



**Precision Air Drilling Services**

**Equipment Information & Specifications**





# Joy Super Booster Specifications

## Joy WB-12 5000 Specifications



## Table of Contents

Joy Super Booster Specifications .....	2
Joy WB-12 5000 Specifications .....	2
Engine Specifications: .....	4
Compressor Specifications:.....	4
First Stage Cylinder Specifications: .....	5
Gear Reduction Unit Specifications: .....	5
Compressor Coupling Specifications:.....	5
Flywheel Specifications:.....	6
General Performance Specifications:.....	6
Skid Specifications:.....	7
Piping Specifications: .....	7
Vessel Specifications: .....	8
Cooler Specifications:.....	8
Control Specifications: .....	8
Lubrication System:.....	9
Fuel Tank:.....	9
Dimensions & Weight: .....	9
Options:.....	10



## Engine Specifications:

Item Description:	Item Specification:
Manufacturer:	Caterpillar
Model:	C-16
Description:	4 cycle, 6 cylinder, 15.8 liter displacement, turbocharged, air-to-air after-cooled, and electronically injected diesel.
RPM:	2100 RPM for this application HP: 630 HP
Bell Housing:	SAE #0
Starter:	Electric 24V, also turbine style air start
Alternator:	24V
Battery System:	24V, two Caterpillar 12V 8D, maintenance free
Radiator:	By Caterpillar
Turbo-after-cooler:	By Caterpillar, jacket water after cooled
Fan:	By Caterpillar, blower type
Air Cleaner:	By Caterpillar, radial flow, with inner and outer elements

## Compressor Specifications:

Item Description:	Item Specification:
Manufacturer:	Joy (now part of Gardner-Denver)
Condition:	NEW
Model:	WB-12, 7" stroke, 1.625" compressor rods,
RPM:	700 RPM



## First Stage Cylinder Specifications:

Item Description:	Item Specification:
Quantity	2
Model:	2-3/4" Reconditioned
Suction Valve:	412, NEW
Discharge Valve:	413, NEW
Rod:	1.625" NEW
Capacity Control:	None
Inlet & Outlet:	1-1 1/2" 2500 Series
Max. Operating Pressure:	5000 psig
Max Relief Valve setting:	5500 psig

## Gear Reduction Unit Specifications:

Item Description:	Item Specification:
Manufacturer:	RJ Link
Model:	DR244, hardened & ground gears
Reduction	3:1
Clutch:	3 plate, 18" TWIN DISC
Outlet:	Shaft to Coupling

## Compressor Coupling Specifications:

Item Description:	Item Specification:
Manufacturer:	Dodge
Model:	PX240

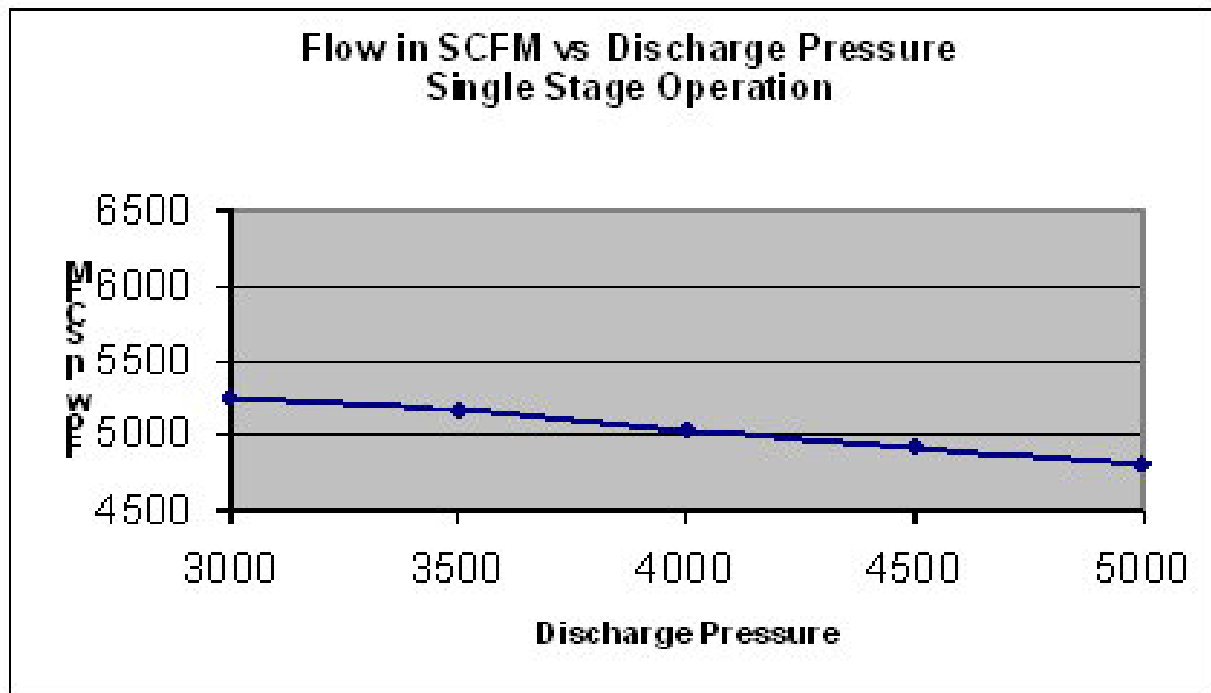


## Flywheel Specifications:

Item Description:	Item Specification:
Flywheel:	Optional " Is included as standard equipment"

