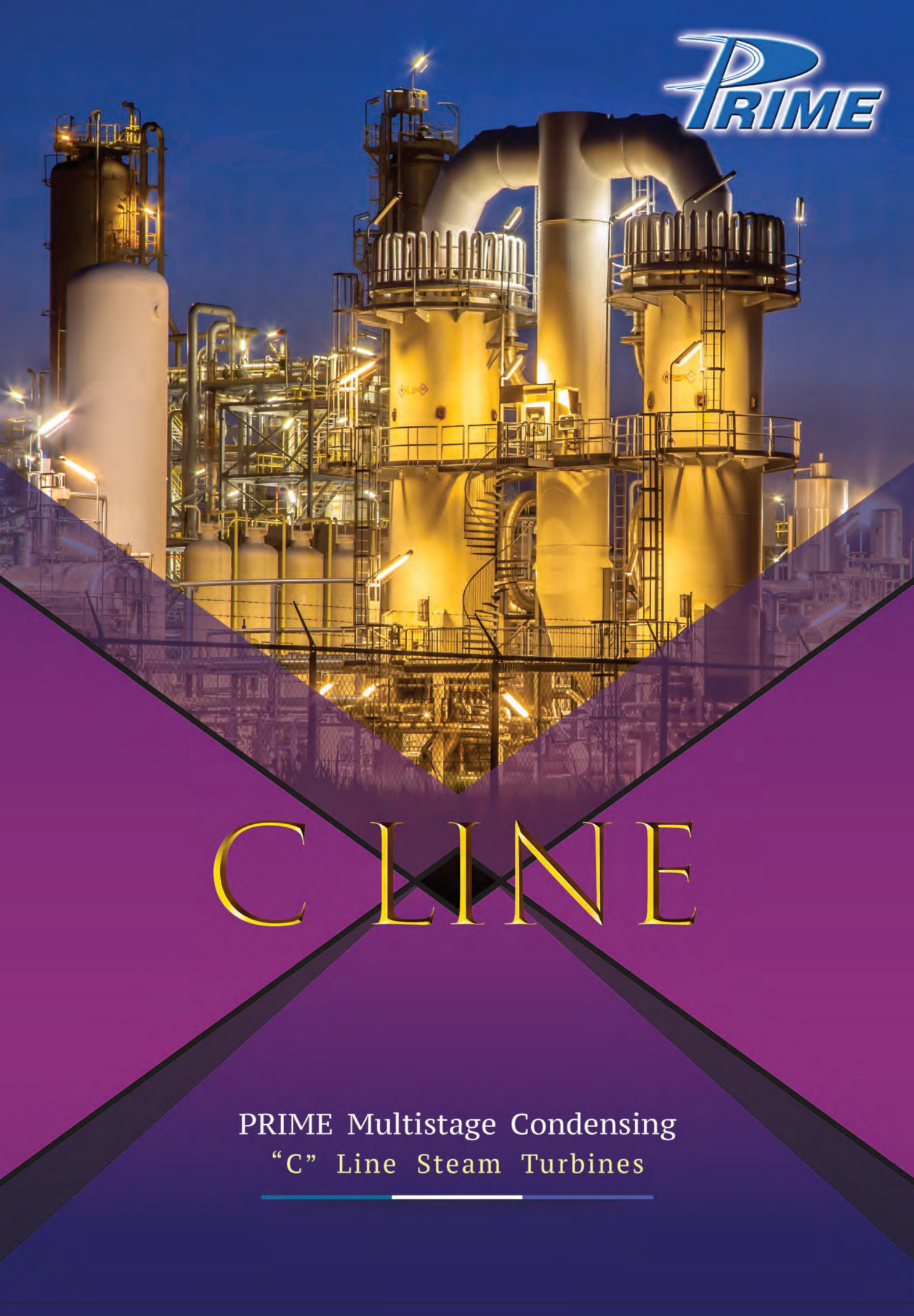


C LINE

PRIME Multistage Condensing
"C" Line Steam Turbines

INTRODUCTION

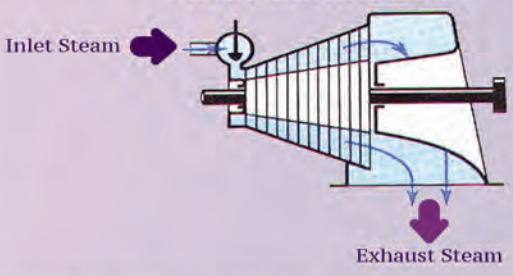
PRIME Multistage "C" Line Steam Turbines are designed in the USA for fully condensing or extraction-condensing power generation generator packages with power range capabilities up to 20 MW of power. Reliability, maximum availability and high efficiency are success factors that make Prime steam turbines extremely cost effective. Our goal with Prime "C" line turbines is to bring the American design turbine experience with its well-known low maintenance and robust construction and superior performance at a more affordable price to the market.

PERFORMANCE, RELIABILITY & EFFICIENCY

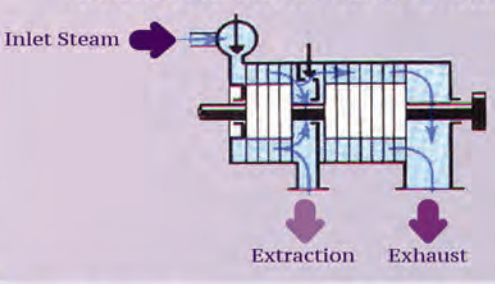
Prime "C" Line turbines are available in fully condensing and extraction-condensing configurations with possibilities of single or double automatic extraction for process requirement. These turbines can be designed to use build-up rotors or integral rotors utilizing electronic governor control and overspeed protection systems.

CONDENSING / EXTRACTION CONDENSING CONFIGURATIONS

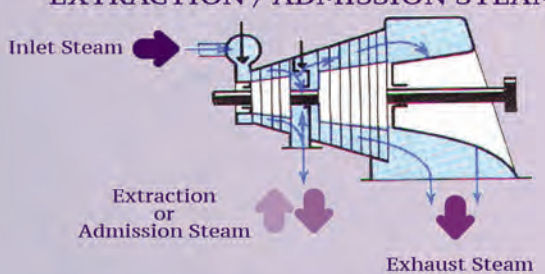
FULLY CONDENSING



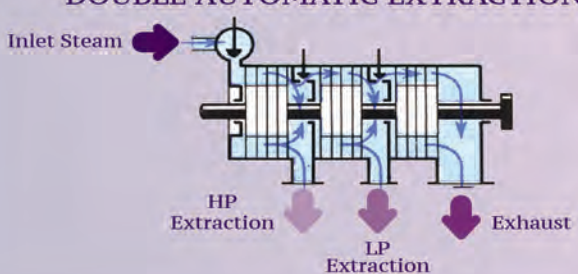
SINGLE AUTOMATIC EXTRACTION



EXTRACTION / ADMISSION STEAM



DOUBLE AUTOMATIC EXTRACTION



TECHNICAL FEATURES

ROTOR DESIGN

Custom design available for both build-up rotor and integral rotor configuration with minimum bearing span with an ideal stiffness to weight ratio

BLADING DESIGN

Custom blade design utilizing both impulse and reaction technology for maximum turbine efficiency

ACTUATOR

Quick action hydraulic or pneumatic actuator available with or without feedback positioner for precise control application

MULTI-VALVE INLET

Multi-valve inlet control system available for high efficiency partial load control requirement

TILTING-PAD JOURNAL BEARING

Tilting pad journal bearings are generally used for most PRIME "C" line steam turbines to withstand higher radial force and to eliminate cross coupling instabilities

TILTING-PAD THRUST BEARING

Tilting pad thrust bearings are generally used for most PRIME "C" line steam turbines to withstand higher thrust force and increase robustness

DIAPHRAGM

High efficiency custom profiled vanes interstage diaphragm for pressure compounding and velocity compounding expansions

ELECTRONIC GOVERNOR

Woodward NEMA "D" fast response type electronic governor suitable for condensing or extraction-condensing configuration

PROFILED NOZZLE RING

Stainless steel profiled nozzle provides additional steam flow path with higher efficiency

LABYRINTH PACKING GLANDS

Ni-resist or Aluminum labyrinth packing. The ductile material prevents scoring of shaft

