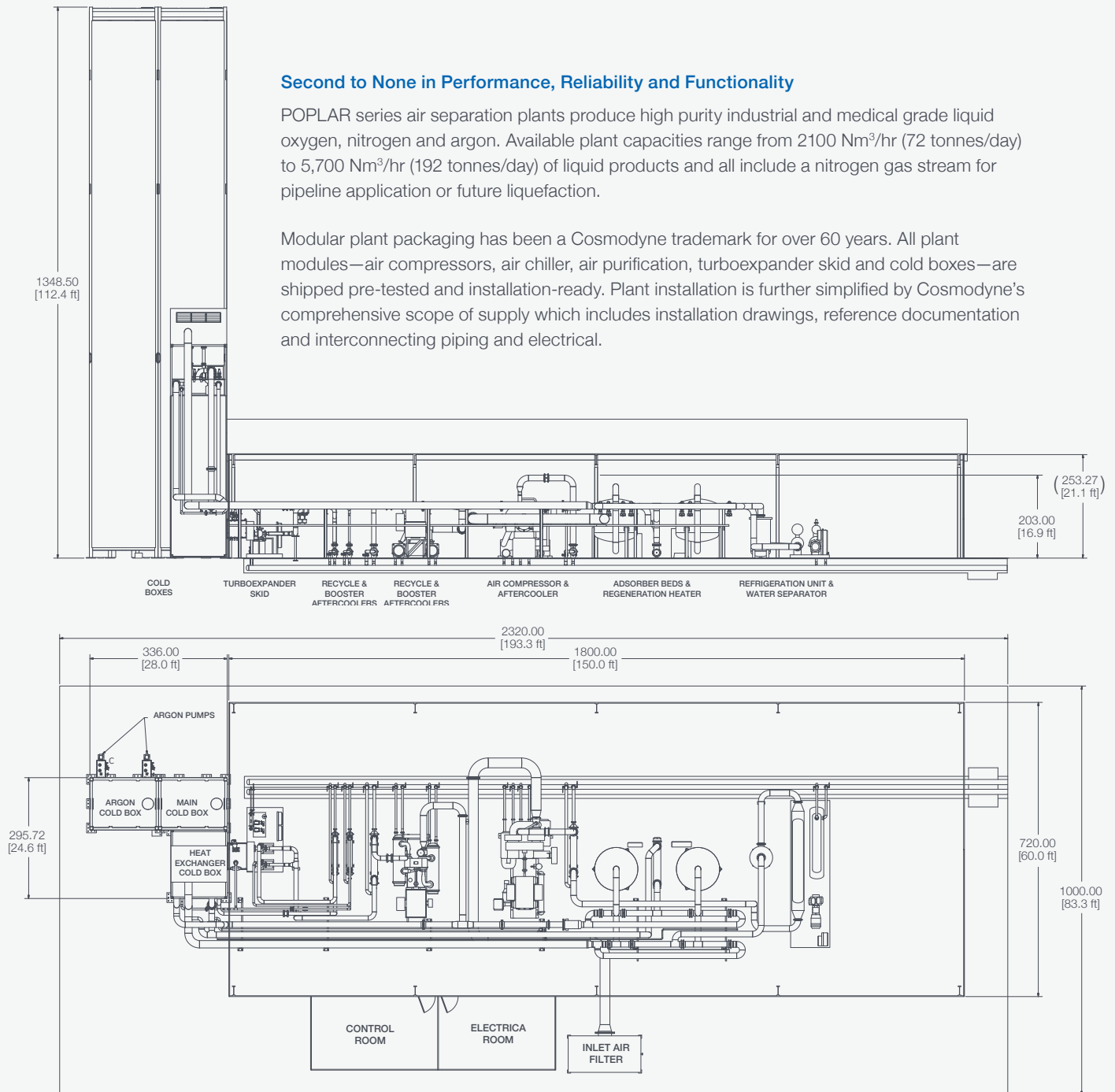


# POPLAR Series

Cryogenic Air Separation Plants



Product Information



### Second to None in Performance, Reliability and Functionality

POPLAR series air separation plants produce high purity industrial and medical grade liquid oxygen, nitrogen and argon. Available plant capacities range from 2100 Nm<sup>3</sup>/hr (72 tonnes/day) to 5,700 Nm<sup>3</sup>/hr (192 tonnes/day) of liquid products and all include a nitrogen gas stream for pipeline application or future liquefaction.

