GREAT LAKES AIR

NITROGEN GENERATORS

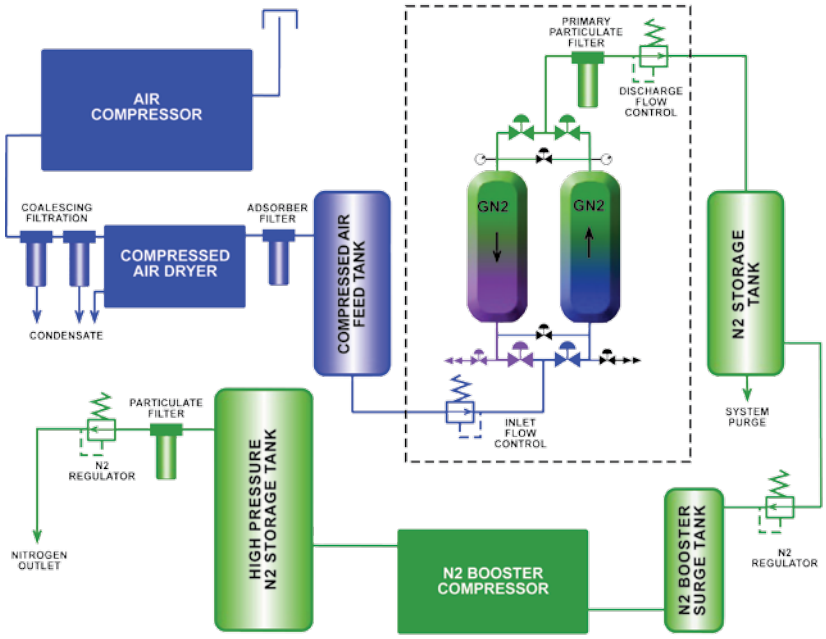
XP3 Series
Nitrogen Booster Packages

XP3 Booster & Generator Package

When a GN2 nitrogen generator equiped with an XP2 pre treatment package is paired with a matched XP3 booster package a complete turn key high pressure nitrogen supply system is combined.

Model # GN2-1600AB15-XP2 & XP3-117R5-436

This is a 2512 SCFH @ 475 PSIG setup for specified nitrogen output at 99.95% purity.



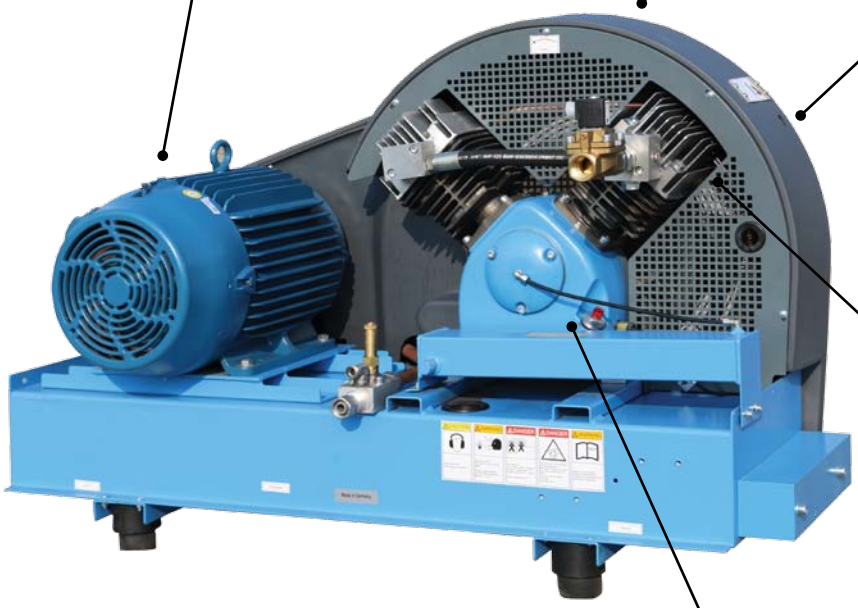
XP2 Package includes:
1st Stage Coalescing Filter
2nd Stage Coalescing Filter
Refrigerated Air Dryer
Activated Carbon Filter
Feed Storage Tank w/ Gauge and PRV
Nitrogen Generator
N2 Storage Tank w/ Gauge and PRV
XP3 Package includes:
LP Booster Prefilter
Inlet Pressure Regulator
Nitrogen Booster
1st Stage HP Filter
2nd Stage HP Filter
High N2 Pressure Storage Tank
3rd Stage HP Filter