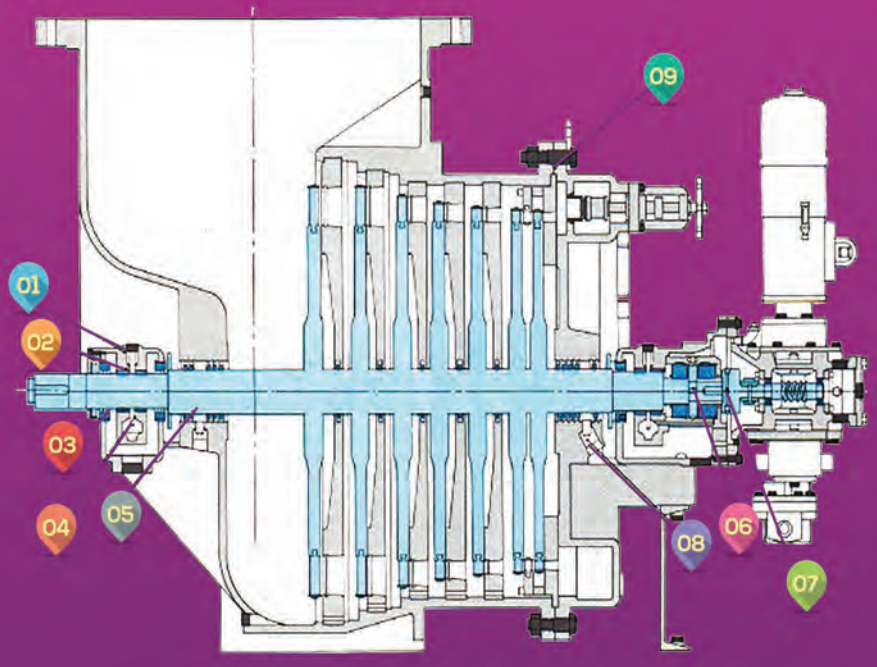
OVERSPEED PROTECTION

Electronic single or 2-out-of-3 voting overspeed protection system available to protect the turbine from overspeeding above set point

SPECIFICATIONS

ITEM	TYPE	24C-6	48C-15
1	Max. Inlet Pressure (barG)	50	50
2	Max. Inlet Temperature (C)	500	500
3	Min. Exhaust Pressure (barA)	0.1	0.1
4	Max. Number of Stages	6	15
5	Max. Power (MW)	6	20
6	Speed (RPM)	9000	3000-4000
7	Max. Inlet Diameter (inches)	8	10
8	Max. Exhaust Diameter (inches)	42	84
9	Hand Valves	2	2
10	Single-Valve option	Available	Available
11	Multi-Valve option	Available	Available
12	Max. Extraction ports available	1	2

TURBINE CROSS SECTION



01 Exhaust and steam end bearing covers provide easy access to the bearing housing without lifting the main turbine casing

02 Journal bearings are tilting-pad type and are replaceable without removing the rotor

03 Labyrinth type oil seals retain oil in the bearing housing and prevent entrance of foreign materials. Steel slingers deflect steam and condensate away from the bearing housing

04 Pressure lubrication is standard. Oil rings may be provided for start-up and shut-down conditions

05 Segmented carbon ring gland or labyrinth type seals are standard

06 Tilting-pad type dual acting hydrodynamic thrust bearings

07 Overspeed trip protection

08 Large gland leak-offs

09 Casing splits are precision ground metal-to-metal joints

C LINE

WHEN THE PRIMARY CONSIDERATION IS THE INITIAL COST AND MAINTENANCE COST OF A TURBINE FOR LOW TO MEDIUM POWER APPLICATIONS; PRIME TURBINE UNITS ARE THE IDEAL CHOICE.

THEY HAVE PROVEN THEIR PERFORMANCE AS RELIABLE, LOW MAINTENANCE MECHANICAL DRIVE AND GENERATOR APPLICATIONS. THESE HORIZONTAL SHAFT TURBINES FEATURE HEAVILY RIBBED, HORIZONTALLY SPLIT CASINGS DESIGNED FOR EASY ACCESS TO TURBINE COMPONENTS.

PRIME "C" LINE MULTI-STAGE STEAM TURBINES ARE DESIGNED SPECIFICALLY FOR THE CONDENSING OR EXTRACTION-CONDENSING TYPE APPLICATIONS WITH MAXIMUM EFFICIENCY.

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