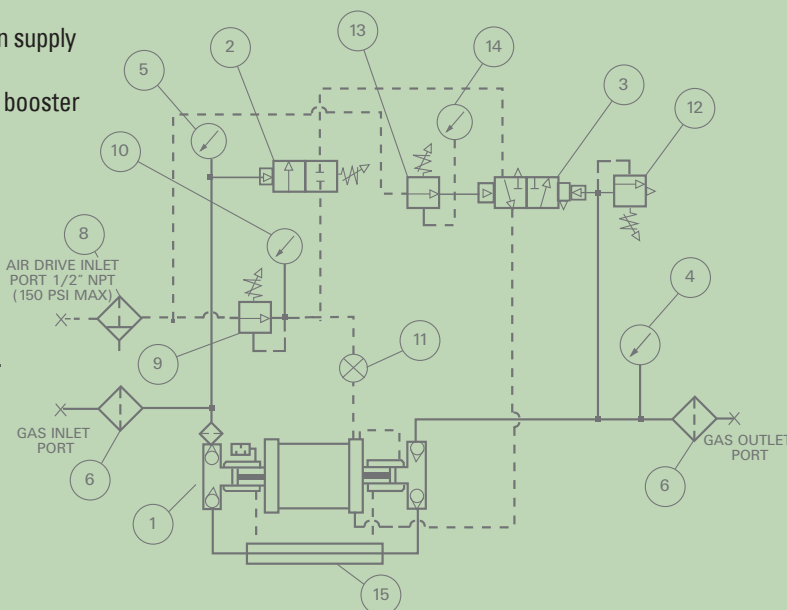


# Inert Gas Booster Systems

Haskel's ability to incorporate and interface electronic controls into systems provides precise compression and control of gases.

## Standard system components are:

1. Booster with External Pilot Modification to enable use of external components to start/stop the booster.
2. Adjustable Air Pilot Switch (inlet) – used to stop the booster when supply pressure falls to adjusted set point.
3. Adjustable Remoteset Air Pilot Switch (outlet) – used to stop the booster when outlet pressure reaches adjusted set point.
4. Pressure Gauge indicates outlet boosted pressure.
5. Pressure Gauge indicates inlet gas pressure supply
6. Gas Filter used to stop any ingested contamination from entering the booster (e.g. while changing out a gas supply bottle)
7. Roll Bar Frame (not shown) used for mounting booster and other components.
8. Air Filter - inline filter ( 20-40 micron) for maintaining air drive quality.
9. Adjustable Air Regulator used to set the Air Drive Pressure (0 - 150 psi max)
10. Air Pressure Gauge indicates the Air Drive Pressure
11. Manual On/Off Valve and Speed Control Valve used to adjust cycling speed that the booster cycles
12. Relief Valve used to protect the booster & other components from over pressurization
13. Adjustable Remoteset Pilot Regulator used to adjust the set point for the Remoteset Air Pilot Switch
14. Pressure Gauge used to indicate the Adjustable Remoteset Regulator adjusted pressure
15. Interstage Cooler – a tube & shell cooler used to reduce the boosted gas temperature (part of the booster)



29068 System Shown Above

## Charging Systems

Charging systems provide a fast, efficient and economical method of charging, or “topping up” gas pressures. Charging units ensure that the optimum use is made of commercially bottled gases down to as low as 150 psi or vaporized liquid (cryogenic) supplies while producing pressures as high as 39,000 psi depending on gas type. Units are standard or custom-built in a variety of configurations, samples of which are illustrated here.

### 26968 Oxygen Booster System

Oxygen booster systems for filling oxygen cylinders. An efficient, safe and economical system for oxygen handling.

- Outlet stall (max gas outlet pressure is: Air drive psi x 30 Plus 2x gas inlet psi)
- Interstage stall (Max gas inlet pressure is air drive psi x 15 if outlet exceeds air drive psi x 30. If it does not, max gas inlet is air drive psi x 30)
- If less air flow is available, outlet gas rates will decrease about in proportion