Component Features & Benifits

The unique XP3 booster package with a high-efficiency piston compressor is capable of variable discharge pressures between 232 and 500 psig – with primary pressures between 29 and 145 psig. The primary and discharge pressures are controlled by a digital logic controller and graphic interface. The controller is also responsible for the rinse function assumes the purging of the nitrogen buffer vessel before filling a precondition to ensure the continious purity of the produced gas. Whether for laser cutting or blowing PET bottles or the higher compression of nitrogen wherever high final pressures are required, this booster technology has proven itself for many years. The overall design enables low-maintenance, and cost-saving operation as well as longer service life.

Powerful IE3 Motor
The high-quality IE3 motors that drive the booster ensure, longevity, high efficiency and absolutely “premium efficiency”.

Tried & Tested Belt Drive
The belt drive design enables various power configurations to be achieved simply and acts as protection for the power unit.



Flow Optimized Hood
The hood design offers efficent movement of cooling air which is a key component in the XP3 boosters suitablity continuous operation. This also results in a low discharge temperature, above intake air temperature (delta t: --> Δt)

Generous Cylinder Finning
To ensure efficient removal of heat and prolonge equipment service life the cylinders, constructed of high-quality grey cast iron is extensively finned on the outside, and the aluminium cylinder heads have cooling fins on the inside and outside

100 Percent Duty Cycle
The 100% duty cycle of the booster is a product of two key design features. The efficient removal of heat generated by compression due to the casting fin and airflow hood design, and the reduction of heat generated by friction due to the low average piston speed of 9.8 f/s.
These reduce the total heat retention of the components and thereby lessens stresses and wear.

Integrated Oil Level Monitoring
The boosters are fitted with integrated oil level monitoring, which continuously checks that the compressor is adequatly lubricated. The warning signal can be displayed on the control via a voltage-free contact, which increases operational safety.

Low Pressure Standard Filtration

The inlet to the XP3 booster skid package is protected by an inlet particulate filter. This prevents any particulate material from entering the booster and effecting long term operation.

Particulate Filtration Grade - PP

- Particulate Removal
- Particle removal down to 1 Micron
- Clean Dry Pressure Drop 1.0 PSID
- Outside / In Element Flow
- ISO 8573 (Class 3)

High Pressure Filtration

The high pressure gas portion XP3 booster skid package is protected by three high pressure filters in sequence; Utility Grade Coalescer, High Efficency Coalescer, and a Carbon Adsorption Filter. These prevents any hydrocarbons from dischargeing the booster package.

Utility Coalescing Filtration Grade - PC

- General Compressed Air Filtration
- Particle Removal Down to 0.1 Micron
- Max. Oil Carryover 0.09 PPM w/w
- Clean Dry Pressure Drop 1.0 PSID
- Oil Saturated Pressure Drop 2.0 PSID
- ISO 8573 (Class 2)

High Efficiency Coalescing Filtration Grade - H

- High Quality Compressed Air Filtration
- Particle Removal Down to 0.01 Micron
- Max. Oil Carryover 0.008 PPM w/w
- Clean Dry Pressure Drop 1.4 PSID
- Oil Saturated Pressure Drop 3.0 PSID
- ISO 8573 (Class 1)

Carbon Adsorption Filtration Grade - V

- High purity extended surface area activated carbon removes hydrocarbon mist and vapor.
- Max. Oil Carryover 0.003 PPM w/w
- Nominal Pressure Drop 1.0 PSID

