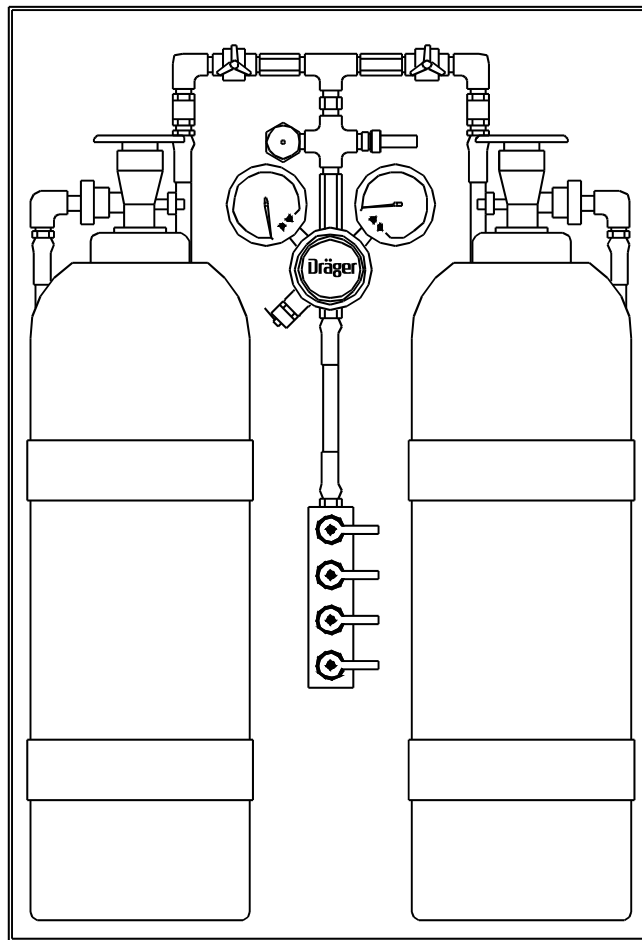


Handy Pak/Rescue Pak

Operating Manual



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1 General

1.1 Description

The Handy Pak/Rescue Pak is a portable air supply unit. It is designed to deliver bottled breathing air to airline respirators. The Handy Pak/Rescue Pak utilizes SCBA cylinders which can provide up to two hours of breathing air. Directly attach the respirators with up to 300 feet of air supply hose, to each of the four standard quick disconnects. A high pressure inlet allows a third source of air from an external air supply to be used as a primary source.

The Rescue Pak has wheels attached to the frame for easy transportation. A secondary regulator and additional quick disconnect are included with the Rescue Pak to run pneumatic tools or another respirator at a different outlet pressure.

1.2 Specifications

Weight	Handy Pak 26 lbs without cylinders Rescue Pak 56 lbs without cylinders
Size	Handy Pak 29.5" L x 21" W x 6.5" H Rescue Pak 37" L x 27" W x 14.5" H
Regulator	0-5000 psi incoming 0-125 psi outgoing
Relief Valve	125 psi ASME preset
Air Distribution	Regulated four quick disconnect outlets
Warning Alarm	Pneumatic whistle for low pressure warning - set approximately 500 psi
Check Valves	Allows independent cylinder operation and removal without complete system shut down.
High Pressure Inlet	Handles a third incoming air source from an external supply.
Bleeder Valves	Allows depressurization of hand tight nut before cylinder removal.
Bottle Straps	Four each, adjustable to accommodate different size cylinders
Frame	Lightweight aluminum Powder coat paint
Cart (Rescue Pak Only)	Steel cart with two wheels and pull handle
Whip Assemblies	Thermo plastic 5000 PSI rated 4:1 safety factor.
Flow Rate	Primary regulator 80 CFM (2260 LPM) @ 120 psi
(Rescue Pak Only)	Secondary regulator 20 CFM (560 LPM) @ 120 psi
Intrinsically Safe	No electric devices to cause to spark.