Modular plant packaging has been a Cosmodyne trademark for over 60 years. All plant modules—air compressors, air chiller, air purification, turboexpander skid and cold boxes—are shipped pre-tested and installation-ready. Plant installation is further simplified by Cosmodyne's comprehensive scope of supply which includes installation drawings, reference documentation and interconnecting piping and electrical.

### Additional Typical Plant Features

Ultra-low specific power consumption minimizes operating cost

Advanced PLC based control system with user friendly PC based HMI is designed for unattended operation and includes continuous data and event logging, remote monitoring and control capability

Robust, high performance cartridge style turboexpanders provide optimum efficiency and reliability

High purity nitrogen gas product is available in Max LOX mode for future pipeline supply or liquefaction

### POPLAR Options and Accessories

Nitrogen liquefier

Argon production (crude or refined)

Closed loop evaporative cooling system

50 or 60 Hertz electrical system

Product storage tanks

High pressure gas cylinder charging systems

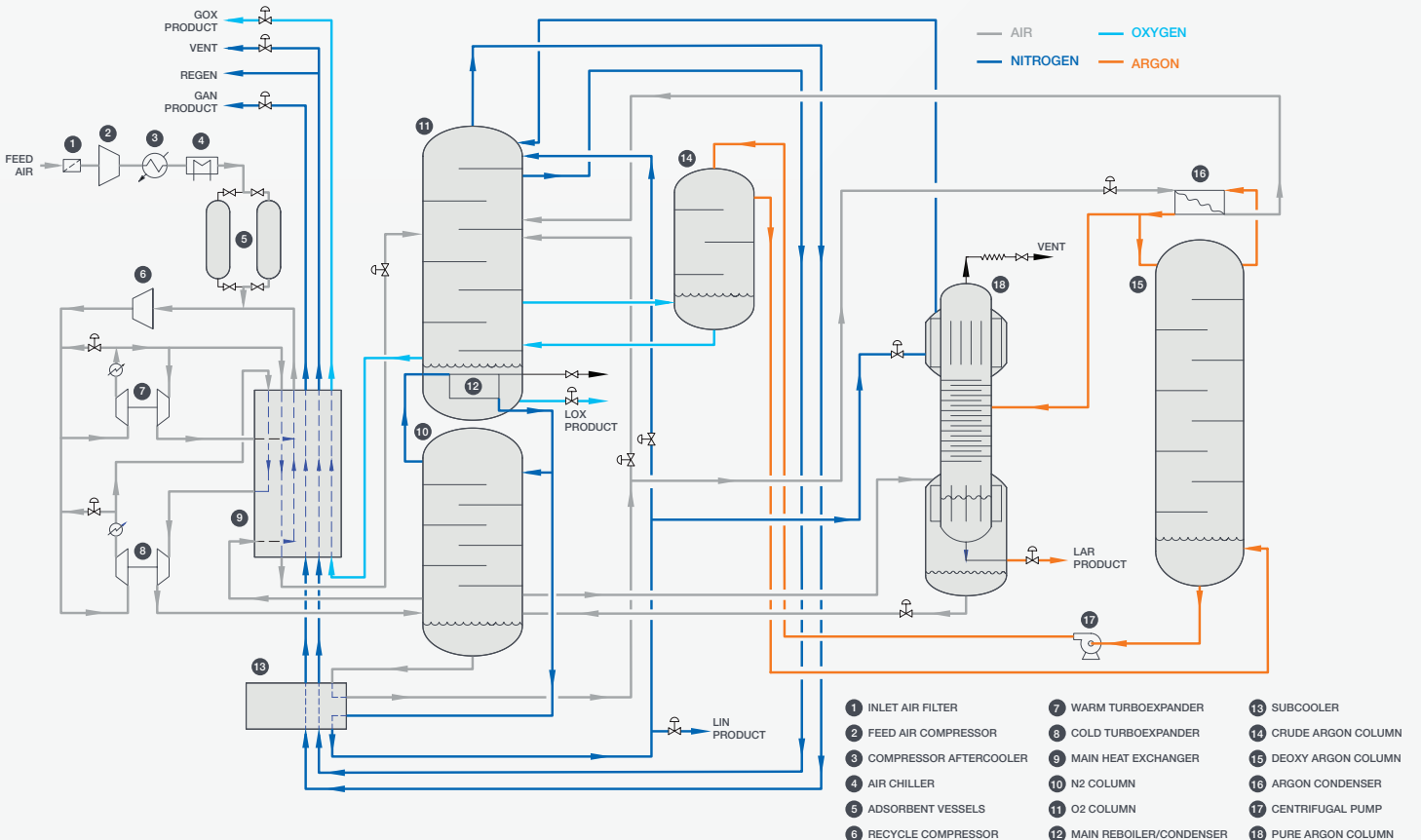
Liquid transfer/truck filling pump systems