Matching Components Capacities & Requirements

N2 Output						100 PSIG Generator Feed Pressure								
Flow SCFM	Press PSI	HP	Feed SCFM	99.999 (U)	Feed SCFM	99.99 (A)	Feed SCFM	99.95 (AB)	Feed SCFM	99.9 (B)	Feed SCFM	99.5 (C)	Feed SCFM	99.0 (D)
1813	300	7.5	282	GN2-4500U10-XP2 XP3-520L3-436	195	GN2-1800A10-XP2 XP3-520L3-436	177	GN2-1600AB10-XP2 XP3-520L3-436	137	GN2-1250B10-XP2 XP3-520L3-436	109	GN2-1000C10-XP2 XP3-520L3-436	92	GN2-800D10-XP2 XP3-520L3-436
2363	300	10	Not Avaliable		277	GN2-2500A10-XP2 XP3-525L3-436	277	GN2-2500AB10-XP2 XP3-525L3-436	179	GN2-1600B10-XP2 XP3-525L3-436	139	GN2-1250C10-XP2 XP3-525L3-436	110	GN2-1000D10-XP2 XP3-525L3-436
4066	300	15	Not Avaliable		450	GN2-4000A10-XP2 XP3-545L3-436	393	GN2-3500AB10-XP2 XP3-545L3-436	377	GN2-3000B10-XP2 XP3-545L3-436	223	GN2-2000C10-XP2 XP3-545L3-436	203	GN2-1800D10-XP2 XP3-545L3-436
4958	300	20	Not Avaliable		566	GN2-5000A10-XP2 XP3-554L3-436	508	GN2-4500AB10-XP2 XP3-554L3-436	396	GN2-3500B10-XP2 XP3-554L3-436	283	GN2-2500C10-XP2 XP3-554L3-436	227	GN2-2000D10-XP2 XP3-554L3-436
1715	400	7.5	282	GN2-4500U10-XP2 XP3-520L3-436	195	GN2-1800A10-XP2 XP3-520L4-436	177	GN2-1600AB10-XP2 XP3-520L4-436	137	GN2-1250B10-XP2 XP3-520L4-436	109	GN2-1000C10-XP2 XP3-520L4-436	92	GN2-800D10-XP2 XP3-520L4-436
2218	400	10	Not Avaliable		277	GN2-2500A10-XP2 XP3-525L4-436	219	GN2-2500AB10-XP2 XP3-525L4-436	179	GN2-1600B10-XP2 XP3-525L4-436	139	GN2-1250C10-XP2 XP3-525L4-436	110	GN2-1000D10-XP2 XP3-525L4-436
3876	400	15	Not Avaliable		450	GN2-4000A10-XP2 XP3-545L4-436	393	GN2-3500AB10-XP2 XP3-545L4-436	377	GN2-3000B10-XP2 XP3-545L4-436	223	GN2-2000C10-XP2 XP3-545L4-436	184	GN2-1800D10-XP2 XP3-545L4-436
4731	400	20	Not Avaliable		508	GN2-5000A10-XP2 XP3-554L4-436	508	GN2-4500AB10-XP2 XP3-554L4-436	396	GN2-3500B10-XP2 XP3-554L4-436	283	GN2-2500C10-XP2 XP3-554L4-436	227	GN2-1800D10-XP2 XP3-554L4-436
1642	475	7.5	250	GN2-4000U10-XP2 XP3-520L3-436	177	GN2-1600A10-XP2 XP3-520L5-436	177	GN2-1600AB10-XP2 XP3-520L5-436	137	GN2-1250B10-XP2 XP3-520L5-436	92	GN2-800C10-XP2 XP3-520L5-436	92	GN2-800D10-XP2 XP3-520L5-436
2109	475	10	Not Avaliable		277	GN2-2500A10-XP2 XP3-525L5-436	219	GN2-2500AB10-XP2 XP3-525L5-436	179	GN2-1600B10-XP2 XP3-525L5-436	139	GN2-1250C10-XP2 XP3-525L5-436	110	GN2-1000D10-XP2 XP3-525L5-436
3733	475	15	Not Avaliable		393	GN2-4000A10-XP2 XP3-545L5-436	393	GN2-3500AB10-XP2 XP3-545L5-436	377	GN2-3000B10-XP2 XP3-545L5-436	223	GN2-2000C10-XP2 XP3-545L5-436	184	GN2-1800D10-XP2 XP3-545L5-436
4560	475	20	Not Avaliable		508	GN2-5000A10-XP2 XP3-554L5-436	508	GN2-4500AB10-XP2 XP3-554L5-436	396	GN2-3500B10-XP2 XP3-554L5-436	283	GN2-2500C10-XP2 XP3-554L5-436	227	GN2-1800D10-XP2 XP3-554L5-436