2 Operation

2.1 Set-up

(Refer to Figure 1)

- Install cylinders on Handy Pak and ensure cylinder straps are tight. Low pressure (2216 PSI) and high pressure (4500 PSI) cylinders can be used.
- Install CGA-347 connections to cylinder valves and tighten with hand-tight wheels.
- Make sure both bleeder valves are turned fully clockwise to prevent air loss, and open one cylinder. At this time the low pressure whistle will sound going up until it sets itself around 1000 PSI.
- Check the cylinder pressure on gauge.
- Close the cylinder valve and slowly bleed off pressure through relief valve.
- The low pressure whistle should alarm at approximately 500 PSI.
- Open the other cylinder and check its pressure on gauge.

NOTE

Always use full cylinders.

- Set respirator pressure with regulator control knob.
- The system is now operational.

2.2 Use

When the cylinder in use has been drained to approximately 500 PSI, the low pressure whistle will sound indicating that the cylinder needs to be changed.

To change a cylinder while the Handy Pak is in use:

- Open the second cylinder and note the gauge pressure to ensure that the cylinder is full.
- Close the drained cylinder and open the corresponding bleeder valve to relieve pressure on the hand tight nut.

The system is equipped with check valves that will prevent back flow from the other cylinder in use. The high pressure inlet is used to attach an external air source as its primary air source.

2.3 End of Use

- Cylinder valves must be shut and line pressure relieved through the relief valve to drain the cylinder in use.
- Remove CGA-347 connection from cylinders.

3 Maintenance

3.1 High Pressure Airline

Monthly

- Check regulators, gauges and valves for external leakage.
- Inspect valves for proper closure.
- Check cylinder pigtails for cleanliness, flexibility, wear, leakage, blisters on hose and thread damage. Replace damaged pigtails immediately.
- Inspect check valves for closure ability.

Yearly

- Check relief valve's activation pressure.
- Check regulator function by opening and closing regulator valve knob fully.

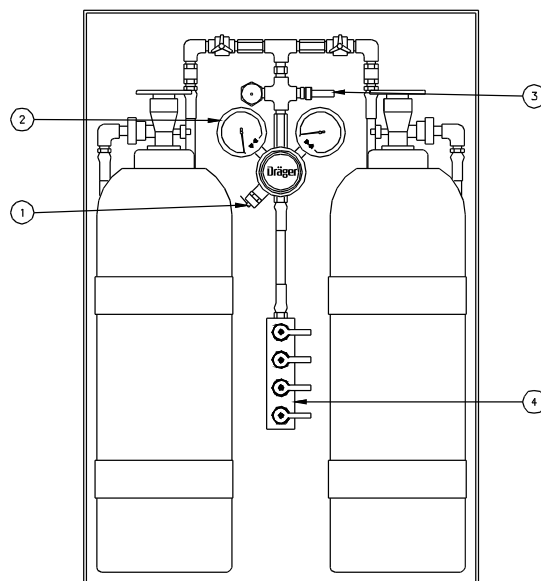
Every Four Years

- Replace all flexible pigtails.

4 Spare Parts and Accessories

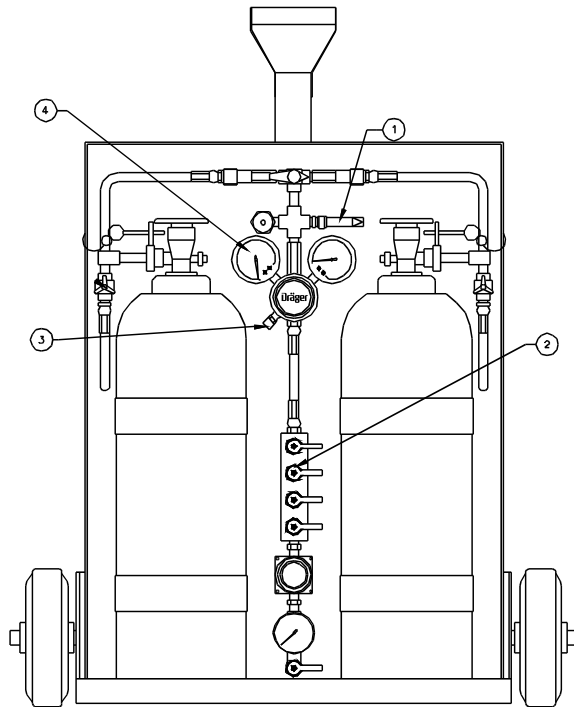
4.1 Handy Pak

Item	Description	Part Number
1	Relief Valve, 125 PSI	4055368
2	Outlet Pressure Gauge, 0-200 PSI	4055465
3	Low Pressure Warning Whistle	4055332
4	Respirator Fitting, Quick Disconnect, Hansen, 3/8" MPT	4055335
----	O-ring Replacement	4055333
----	Whip Assembly, Handy Pak, 17" w/o BLV	4055517