## General Performance Specifications:

Item Description:	Item Specification:
Suction Pressure:	2200, max suction 3000 psig
Discharge Pressure:	5000 psig, relief's set in excess of 5134 psig
Flow:	4813 scfm, +/- 5%





## Skid Specifications:

<b>Item Description:</b>	<b>Item Specification:</b>
Dimensions:	Narrow 7' 2"x 22' Skid standard, 8'6" x 22' available for additional cost, overall width of unit 8'6" approx due to cylinders and guards.
Runners:	(4) W12x40lb/ft
Crossmembers:	W8x28
Deck:	Seal Welded, with checkered plate
Containment:	Yes, with 1" drip rail and drains
Ends:	5" Drawbar with ears, sloped front
Lifting Rack:	Yes, designed for four-point lift, load testing included.

## Piping Specifications:

<b>Item Description:</b>	<b>Item Specification:</b>
Size:	Primarily 3" rated in excess of 3000 psig suction, 5000 psig discharge, welded, MTR's on pipe and 100% X-Ray and Hydro-tested on all 2" and 3" INCLUDED. Code certified welders used for piping.
Connections:	3" hammer unions
Discharge Relief Setting:	5314 psig, certification papers available
Valves:	All new with proper tags and certification papers available
Configuration:	Piping designed to allow unit to be used in 1 stage configuration by opening or closing ball valves. A special recycle to allow only 1 cylinder to be active service (having flow). Unit bypass for start-up only, piping does not allow full cfm to pass through discharge piping at suction pressure due to small internal diameter.



## Vessel Specifications:

Item Description:	Item Specification:
Suction Scrubbers:	One per cylinder, with mesh pad, mounted directly to cylinder
Discharge Pulsation Bottles:	One per cylinder, mounted directly to cylinder
Certification:	ASME code, National Board registered, code papers provided at no charge, testing per code requirements, sizes and pressures appropriate for performance shown. Vessels are properly tagged.

## Cooler Specifications:

Item Description:	Item Specification:
Manufacturer:	Fin-X
Model:	VS48-6, with (2) after-cooler (AC) sections
AC MAWP:	In excess of 5134 PSI
Fan:	ECS 48" Blower fan, mounted between pillow block bearings
Fan Drive:	Belt Driven off of coupling is standard
Louvers:	2 Sets of Manual Louvers provided to control compressor cooler outlet temperatures.

## Control Specifications:

Item Description:	Item Specification:
Panel:	Full panel with pressure and temperature gauges, shutdown system, ignition key, engine oil pressure, jacket water temp, hour meter, tachometer, voltmeter,
Throttle:	Electronic toggle switch (by Cat) to increase or decrease rpm.
Shutdowns:	As provided by Caterpillar, plus scrubber high liquid



	level, suction pressure, discharge temp and pressure each stage, low lubricator box oil level, local and remote emergency stop, available at no extra charge
Gauges:	Locally mounted pressure and temperature gauges, plus panel mounted gauges for process pressures and temperatures, and all required engine services.

## Lubrication System:

Item Description:	Item Specification:
Frame:	New Tuthill
Cylinders:	3 Premier lubricator pumps manifolded together feeding a divider block assembly that sends oil to each of the required cylinder and packing lubrication point. Failure of one lubricator pump does not result in damage at any point.
Cylinder Oil Capacity:	4 gallon CLS heavy duty tank included.
Cotta:	By RJ Link, with tube and shell cooler by Young

## Fuel Tank:

Item Description:	Item Specification:
Capacity:	Roughly 24 gallons
Feed Requirements:	One gravity fed line, fuel cooler for engine is installed in compressor air plenum, with cold weather bypass.

## Dimensions & Weight:

Item Description:	Item Specification:
Size:	22' long approx, 7' 2" wide skid, 8'-3" overall (cylinders)
Weight:	Approximately 35,500 lbs



## Options:

Item Description:	Item Specification:
Option 1	Air Starter in cooperation with electric starter that is standard
Option 2	Optional Remote/Emergency Blow-Down & relief valve piping:
Option 3	Optional large annunciator style control panel upgrade from the standard panel that is supplied by Caterpillar. This panel has suction pressure, temperature & pressure gauges on 1 <sup>st</sup> & 2 <sup>nd</sup> stages, compressor oil pressure, all engine temperature & pressure gauges, blow-down supply gauge w/regulator & control, pulsation dampener controls, electric & air starter buttons & caution/warning lights. The annunciator indicates the source of a compressor related shutdown.