N2 Output						120 PSIG Generator Feed Pressure								
Flow SCFM	Press PSI	HP	Feed SCFM	99.999 (U)	Feed SCFM	99.99 (A)	Feed SCFM	99.95 (AB)	Feed SCFM	99.9 (B)	Feed SCFM	99.5 (C)	Feed SCFM	99.0 (D)
2189	300	10	359	GN2-4500U12-XP2 XP3-117P3-436	285	GN2-2500A12-XP2 XP3-117P3-436	177	GN2-1800AB12-XP2 XP3-117P3-436	137	GN2-1250B12-XP2 XP3-117P3-436	109	GN2-1000C12-XP2 XP3-117P3-436	92	GN2-800D12-XP2 XP3-117P3-436
3688	300	15	Not Avaliable		404	GN2-3500A12-XP2 XP3-128P3-436	277	GN2-2500AB12-XP2 XP3-128P3-436	179	GN2-1600B12-XP2 XP3-128P3-436	139	GN2-1250C12-XP2 XP3-128P3-436	110	GN2-1000D12-XP2 XP3-128P3-436
5487	300	20	Not Avaliable		582	GN2-5000A12-XP2 XP3-142P3-436	393	GN2-3500AB12-XP2 XP3-142P3-436	377	GN2-3000B12-XP2 XP3-142P3-436	223	GN2-2000C12-XP2 XP3-142P3-436	203	GN2-1800D12-XP2 XP3-142P3-436
6266	300	25	Not Avaliable		Not Avaliable		508	GN2-5000AB12-XP2 XP3-147P3-436	396	GN2-3500B12-XP2 XP3-147P3-436	283	GN2-2500C12-XP2 XP3-147P3-436	227	GN2-2000D12-XP2 XP3-147P3-436
2068	400	7.5	323	GN2-4500U12-XP2 XP3-117P4-436	225	GN2-2000A12-XP2 XP3-117P4-436	191	GN2-1600AB12-XP2 XP3-117P4-436	157	GN2-1250B12-XP2 XP3-117P4-436	125	GN2-1000C12-XP2 XP3-117P4-436	106	GN2-800D12-XP2 XP3-117P4-436
3513	400	10	Not Avaliable		404	GN2-3500A12-XP2 XP3-128P4-436	360	GN2-3000AB12-XP2 XP3-128P4-436	321	GN2-2500B12-XP2 XP3-128P4-436	208	GN2-1600C12-XP2 XP3-128P4-436	162	GN2-1250D12-XP2 XP3-128P4-436
5252	400	15	Not Avaliable		582	GN2-5000A12-XP2 XP3-142P4-436	484	GN2-4000AB12-XP2 XP3-142P4-436	455	GN2-3500B12-XP2 XP3-142P4-436	325	GN2-2500C12-XP2 XP3-142P4-436	261	GN2-2000D12-XP2 XP3-142P4-436
6009	400	20	Not Avaliable		Not Avaliable		547	GN2-4500AB12-XP2 XP3-147P4-436	455	GN2-3500B12-XP2 XP3-147P4-436	325	GN2-3000C12-XP2 XP3-147P4-436	331	GN2-2500D12-XP2 XP3-147P4-436
1997	475	7.5	323	GN2-4000U12-XP2 XP3-117P5-436	225	GN2-2000A12-XP2 XP3-117P5-436	191	GN2-1600AB12-XP2 XP3-117P5-436	157	GN2-1250B12-XP2 XP3-117P5-436	125	GN2-1000C12-XP2 XP3-117P5-436	106	GN2-800D12-XP2 XP3-117P5-436
3382	475	10	Not Avaliable		404	GN2-3500A12-XP2 XP3-128P5-436	360	GN2-3000AB12-XP2 XP3-128P5-436	321	GN2-2500B12-XP2 XP3-128P5-436	208	GN2-1600C12-XP2 XP3-128P5-436	162	GN2-1250D12-XP2 XP3-128P5-436
5077	475	15	Not Avaliable		582	GN2-5000A12-XP2 XP3-142P5-436	484	GN2-4000AB12-XP2 XP3-142P5-436	388	GN2-3000B12-XP2 XP3-142P5-436	325	GN2-2500C12-XP2 XP3-142P5-436	233	GN2-1800D12-XP2 XP3-142P5-436
5817	475	20	Not Avaliable		Not Avaliable		547	GN2-4500AB12-XP2 XP3-147P5-436	455	GN2-3500B12-XP2 XP3-147P5-436	325	GN2-2500C12-XP2 XP3-147P5-436	331	GN2-2500D12-XP2 XP3-147P5-436