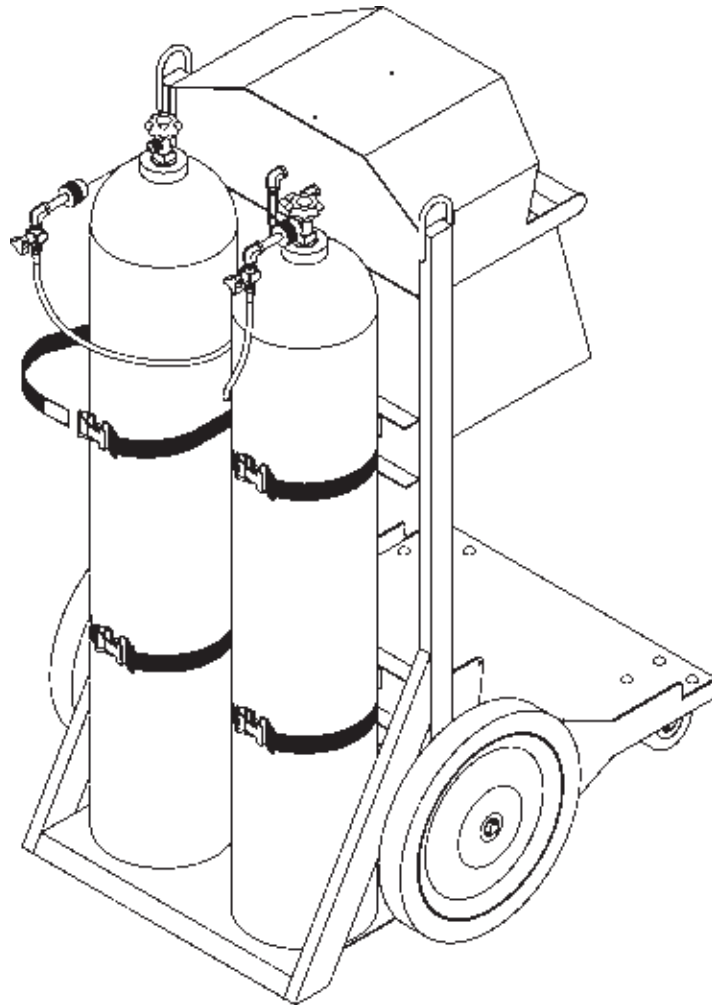
4.2 Rescue Pak

Item	Description	Part Number
1	Low Pressure Warning Whistle	4055332
2	Respirator Fitting, Quick Disconnect, Hansen, 3/8" MPT	4055335
3	Relief Valve, 125 PSI	4055368
4	Outlet Pressure Gauge, 0-200 PSI	4055465
----	Pak Cover Aluminum (optional)	4055257
----	O-ring Replacement	4055333
----	Whip Assembly, Rescue Pak, 28" w/BLV	4055518



K-Kart II

Operating Manual



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1 General

1.1 Description

The K-Kart II is designed to provide bottled breathing air to airline respirators. Respirator attachments can be made directly to the cart manifold or air can be attached up to 300 feet away via the optional low pressure manual hose reel.

The K-Kart II has been uniquely designed for ease of mobility and reduction of stress from lifting for workers using the system.

1.2 Specifications

The K-Kart II has the following features:

- a steel cart which holds two large (K-size) breathing air cylinders with service pressures of 2216 or 4500 psi.
- CGA 347 stem check connections are provided on each connecting whip.
- a low pressure audible alarm whistle sounds when the bottle(s) pressure(s) approach 500-600 psi descending pressure.
- a fully adjustable dual gauge regulator is provided on all models with a built-in 125 psi safety relief valve.
- a panel mount manifold is provided which contains four quick disconnect couplings.
- a steel storage box is available for the rear of the cart.
- hose reels are available in 300 feet lengths or two reels with 150 feet each.
- 16" rear wheels are standard. The front wheels are 6" swivel casters with wheel locks.
- cart weight without cylinders is 250 lbs; with cylinders it is 550 lbs.
- two eyelets are provided on the cart for sling attachment and vertical lifting of the entire cart with cylinders.