26968 Sample Performance

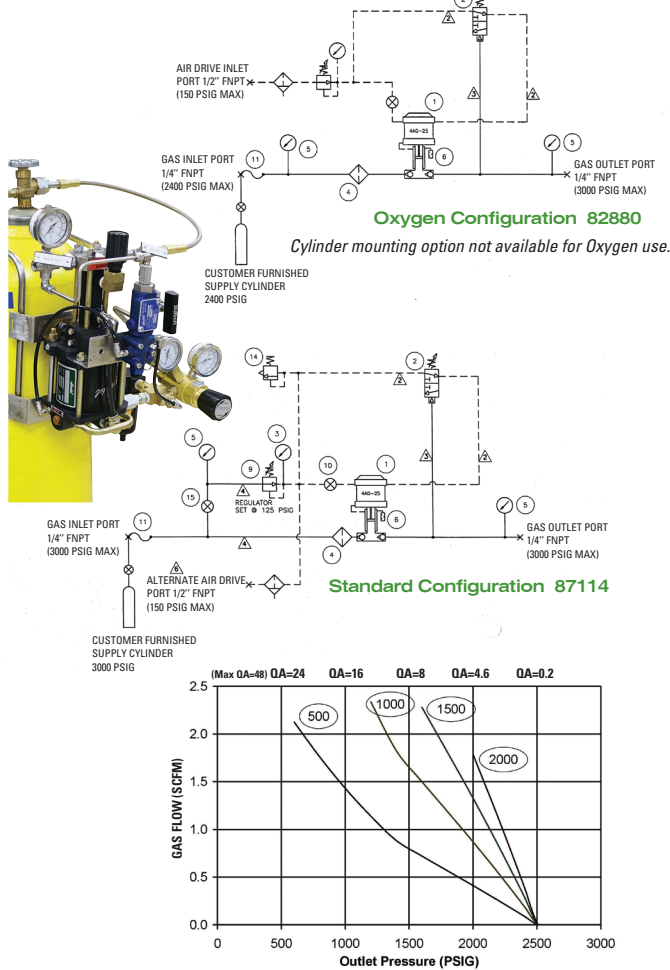
Oxygen Gas Pressure - PSI		Oxygen Outlet Gas Flow - SCFM		
Inlet	Outlet (B)	Air Drive PSI		
		60	80	100
250	1500	3.5	4.0	4.0
250	2000	2.1	2.1	3.6
250	3000	(A)	(A)	2.5
1000	1500	8.7	14.7	15.0
1000	2500	(B)	9.7	13.7
1000	3500	(B)	9.6	13.6
1500	2000	(B)	14.7	20.7
1500	2500	(B)	(B)	16.1
1500	3000	(B)	(B)	(B)
2000	2500	(B)	(B)	21.6

Performance based on indicated Air Drive PSI @ 50 SCFM (C)



## Mini Charging Booster

Designed and Manufactured to achieve an affordable and effective gas transfer and charging unit. Standard configuration includes cylinder mounting bracket.



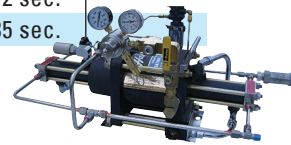
## ScubAmp

Used by Dive Shops to boost medium pressure breathing air from storage air direct to dive tanks to reach maximum fill pressure rapidly. With the use of a ScubAmp, existing air compressor systems can stay within their 200-2500 psi normal operating range.

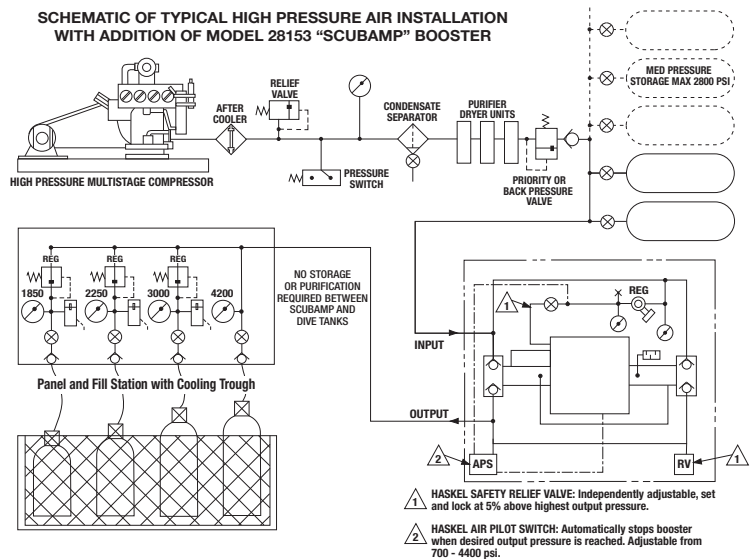
### TYPICAL FILL TIMES

From Pressure in Storage (After Equalizing in Dive Tank)	To Nominal Tank Size and Pressure			
	83 cu. Ft. to 3000 psi	71.2 cu. Ft. to 2475 psi	71.2 cu. Ft. to 2250 psi	80 cu. Ft. to 4400 psi
2500 psi	12 sec.			60 sec.
2250 psi	28 sec.	14 sec.		90 sec.
2000 psi	39 sec.	22 sec.	12 sec.	
1500 psi	75 sec.	50 sec.	35 sec.	

Performance based on 100 psi air drive @ 50 SCFM.



### SCHEMATIC OF TYPICAL HIGH PRESSURE AIR INSTALLATION WITH ADDITION OF MODEL 28153 "SCUBAMP" BOOSTER



## Gas Transfer, Test & Charging Carts

Typical gases used are O<sub>2</sub>, N<sub>2</sub>, He, Ar & Air used for transfer, charging, testing, calibration or tool operation.



## Console Controlled Test Systems

Test console housing pneumatic Gas Booster selected to meet test parameters of the customers specification. Gas pressures can be produced up to 39,000 psig.



## Natural Gas Vehicle Fueling Systems

Natural Gas Boosting System with Storage eliminates the need for mechanical compressors where high pressure and low pressure Natural Gas sources are available.



## Gas Cylinder Test Rigs

Hydrostatic and cylinder stretch test rigs for inspection and testing of all gas cylinder and pressure vessels, including oxygen, nitrogen, carbon dioxide and halon bottles.