Custom designed, larger capacity or non standard purity systems are available upon request

Matching Component Capacities & Requirements

N2 Output			150 PSIG Generator Feed Pressure													
Flow SCFM	Press PSI	HP	Feed SCFM	99.999 (U)	Feed SCFM	99.99 (A)	Feed SCFM	99.95 (AB)	Feed SCFM	99.9 (B)	Feed SCFM	99.5 (C)	Feed SCFM	99.0 (D)
2496	300	10	402	GN2-4500U15-XP2 XP3-117Q3-436	278	GN2-2000A15-XP2 XP3-117Q3-436	236	GN2-1600AB15-XP2 XP3-117Q3-436	195	GN2-1250B15-XP2 XP3-117Q3-436	155	GN2-1000C15-XP2 XP3-117Q3-436	131	GN2-800D15-XP2 XP3-117Q3-436
4205	300	15	Not Avaliable		Not Avaliable		Not Avaliable		314	GN2-2000B15-XP2 XP3-128Q3-436	258	GN2-1600C15-XP2 XP3-128Q3-436	201	GN2-1250D15-XP2 XP3-128Q3-436
4602	300	15	Not Avaliable		500	GN2-3500A15-XP2 XP3-128R3-436	446	GN2-3500AB15-XP2 XP3-128R3-436	Not Avaliable		Not Avaliable		Not Avaliable	
6232	300	20	Not Avaliable		721	GN2-5000A15-XP2 XP3-142Q3-436	599	GN2-4000AB15-XP2 XP3-142Q3-436	481	GN2-3000B15-XP2 XP3-142Q3-436	404	GN2-2500C15-XP2 XP3-142Q3-436	289	GN2-1800D15-XP2 XP3-142Q3-436
7105	300	25	Not Avaliable		Not Avaliable		676	GN2-4500AB15-XP2 XP3-147Q3-436	564	GN2-3500B15-XP2 XP3-147Q3-436	404	GN2-2500C15-XP2 XP3-147Q3-436	324	GN2-2000D15-XP2 XP3-147Q3-436
2372	400	10	Not Avaliable		Not Avaliable		Not Avaliable		137	GN2-1250B15-XP2 XP3-117Q4-436	109	GN2-1000C15-XP2 XP3-117Q4-436	92	GN2-800D15-XP2 XP3-117Q4-436
2606	400	10	402	GN2-4500U15-XP2 XP3-117R4-436	278	GN2-2000A15-XP2 XP3-117R4-436	236	GN2-1600AB15-XP2 XP3-117R4-436	Not Avaliable		Not Avaliable		Not Avaliable	
4027	400	15	Not Avaliable		427	GN2-3000A15-XP2 XP3-128Q4-436	369	GN2-2500AB15-XP2 XP3-128Q4-436	314	GN2-2000B15-XP2 XP3-128Q4-436	224	GN2-1400C15-XP2 XP3-128Q4-436	201	GN2-1250D15-XP2 XP3-128Q4-436
4422	400	15	Not Avaliable		500	GN2-3500A15-XP2 XP3-128R4-436	Not Avaliable		Not Avaliable		Not Avaliable		Not Avaliable	