2 Operation

2.1 Set-up Procedure

- Remove clevis pin near the 16" wheels. Push the handles up and forward to situate the cart in an upright position. Reinstall the clevis pin.
- Install, arrange and index the air cylinders so that the valve outlets are facing away from the control panel. Secure cylinders by tightening the straps at the buckle and mating the velcro sections.
- Install CGA-347 hand tight nuts on the cylinder valves and tighten. Ensure both bleeder valves are closed by turning fully clockwise.
- Open one cylinder. At this time the low pressure warning alarm will sound until it sets itself at approximately 1000 psi (69 bar). Check reading on gauge to verify that it is full. Close the cylinder.
- Set required respirator pressure with the regulator control knob and bleed pressure by partially engaging a male plug into one of the respirator fittings. This depressurizes the manifold and simulates low cylinder pressure. The low pressure warning alarm should sound at approximately 500 psi (35 bar).
- Open the second cylinder. At this time the low pressure warning alarm will resound until it sets itself at approximately 1000 psi (69 bar). Check reading on gauge to verify that it is full.

2.2 Use

- Open an air cylinder valve. The whistle will sound up to approximately 1000 psi until the whistle resets.
- Check gauge pressure to make sure the air cylinder is full.
- Check the alarm whistle operation by closing both air cylinder valves. Slowly bleed off the air pressure and note the gauge pressure at which the alarm activates (approximately 500-600 psi). Reopen the main air cylinder valves.
- Adjust the output regulation to the required pressure for the attached respirators. Turn the regulator knob clockwise to increase the output pressure. The system is now operational.

2.2.1 Low Pressure Alarm

- The low pressure alarm will sound when the cylinder pressure has dropped to approximately 500 psi, indicating that the cylinder needs to be replaced.

2.2.2 Changing a Cylinder While in Use

- Open second cylinder and check the pressure gauge to ensure that it is full.
- Close the low cylinder and slowly loosen the bleed valve to release any pressure.
- Remove connecting whip. The check valves will prevent a release of air pressure from the second cylinder.
- Reinstall a full cylinder, reattach connecting whip, close bleeder valve and continue working.

2.3 End of Use

WARNING

Make sure that the cylinder brackets are securely tightened to the air cylinders before moving or lifting the cart. Two eyelets are provided for sling lifting of the entire cart when necessary.

2.3.1 Shutdown

Make sure all personnel have egressed the hazardous area and have disconnected from the breathing air system.

- Close cylinder valves.
- Depressurize manifold pressure by partially engaging male plug into one of the respirator fittings.
- Close the regulator by turning the control knob counterclockwise.
- Reinstall dust caps.
- Remove connections from cylinders. Reinstall cylinder valve covers (if applicable).
- If transportation of cart is required. Remove clevis pin, place foot on base and pull handle until movement stops. Replace clevis pin.

3 High Pressure Airline General Maintenance & Inspection

Monthly

- Check regulators, gauges, and valves for external leakage.
- Inspect cylinder valves for proper closure.
- Check cylinder pigtails for cleanliness, flexibility, wear, leakage, blisters on hose, thread damage, and O-rings on CGA fittings. Replace damaged items immediately.

Annually

- Check relief valve's pressure setting.
- Check regulator function by opening and closing regulator valve knob fully.

Every 4 Years

- Replace all flexible pigtails.

4 Troubleshooting

Trouble	Action
Alarm sounding at wrong pressure setting.	Loosen locknut on alarm whistle. Clockwise increases alarm psi. Counterclockwise decreases alarm psi. Retighten locknut.
No pressure to respirators.	Turn regulator knob clockwise to increase output pressure; counterclockwise to decrease.
Alarm not resetting and continues to sound.	Pressure required to reset alarm may exceed 1500 psi. Make sure cylinder valves are fully opened.

5 Spare Parts and Accessories

Item	Description	Part Number
1	Quick Disconnect, Hansen	4055335
(not shown)	O-ring	4055333
(not shown)	Whip Assembly	4055334
2	Whistle	4055332