Packaged Motor Control Center (MCC)

**Poplar Performance – Expected Performance at 20 °C, 50% RH, Sea Level**

Plant Model	Poplar 2000		Poplar 2500		Poplar 3500		Poplar 5000		Poplar 6000		
	MAX LOX	MAX LIN	MAX LOX	MAX LIN	MAX LOX	MAX LIN	MAX LOX	MAX LIN	MAX LOX	MAX LIN	
<b>Production</b>											
Liquid Oxygen	Nm <sup>3</sup> /hr	1770	80	2230	80	2700	100	3969	120	4605	150
	MTPD	61	3	76	3	93	3	136	4	158	5
Liquid Nitrogen	Nm <sup>3</sup> /hr	315	2130	443	2725	500	3287	801	4930	921	5686
	MTPD	9	64	13	82	15	99	24	148	28	171
Liquid Argon	Nm <sup>3</sup> /hr	45	0	76	0	85	0	130	0	140	0
	MTPD	2	0	3	0	4	0	6	0	6	0
Total	Nm <sup>3</sup> /hr	2130	2210	2749	2805	3285	3387	4900	5050	5666	5836
	MTPD	72	67	92	85	112	102	166	152	192	176
GAN Product Available	Nm <sup>3</sup> /hr	3000		3200		4200		8000		8000	
	MTPD	90		96		126		240		240	
<b>Product Purity</b>											
Oxygen	%O <sub>2</sub> , min	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
Nitrogen	PPM O <sub>2</sub> , max	5	5	5	5	5	5	5	5	5	5
Argon	% Argon	99.999		99.999		99.999		99.999		99.999	
<b>Power</b>											
	kW	2150		2644		3120		4654		5380	
Specific Power	kWh/Nm <sup>3</sup>	1.01		0.96		0.95		0.95		0.95	

**Simplified Process Flow Diagram**



## World leader in design and manufacture of modular air separation plants

Cosmodyne has been a world leader in design and manufacture of modular air separation plants since 1958. Over 400 air separation plants have been delivered to major industrial gas suppliers and end users in industrialized and developing countries around the world.

Every Cosmodyne system is designed and built to rigorous standards of quality and workmanship developed from more than 60 years of specific experience.

From initial customer contact through on-site installation our sales, engineering, manufacturing and service personnel continually demonstrate our commitment to product excellence and total customer satisfaction.

Our global service network stands by ready to serve you 24/7.



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