5998	400	20	Not Avaliable		647	GN2-4500A15-XP2 XP3-142Q4-436	Not Avaliable		481	GN2-3000B15-XP2 XP3-142Q4-436	404	GN2-2500C15-XP2 XP3-142Q4-436	289	GN2-1800D15-XP2 XP3-142Q4-436
6572	400	20	Not Avaliable		Not Avaliable		599	GN2-4000AB15-XP2 XP3-142R4-436	Not Avaliable		Not Avaliable		Not Avaliable	
6859	400	25	Not Avaliable		Not Avaliable		Not Avaliable		564	GN2-3500B15-XP2 XP3-147Q4-436	404	GN2-2500C15-XP2 XP3-147Q4-436	324	GN2-2000D15-XP2 XP3-147Q4-436
7512	400	25	Not Avaliable		Not Avaliable		676	GN2-4500AB15-XP2 XP3-147R4-436	Not Avaliable		Not Avaliable		Not Avaliable	
2280	475	10	325	GN2-4000U15-XP2 XP3-117Q5-436	248	GN2-2000A15-XP2 XP3-117Q5-436	204	GN2-1600AB15-XP2 XP3-117Q5-436	Not Avaliable		129	GN2-1000C15-XP2 XP3-117Q5-436	105	GN2-800D15-XP2 XP3-117Q5-436
2512	475	10	Not Avaliable		278	GN2-3500A15-XP2 XP3-158Q5-436	236	GN2-3000AB15-XP2 XP3-158Q5-436	195	GN2-2500B15-XP2 XP3-158Q5-436	Not Avaliable		Not Avaliable	
3893	475	15	Not Avaliable		427	GN2-3000A15-XP2 XP3-128Q5-436	369	GN2-2500AB15-XP2 XP3-128Q5-436	314	GN2-2000B15-XP2 XP3-128Q5-436	224	GN2-1400C15-XP2 XP3-128Q5-436	201	GN2-1250D15-XP2 XP3-128Q5-436
4286	475	15	Not Avaliable		Not Avaliable		446	GN2-2500AB15-XP2 XP3-128Q5-436	Not Avaliable		Not Avaliable		Not Avaliable	
5822	475	20	Not Avaliable		647	GN2-4500A15-XP2 XP3-142Q5-436	522	GN2-3500AB15-XP2 XP3-142Q5-436	481	GN2-3000B15-XP2 XP3-142Q5-436	318	GN2-2000C15-XP2 XP3-142Q5-436	289	GN2-1800D15-XP2 XP3-142Q5-436
6674	475	25	Not Avaliable		721	GN2-5000A15-XP2 XP3-147Q5-436	599	GN2-4000AB15-XP2 XP3-147Q5-436	Not Avaliable		404	GN2-2500C15-XP2 XP3-147Q5-436	324	GN2-2000D15-XP2 XP3-147Q5-436
7334	475	25	Not Avaliable		Not Avaliable		676	GN2-4500AB15-XP2 XP3-147R5-436	564	GN2-3500B15-XP2 XP3-147R5-436	Not Avaliable		Not Avaliable	

Design and Specification Information

Model #	HP	Discharge			N2 Tank	Discharge Connection	Dimensions		
		PSI	CFM	PSI			H	W	D
XP3-520L3-436	7.5	1813	30	300	240	3/4”	97	78	57
XP3-520L4-436	7.5	1715	29	400	240	3/4”	97	78	57
XP3-520L5-436	7.5	1642	27	500	240	3/4”	97	78	57
XP3-525L3-436	10	2363	39	300	240	3/4”	97	78	57
XP3-525L4-436	10	2219	37	400	240	3/4”	97	78	57
XP3-525L5-436	10	2110	35	500	240	3/4”	97	78	57
XP3-545L3-436	15	4067	68	300	400	1”	106	90	63
XP3-545L4-436	15	3876	65	400	400	1”	106	90	63
XP3-545L5-436	15	3733	62	500	400	1”	106	90	63
XP3-540L3-436	20	4959	83	300	660	1”	131	90	63
XP3-540L4-436	20	4731	79	400	660	1”	131	90	63
XP3-540L5-436	20	4561	76	500	660	1”	131	90	63
XP3-117P3-436	10	2189	36	300	240	3/4”	97	78	57
XP3-117P4-436	10	2496	42	400	240	3/4”	97	78	57
XP3-117P5-436	10	2732	46	500	240	3/4”	97	78	57
XP3-117Q3-436	10	2068	34	300	240	3/4”	97	78	57
XP3-117Q4-436	10	2372	40	400	240	3/4”	97	78	57
XP3-117Q5-436	10	2606	43	500	240	3/4”	97	78	57
XP3-117R3-436	10	1998	33	300	240	3/4”	97	78	57
XP3-117R4-436	10	2280	38	400	240	3/4”	97	78	57
XP3-117R5-436	10	2512	42	500	240	3/4”	97	78	57
XP3-128P3-436	15	3689	61	300	400	1”	106	90	63
XP3-128P4-436	15	4205	70	400	400	1”	106	90	63
XP3-128P5-436	15	4603	77	500	400	1”	106	90	63
XP3-128Q3-436	15	3514	59	300	400	1”	106	90	63
XP3-128Q4-436	15	4027	67	400	400	1”	106	90	63
XP3-128Q5-436	15	4422	74	500	400	1”	106	90	63
XP3-128R3-436	15	3382	56	300	400	1”	106	90	63
XP3-128R4-436	15	3893	65	400	400	1”	106	90	63
XP3-128R5-436	15	4287	71	500	400	1”	106	90	63
XP3-142P3-436	20	5487	91	300	660	1”	131	90	63
XP3-142P4-436	20	6232	104	400	660	1”	131	90	63
XP3-142P5-436	20	6806	113	500	660	1”	131	90	63
XP3-142Q3-436	20	5253	88	300	660	1”	131	90	63
XP3-142Q4-436	20	5998	100	400	660	1”	131	90	63
XP3-142Q5-436	20	6572	110	500	660	1”	131	90	63
XP3-142R3-436	20	5077	85	300	660	1”	131	90	63
XP3-142R4-436	20	5823	97	400	660	1”	131	90	63
XP3-142R5-436	20	6397	107	500	660	1”	131	90	63
XP3-147P3-436	25	6266	104	300	660	1-1/2”	131	90	63
XP3-147P4-436	25	7105	118	400	660	1-1/2”	131	90	63
XP3-147P5-436	25	7750	129	500	660	1-1/2”	131	90	63
XP3-147Q3-436	25	6010	100	300	660	1-1/2”	131	90	63
XP3-147Q4-436	25	6859	114	400	660	1-1/2”	131	90	63
XP3-147Q5-436	25	7513	125	500	660	1-1/2”	131	90	63
XP3-147R3-436	25	5817	97	300	660	1-1/2”	131	90	63
XP3-147R4-436	25	6675	111	400	660	1-1/2”	131	90	63
XP3-147R5-436	25	7335	122	500	660	1-1/2”	131	90	63

Notes:

1. Capacity reflects maximum discharge of associated booster @ specified conditions
2. Feed compressed air pressure dewpoint must not exceed 39°F.
3. Inlet/Outlet connections are NPT unless otherwise specified
4. Dimensions are in inches. Complete drawing packages available upon request
5. Dimensions and specifications are subject to change without notice

Other Products from Great Lakes Air Products

GRN Series Compressed Air Dryer

GMNX Series High Capacity Cycling Air Dryer

Regenerative Desiccant Air Dryers

Compressed Air Filtration

Condensate Drain Systems

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